What divides the first and second generations? Educational inputs and outcomes for children of immigrants

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Abstract

In this paper, I propose a new measure of host country experience that is finer than immigrant generation and expands on the widely used measures of years since migration and age at migration. I then use this measure to test for differences in educational outcomes between early-arriving first-generation immigrants and second-generation immigrants whose parents arrived shortly before birth. There is mixed evidence on whether the transition from the first to the second generation is smooth. I discuss implications for how future research should group children from immigrant backgrounds.

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1 Introduction

Immigrants vary along many dimensions, and one important and often studied dimension is how long the immigrant, or the immigrant's family, has lived in the receiving country. Immigrant generation captures whether an individual was foreign born (first generation), the parents were foreign born (second generation), the grandparents were foreign born (third generation), and so on.[1] By nature, it is a rough measure of of a family's time in a country. Individuals who are foreign born, or first generation, may have migrated as a child, during prime working ages, or in old age, and consequently might have very different experiences and outcomes. Rumbaut (2004), among others, formally acknowledged these distinctions with "decimal" generations, e.g., "1.5" generation. Similarly, second-generation immigrants include those whose parents arrived at a variety of ages. For first-generation immigrants, researchers often more finely classify time since migration with years of host country experience. When the population of interest is children, the focus is often on age at migration, though note that age at migration is a simple transformation of years since migration. Importantly for this paper, immigrant children who arrived at young ages may be similar to children born to parents who migrated shortly before their birth. In both cases, the children have spent most of their life in the receiving country, and their parents arrived around childbearing age.

In this paper, I investigate whether early-arriving first-generation immigrants and second-generation immigrants have different educational experiences. To do this, I create a variable measuring family time in the U.S. that is scaled so that positive values indicate the age at which a foreign-born child arrived in the U.S., negative values indicate the number of years before the child was born that the mother migrated, and zero indicates that the child was born in the same year that the family arrived. I then test for a discontinuity around zero for a variety of educational inputs and outcomes. I also examine differences further away from

[1] See the discussion in Sweetman and van Ours (2015) on terminology conventions around immigrant generations in economics.

zero as a test of whether it is appropriate to group together all children of immigrants. I use two U.S. data sources with large numbers of children of immigrants: (i) the decennial Census and American Community Survey (ACS) and (ii) the Children of Immigrants Longitudinal Survey (CILS). This study focuses on high school age youth since they are young enough to be linked to parents' characteristics and old enough that early-arriving immigrant children have had some time to assimilate.

The main contribution of this paper is to establish which measures of time spent in the U.S., if any, are most relevant when studying children of immigrants. For attainment outcomes, the transition between the first and second generations is relatively smooth. Results reveal differences between early-arriving immigrant children and children of recently arrived parents that are statistically significant but sometimes practically small. For achievement outcomes, there is a clear divide between the first and second generations.

These results have implications for how future studies should group youth from immigrant families. If available, researchers should use measures of foreign parentage as well as foreign birth. When studying educational attainment, it may be sufficient to use a single measure to capture immigrant background, for example, whether the individual or either of his parents is foreign born. For outcomes that measure knowledge of English, such as test scores, it is important to separate early-arriving immigrants from late-arriving immigrants, but the timing of the parents' arrival before birth does not seem to matter.

The analysis in this paper is purely descriptive. I do not account for selection into migration or selection into the timing of migration relative to the birth of children. I take these decisions as given and ask how we should classify children from immigrant backgrounds who are already in the U.S. I study differences in means, so the results presented do not control for other characteristics, such as national origin. [Note: A future draft will likely present results including controls.]

The next section reviews the conceptual background as well as the relevant literature. In Section 3, I describe the data sources as well as the definition of the relative time of arrival

variable. I present results on descriptive differences by immigrant generation in Section 4, differences in educational outcomes by family time in the U.S. in Section 5, and differences in educational inputs by family time in the U.S. in Section 6. Section 7 concludes.

2 Conceptual background and relevant literature

At the margin, what divides the first and second generations? As a thought exercise, consider a child born a few months before his parents migrated and a child born a few months after his parents migrated. In many ways, these two children would be similar. Both would have spent virtually their entire lives in the receiving country, and both sets of parents would have arrived during childbearing age, perhaps during early or mid-career. One critical distinction in the U.S. is that children born in the U.S. or one of its territories automatically become citizens. Permanent residents of the U.S. retain many of the same rights as citizens, but undocumented immigrants may not be eligible for in-state college tuition and have trouble obtaining gainful employment.

Another important consideration is that time of migration is not random. Future parents may consider their fertility plans as they decide when to migrate. Parents who migrate before the birth of their child might be more forward-looking and more able to execute plans. Migrating with a young child is more expensive and complicated, so parents who arrive after the birth of their child may have better resources. Parents may also feel more compelled to migrate after the birth of a child, whether for economic opportunities or to escape violence in their country of origin. Although these considerations are important, this paper will not attempt to tackle directly the issue of selection into the timing of migration; all results presented here are descriptive in nature.

This paper extends the literature on the effects of immigrant generation and years in the U.S. on human capital accumulation. Chiswick and DebBurman (2004) find that second-generation immigrants have more years of schooling than first-generation immigrants and

native individuals (native born with native-born parents). Furthermore, first-generation immigrants that arrive at younger ages attain more education (Gonzalez, 2003; Chiswick and DebBurman, 2004).[2] A series of papers by Bleakley and Chin show that age 9 is a critical age for acquiring a new language; individuals who arrive before then attain more schooling, which in turn increases their wages (Bleakley and Chin, 2004). With sibling fixed effects models and various European data sets, Van den Berg et al. (2014), Hermansen (2017), and Lemmermann and Riphahn (2018) find a negative effect of age at arrival on educational attainment, suggesting a causal channel.

Some of these patterns change with an earlier measure of human capital accumulation: test scores. When test scores are measured at young ages, the first-generation youth studied are by necessity all early-arriving immigrants. With administrative data from Florida, Figlio and Özek (forthcoming) find that first-generation immigrants score better than second-generation immigrants, who in turn outscore third-generation immigrants. With administrative data from North Carolina, Hull (2017) shows that the second-generation Hispanic students outperform first-generation Hispanics, but that the first and second generations are on similar trajectories. First-generation students also tend to perform better on tests the earlier they arrive (Clotfelter, Ladd, and Vigdor, 2012; Figlio and Özek, forthcoming). Using a within-sibling design, Böhlmark (2008) and Van den Berg et al. (2014) find a critical age of arrival of around 9, after which youth suffer in terms of their cognitive development.

Taken together, the prior literature suggests that early-arriving first-generation immigrants and second-generation immigrants may be similar in their educational outcomes. The second generation tends to outperform the first generation, and early-arriving first-generation immigrants tend to have better outcomes than later-arriving immigrants. Since most studies focus on either the impact of immigrant generation or the impact of age at arrival among the

[2]These results are mirrored in studies of labor market outcomes. In seminal work, Chiswick (1977) and Carliner (1980) find that second-generation immigrant men earn more than those from the first and third generations. Immigrants earn more as they gain U.S. labor market experience (Chiswick, 1978), even after accounting for cohort effects (Borjas, 1985). In more recent work, Gindelsky (2019) demonstrates that first-generation immigrants who arrive before age 8 have similar earnings to second-generation immigrants.

first generation, comparisons between early-arriving first-generation immigrants and second-generation immigrants are rarely an direct focus.[3] To my knowledge, no prior work has explicitly studied the dividing line between the first and second generations, namely, early-arriving first-generation immigrants and second-generation immigrants with parents who arrived shortly before their birth.

3 Data

The data for this study come from two sources: (i) the Census and American Community Survey (ACS) and (ii) the Children of Immigrants Longitudinal Study (CILS). After describing the construction of my relative time of arrival measure, I detail the data sources and the relative strengths and weaknesses of each.

3.1 Constructing a measure of family time of arrival

The key independent variable in this analysis is family relative time of arrival. To construct it, I first create a variable that measures family's year of migration. For foreign-born children, this variable is equal to the year that the child arrived in the U.S. For children with a foreign-born mother, it is the year that the mother arrived in the U.S. To form my measure of the family's relative time of arrival, I then subtract the family's year of migration variable from the child's birth year. This variable has an easily interpretable scale where a positive value indicates the age at which a first-generation child migrated, a negative value indicates the number of years that a mother migrated before the child was born, and zero indicates that the child was born in the same year that the family migrated. An illustration of the scale is provided in Figure 1.

[3]Cortes (2004) finds that the test score gap between first- and second-generation children decreases the longer first generation has been in the U.S. Since the children in her data source were around the same age, time in the U.S. and age at arrival are approximately collinear. Thus, another way to state her result is that the test score gap between first- and second-generation children decreases the younger the first generation arrived in the U.S.

3.2 Census and American Community Survey

I first analyze individual-level data from the 5% and 1% samples of the 2000 U.S. Census of Population and Housing and the 2001-2016 American Community Survey (ACS) samples (Ruggles et al., 2018). The 2000 Census and the ACS are unique in that they contain information on the exact year of arrival; earlier censuses gave response options in intervals. I limit the sample to youth aged 15–18 years whose mothers were foreign born and immigrated to the U.S. as adults (i.e., after age 18). I further limit the sample to children born within ten years of their family's arrival to the U.S.[4] Even after these sample restrictions, I am left with about 275,000 observations of children of immigrants, which allows me to analyze outcomes by family time of arrival at a fine level. Person-level weights are used for all analyses.

The main disadvantage of the Census/ACS is that it only offers rough measures of academic outcomes. Following Bleakley and Chin (2008), I construct measures of school attainment and age-for-grade for older teens. I classify a teen as a high school dropout if he does not have a high school diploma and is not currently attending school. A teen is considered to be below the age-appropriate grade if he is 15 years and below 9th grade, 16 years and below 10th grade, etc. Another disadvantage of the Census/ACS is that I must limit the sample to children whose mother is present in the household. I analyze mother's educational attainment as an educational input.

3.3 Children of Immigrants Longitudinal Study

The Children of Immigrants Longitudinal Study (CILS) was designed to study the adaptation process of children of immigrants and targeted U.S.-born children with at least one foreign-born parent and foreign-born children brought to the U.S. at an early age.[5] The first wave

[4] In Appendix Figure A.1, I present a histogram of family's year of arrival relative to the child's year of birth using the Census/ACS data. Relatively more of the Census/ACS observations come from children who were born before their parents migrated; specifically, more come from children whose family migrated 2–6 years before the child was born. The shape could be due in part to the sample inclusion criteria, specifically the requirement that the mother was at least 18 years old when she migrated.

[5] For a more thorough description of the CILS, see Portes and Rumbaut (2005).

included 8th and 9th graders attending school in the Miami/Ft. Lauderdale, FL, and San Diego, CA, metro areas in 1992. It contains baseline demographic and family characteristics as well as early educational outcomes, such as math and reading test scores. The second wave occurred three years later when the respondents were about to graduate high school; a random subsample of parents was also surveyed at this time. The third wave was fielded in 2001–2003 when the respondents were around 24 years old and had reached early adulthood.

Follow-up rates were high considering the mobility of the target population. The second wave successfully followed 81.5% respondents. Intact families are somewhat overrepresented in the second wave, but otherwise, the samples are similar. The third wave successfully followed 84% of respondents from the second wave. Portes and Rumbaut (2005) find that attrition in the third wave is correlated with certain respondent characteristics but that means adjusted for nonresponse are not substantially different from unadjusted means.

In several ways, these data are ideally suited to studying children of immigrants. The CILS by design only includes children of immigrants, whereas other commonly used surveys would yield much fewer members of the population of interest. The questionnaires were written to gather information particularly relevant for immigrant children, like the respondent's facility in speaking, understanding, reading, and writing English. In addition, the parent questionnaire was translated into and administered in six different languages to reach as many parents as possible.

Perhaps the main drawback of the CILS is that it is not nationally representative. Instead, samples were drawn from two communities that were heavily affected by new immigration. Although this sampling design was more cost-effective, the resulting sample may not adequately represent experiences of immigrant families that settled outside of enclaves. Furthermore, some ethnic groups and national origins were over- or under-represented in the CILS relative to the population. Last, the exact probabilities of inclusion into the sample are not known; the survey team in each location used its knowledge of the area to select schools that would cover a range of nationalities.

Like the Census/ACS sample, I limit the CILS sample to children born within ten years of their family's arrival to the U.S. Unlike the Census/ACS sample, I do not explicitly restrict the sample to children whose mothers arrived as adults. Mother's age is missing for about 20% of observations that are otherwise valid. Of the children with non-missing mother's age, only 1% of mothers arrived in the U.S. before age 18. Thus, the two samples are mostly comparable in terms of sample restrictions.[6]

I analyze several educational outcomes drawn from the first and third survey waves. I measure achievement with national percentile scores on the Stanford math and reading achievement test and grade point average (GPA). Since most students obtain the highest possible value on the measure of knowledge of English, I create a dummy variable that equals one if the student obtained the highest score and analyze it. I use educational attainment questions to create dummy variables for whether the respondent graduated high school and received a bachelor's degree by the third survey wave. For educational inputs, I analyze mother's educational attainment as reported by the student in the first wave.

4 Descriptive differences between the first and second generations

I first explore whether whether there are differences between children born before and after their family migrated. Put differently, I compare first-generation and second-generation immigrant youth, subject to the sample restrictions described above.

4.1 Census/ACS

In Table 1, I compare the mean characteristics for children of immigrants in the Census/ACS data. The first column gives means for children born *after* their mother migrated, or second-generation immigrants, and the next column does the same for children born *before* their

[6]Appendix Figure A.2 gives a histogram of family's relative time of arrival using the CILS data.

mother migrated, or first-generation immigrants. I also provide mean characteristics for children with a native-born mother.

In terms of educational outcomes and inputs, I replicate the finding in prior literature that the second generation is better off than the first generation. Children born after their family migrated are 6.4 percentage points less likely to be below grade level relative to children born beforehand. This difference is relative to a base of about 31% below grade level for children born after their family migrated. While this difference is substantial, it may have been advantageous for these students to be held back a grade: Figlio and Özek (2019) present evidence that English language learners, particularly foreign-born students, benefit from grade retention in terms of their human capital development.[7] Among native children, 38% are below grade. I also find that children born after their family migrated are 1.6 percentage points less likely to have dropped out of high school, which is a two-thirds increase from the baseline of children born afterward. I examine mother's education attainment as a key input for children's education outcomes and find that children born after their family migrated are 1.9 and 1.6 percentage points more likely, respectively, to have a mother who has a high school diploma and a bachelor's degree. Thus, youth born after their family migrated are at a slight advantage in terms of maternal human capital. When I compare other demographic characteristics in Table 1, I mostly find differences that are statistically significant but practically small.

4.2 CILS

Table 2 presents descriptive statistics for the CILS data. Again, I find that second-generation immigrant youth generally have better educational outcomes and inputs relative to first-generation youth. They score 9 percentile points higher in math and 12 percentile points higher in reading. The difference in GPA is not statistically significant. They are 24 percentage points more likely to know English very well. In the first wave (mostly grades 8

[7]Note that their results only apply for marginal students since the effect is identified using regression discontinuity design.

and 9), the likelihood that they aspire to graduate college is 5 percentage points higher, and for expectations to graduate college, it is 8 percentage points higher. Note that both of these differences are relative to a high baselines. The difference in obtaining a high school diploma is small and statistically insignificant, while youth born after their family's migration are 7 percentage points more likely to obtain a bachelor's degree by the third wave.

I find more substantial differences in mother's educational attainment for the CILS data compared to the Census/ACS data. Only 39% of children brought to the U.S. at young ages had attained citizenship by the first wave; virtually all children born after their family migrated report U.S. citizenship. There are also large differences in the distribution of national origin. Specifically, second-generation children are more likely to Mexican, Cuban, or Filipino; first-generation children are more likely to be Central American or from a nation in Southeast Asia besides the Philippines. Though these differences can largely be explained by historical migration trends,[8] they do have implications for my research design, as I do not want confuse variation across family's relative time of arrival with changes in cohort quality (see Borjas, 1985). [Note: For this reason, a future draft will likely present results including controls for national origin.]

5 Differences in educational outcomes by family's time of arrival

In the next set of results, I document how educational outcomes vary by family's relative time of arrival. Recall that family's relative time of arrival is scaled so that a negative value is the number of years the mother was in the U.S. before the child was born and a positive

[8]Note that the CILS respondents were born in or around 1978. The Cuban Revolution in 1959 spurred an exodus that slowed in the 1980s; a large number of Cuban immigrants from that period settled in Miami. A civil war in Nicaragua in the 1980s led to a diaspora, with many Nicaraguans fleeing to the U.S., and to Miami specifically. In Southeast Asia, the end of the Vietnam War along with civil unrest in nearby countries led to a wave of refugees from Vietnam, Laos, and Cambodia in the late 1970s and 1980s. Many of these refugees settled in California, as did many Filipino immigrants.

value is the age at which the child migrated. A value of zero indicates that the family migrated in the same year that the child was born. The scale is depicted in Figure 1.

5.1 Census/ACS

The large sample size Census/ACS data lets me analyze family relative time of arrival in fine detail; here I analyze outcomes by year while I use ranges with the CILS data. With the Census/ACS data, I find small differences in outcomes within a small window of the child's birth year, but those differences become larger as the window expands. In Panel A of Figure 2, I plot the probability that a high school-age teen is below grade level by family's relative time of arrival. Bars give the 95% confidence intervals. For youth who were born in the same year that their family migrated (i.e., relative time of arrival is zero), the probability of being below grade is 0.35. This probability decreases as mothers spend longer in the U.S. before having the child. On the other side, children who arrive in the U.S. before age 5 have similar probabilities of being below grade. After that, the probability increases by 0.05 but then stays constant.

I plot results for dropping out of high school in Panel B of Figure 2. Native-born teens with immigrant mothers have a constant 0.025 probability of being a high school dropout. For children brought to the U.S. in their first few years of life, this probability is about 0.033, or one-third higher. The probability steadily increases so that children who arrived in the U.S. in early elementary school have about a 0.045 probability of dropping out of high school, an 80% increase relative to native-born children of immigrants.

With these results, I do not find evidence of a sharp discontinuity at zero, the transition between the second and first generations. However, the trends on either side of zero are different. If anything, these results suggest that whether a child's family arrives before the start of formal schooling is key. Still, these are rough measures of human capital accumulation, and results from Figlio and Özek (2019) suggest that retention for immigrant students could be positive on net.

5.2 CILS

With the CILS, I examine wider set of outcomes, but I collapse family relative time of arrival into ranges due to the smaller sample size.[9] Results for outcomes in the CILS are presented across several panels of Figure 3. For math percentile scores, there is a clear discontinuity at zero. On average, students born after their families migrated score just above the 60th percentile relative to the national norm. Students born before their families migrated score around the 53rd percentile. For reading, average percentile scores are around the 50th for children born before their family's migration. Among children brought to the U.S. between birth and 3 years, the average reading percentile is 42, and this average decreases as children migrate at older ages. This pattern is mirrored with the measure of English knowledge: About 80% of students born in the U.S. report knowing English very well. That figure drops to 66% for students brought at ages 0–3 and decreases further thereafter. For GPA, I find no meaningful differences across the zero threshold.

Panels E–H of Figure 3 focus on aspirations for educational attainment at high school entry and actual attainment 10 years later. In the first wave, aspirations to finish college are high across family's relative time of arrival. There is a small but statistically significant jump at the zero threshold; children born just after their families migrated are 5 percentage points less likely to aspire to finish college. Expectations to finish college are also high, but the discontinuity at zero is more pronounced. Eighty-six percent of students born just after their families migrated expect to finish college while 76% of students born just beforehand expect the same, which implies a difference of 10 percentage points. At the third follow-up when students were about 24 years old, almost all respondents report receiving a high school diploma, regardless of family's time of arrival. However, there is a marginally significant drop in the probability of receiving a bachelor's degree at the zero threshold. Thirty-five percent of young adults whose families arrived just before their birth had a bachelor's degree,

[9] Children whose families arrived in the U.S. in the same year that they were born are assigned to [-3,-0] or [0,3] depending on wether they were born in the U.S. or not.

but the probability drops to 28% for young adults who arrived in the U.S. shortly after their birth.

Taken together, the results from the CILS suggest that there is a meaningful divide between the first and second generations, though it is not present for all outcomes considered. In particular, I find a discontinuity for achievement scores and college attainment. For reading scores and English ability, I also find that outcomes trend with age at arrival, which is consistent with prior literature.

6 Differences in educational inputs by family's time of arrival

In this section, I consider whether there is a discontinuity in educational inputs by family's time of arrival. While many background characteristics might be considered inputs to the educational production function in some sense, I explicitly consider characteristics that are well known to enhance human capital. My focus is mother's educational attainment, which is present in both data sources. Overall, I find mixed evidence on the smoothness of this educational input across the generational threshold.

6.1 Census/ACS

Figure 4 shows results for mother's educational attainment in the Census/ACS. Panel A plots the probability that an immigrant mother has graduated high school by relative time of arrival, and Panel B does the same for obtaining a collge degree. The patterns in the two panels are similar: Children's mothers have higher probabilities of graduating high school and holding a college degree the longer they spent in the U.S. before having their child. However, mother's educational attainment is similar for children born before their families migrated, regardless of the child's age at arrival. While there are different slopes on either side of zero, the transition across the zero threshold is smooth.

6.2 CILS

Figure 5 similarly plots probabilities of mother's educational attainment for the CILS. I find a discontinuity at zero for both the probability that the mother graduated high school and the probability that she graduated college. Mothers who have children after they migrate tend to be better educated than mothers who have children afterward.

7 Conclusion

This paper proposes a new measure of host country experience based on the year a family arrived relative to the child's year of birth. I use this measure to test whether early-arriving immigrant children have different educational outcomes from children whose mothers arrived shortly before birth. I find that the transition between the first and second generations is relatively smooth for education attainment but discontinuous for educational achievement. While it is usually preferable to use all information available on immigrant background, my results suggest that children of immigrants could be grouped together when the outcome is education attainment. For educational achievement, it is better to control for foreign parentage in addition to foreign birth.

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Figure 1: Scale for family relative time of arrival

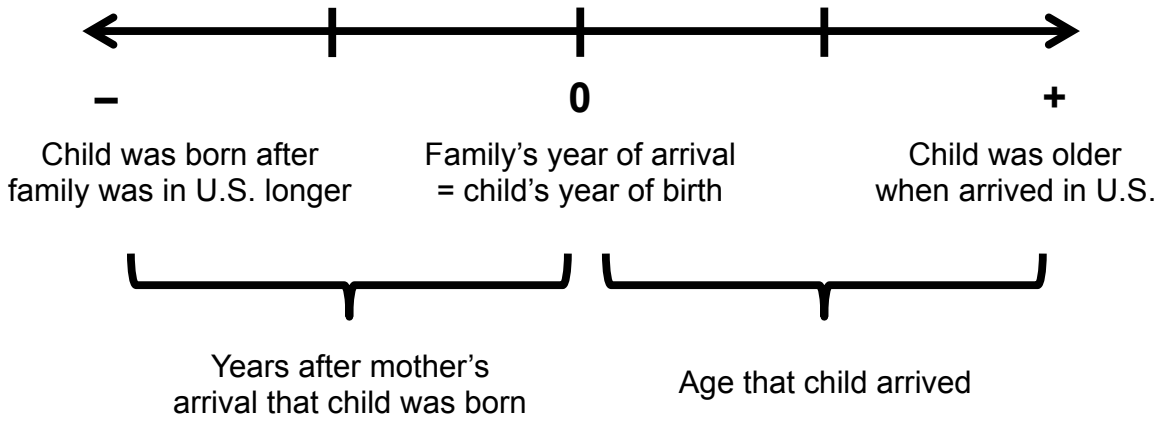
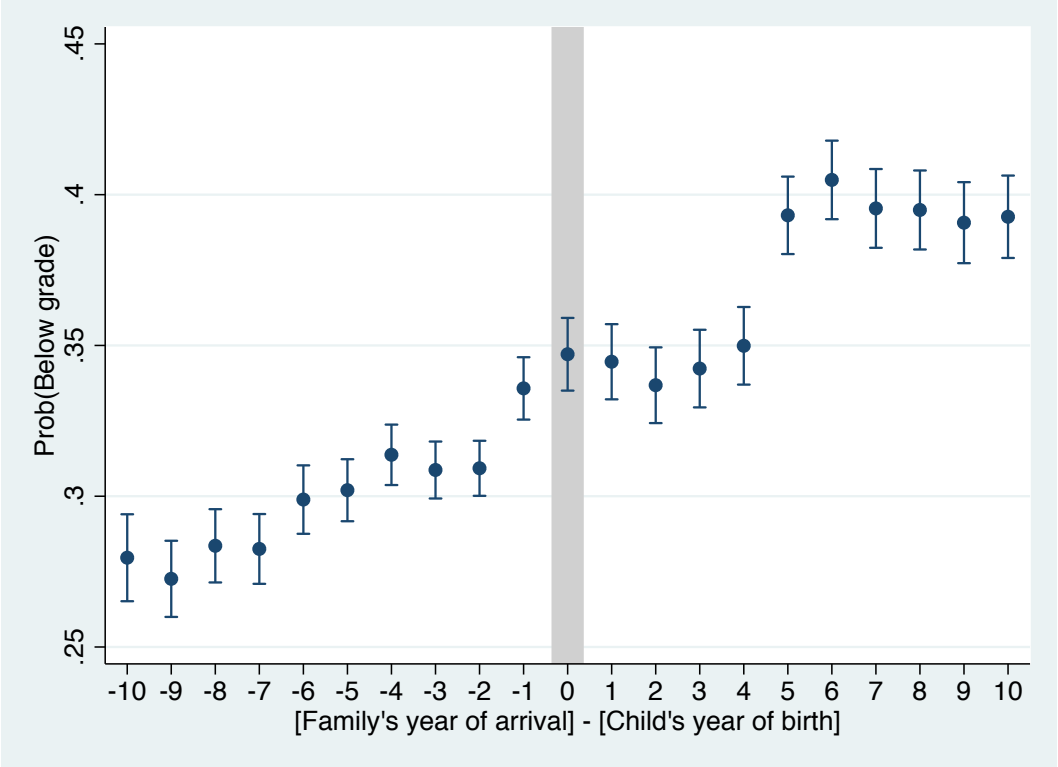
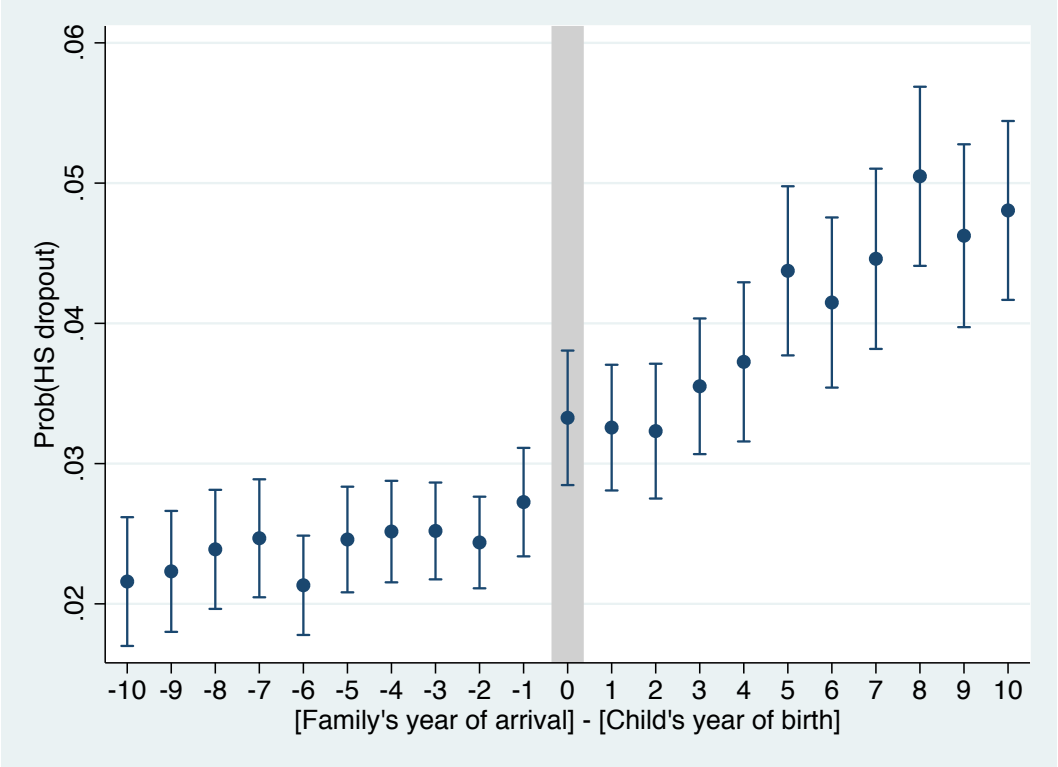


Figure 2: Educational outcomes by relative time of arrival, Census/ACS data

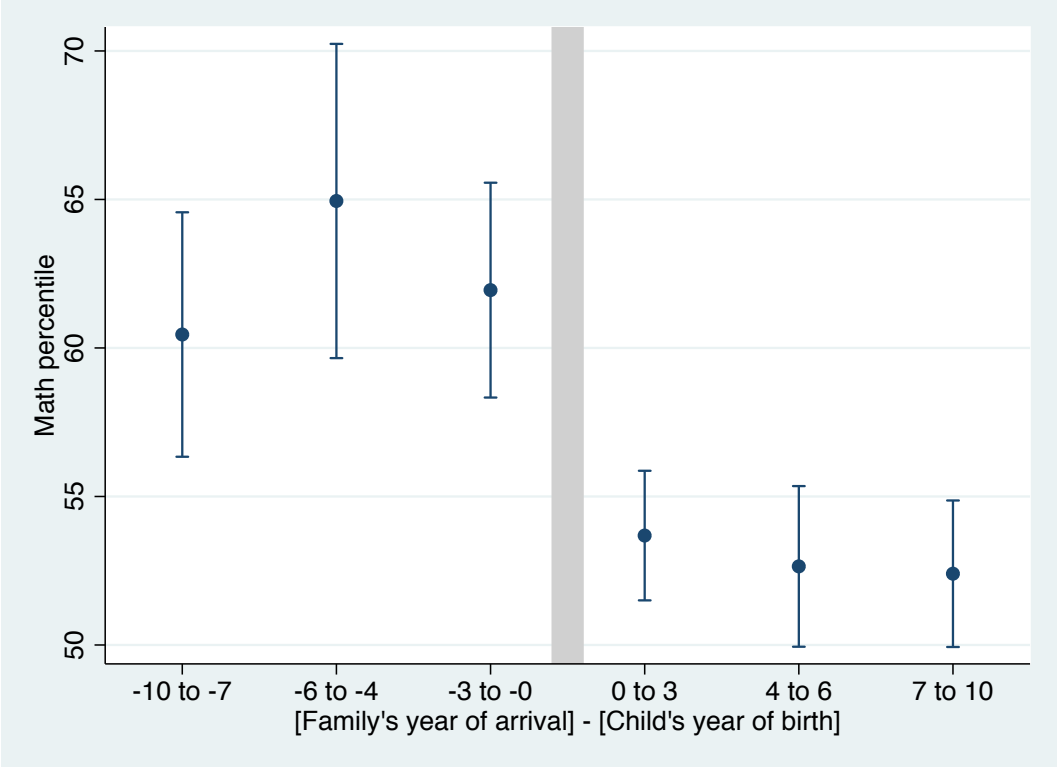


(A) Below age-appropriate grade level

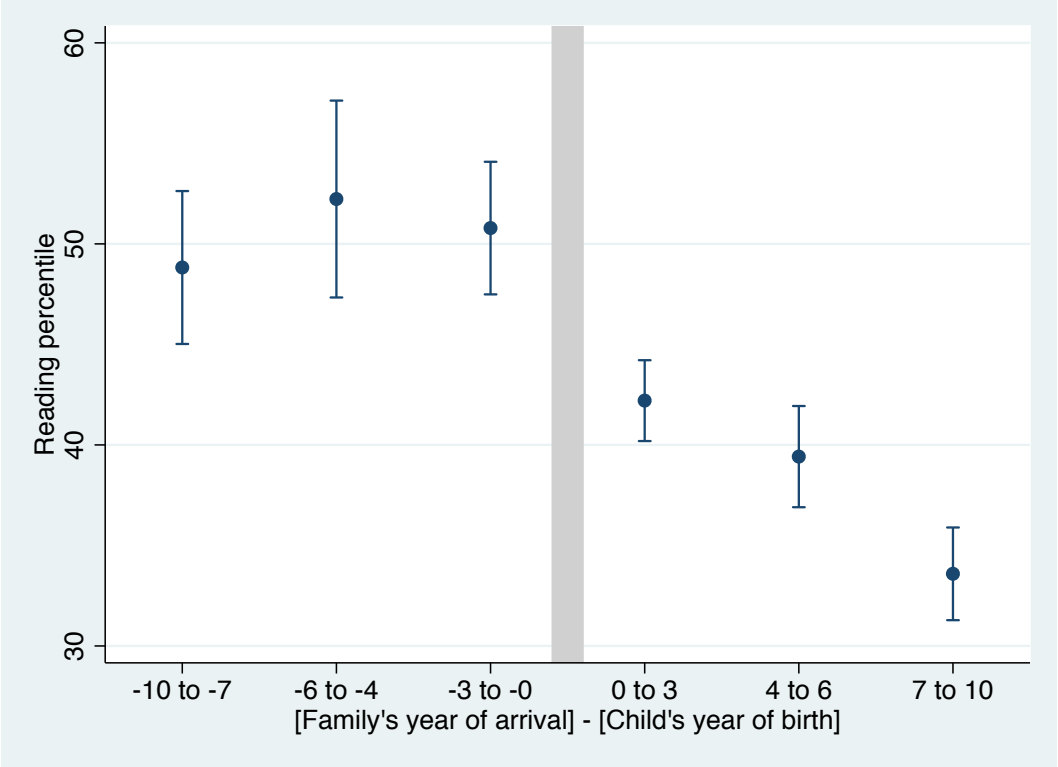


(B) High school dropout

Figure 3: Educational outcomes by relative time of arrival, CILS data

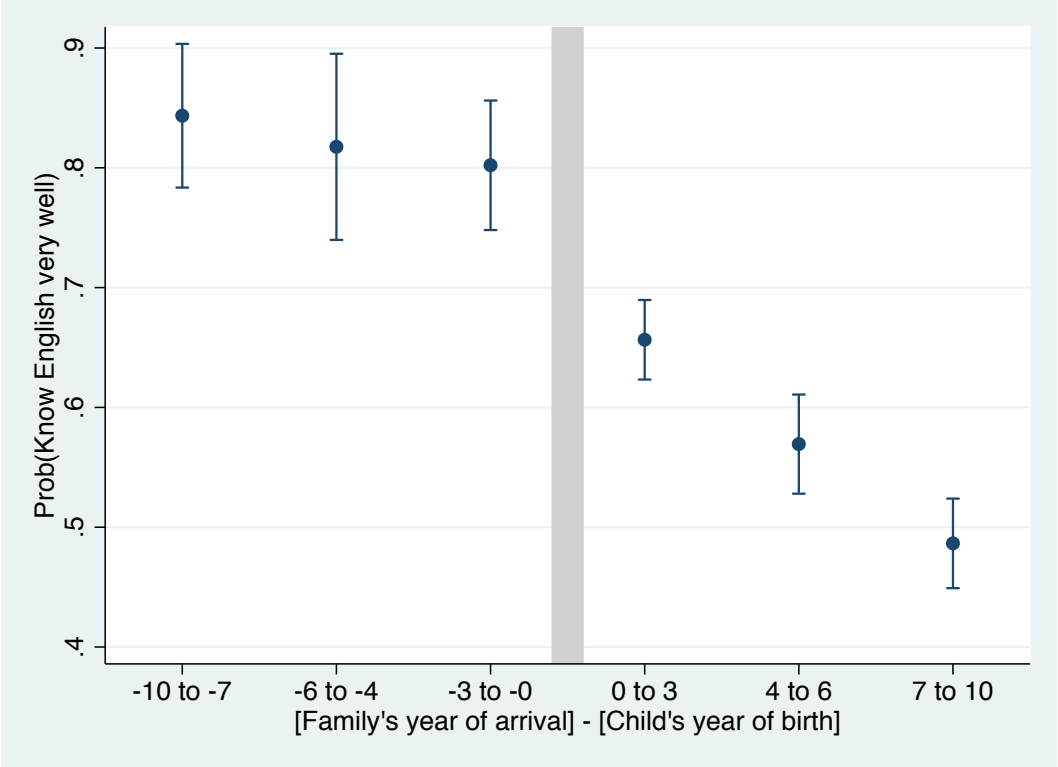


(A) Math percentile score

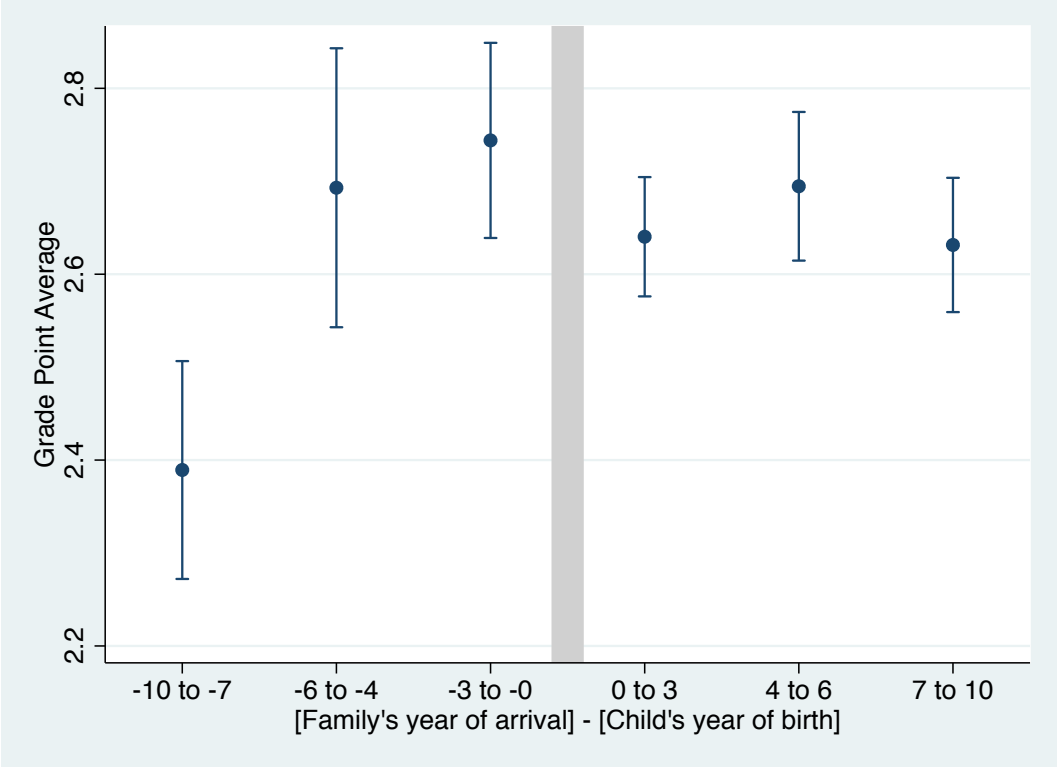


(B) Reading percentile score

Figure 3: —continued

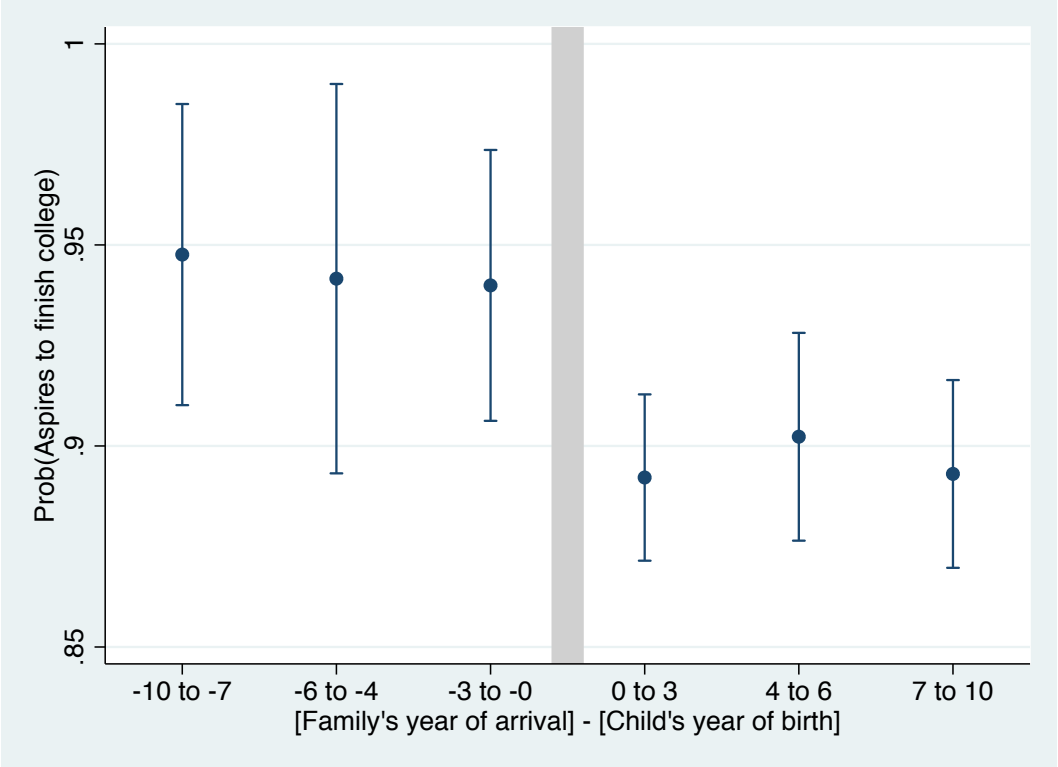


(C) Know English very well

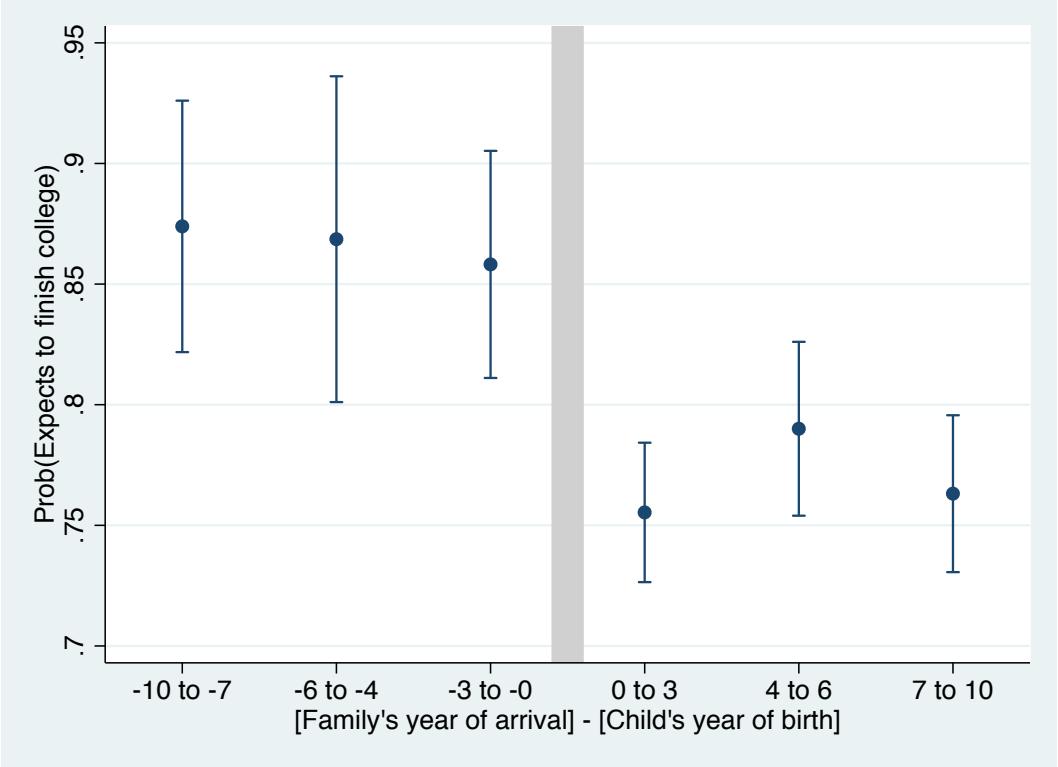


(D) Grade point average

Figure 3: —continued

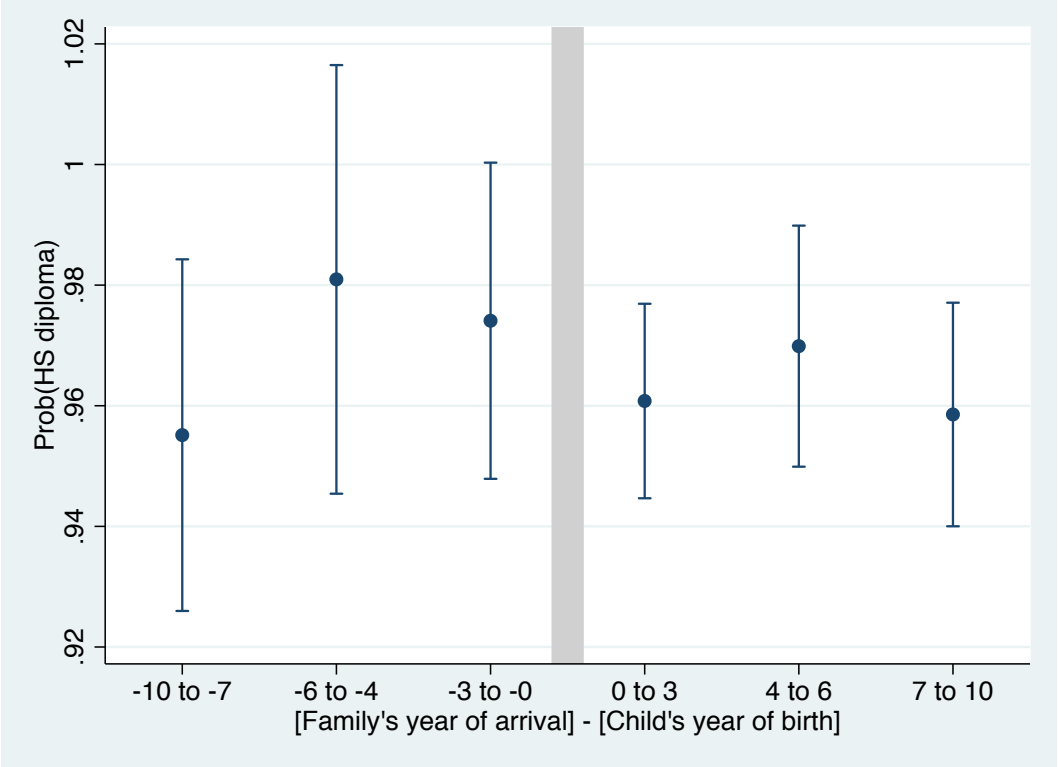


(E) Aspire to finish college

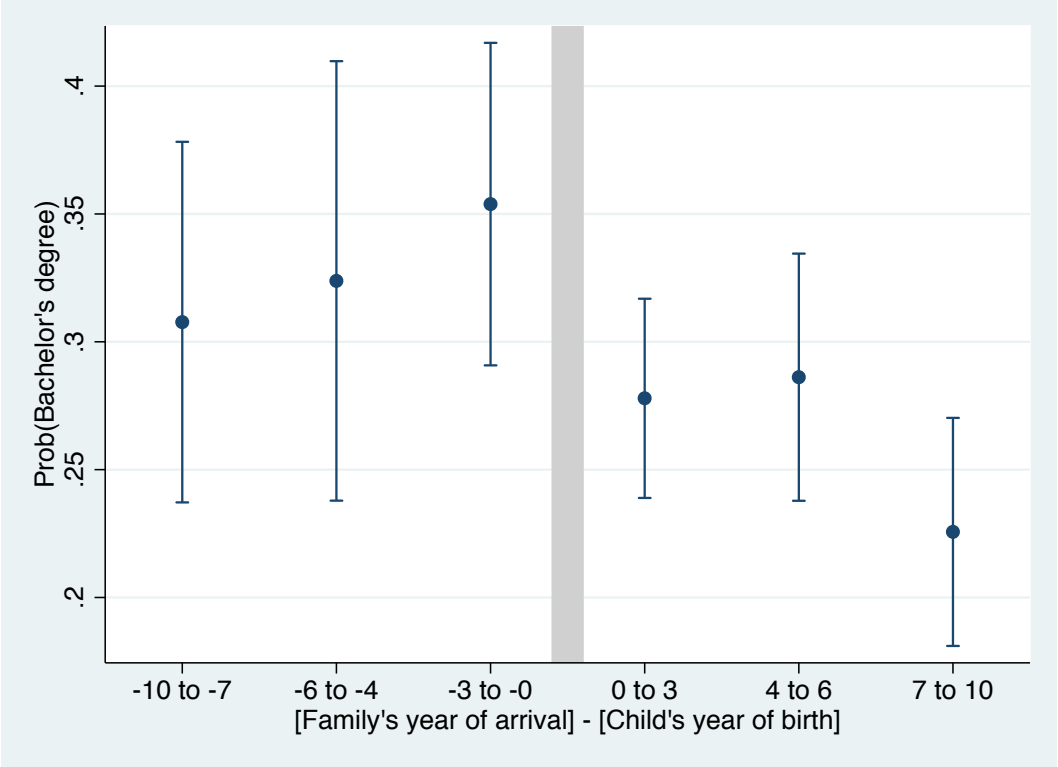


(F) Expect to finish college

Figure 3: —continued

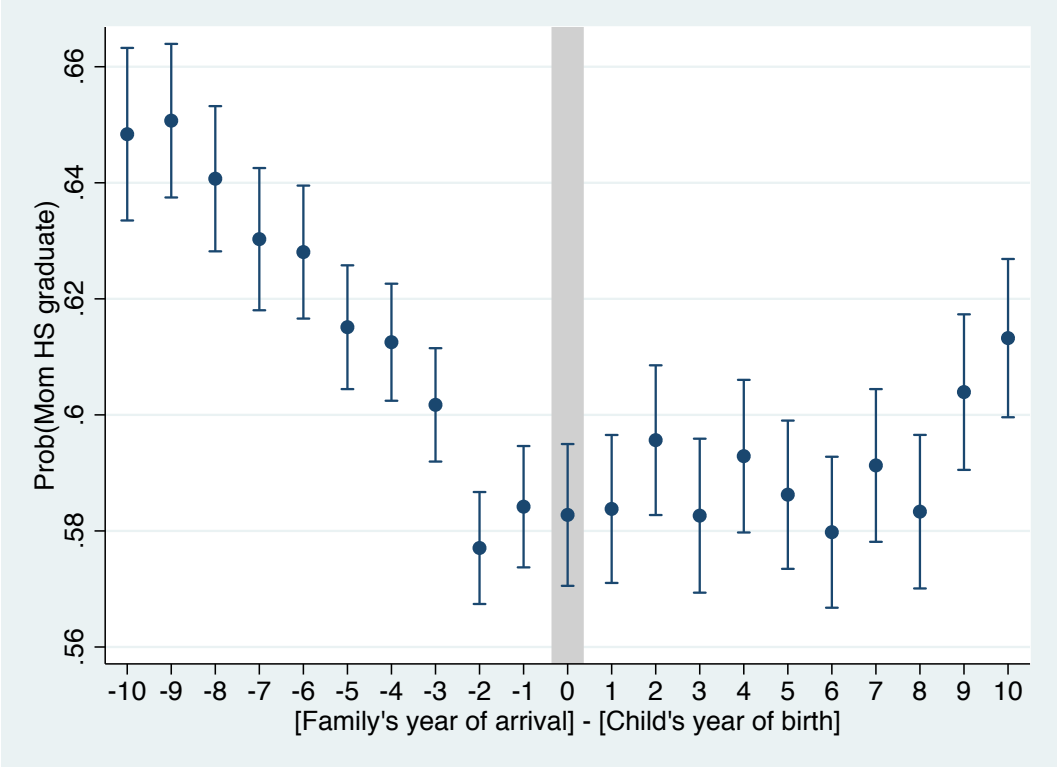


(G) High school diploma

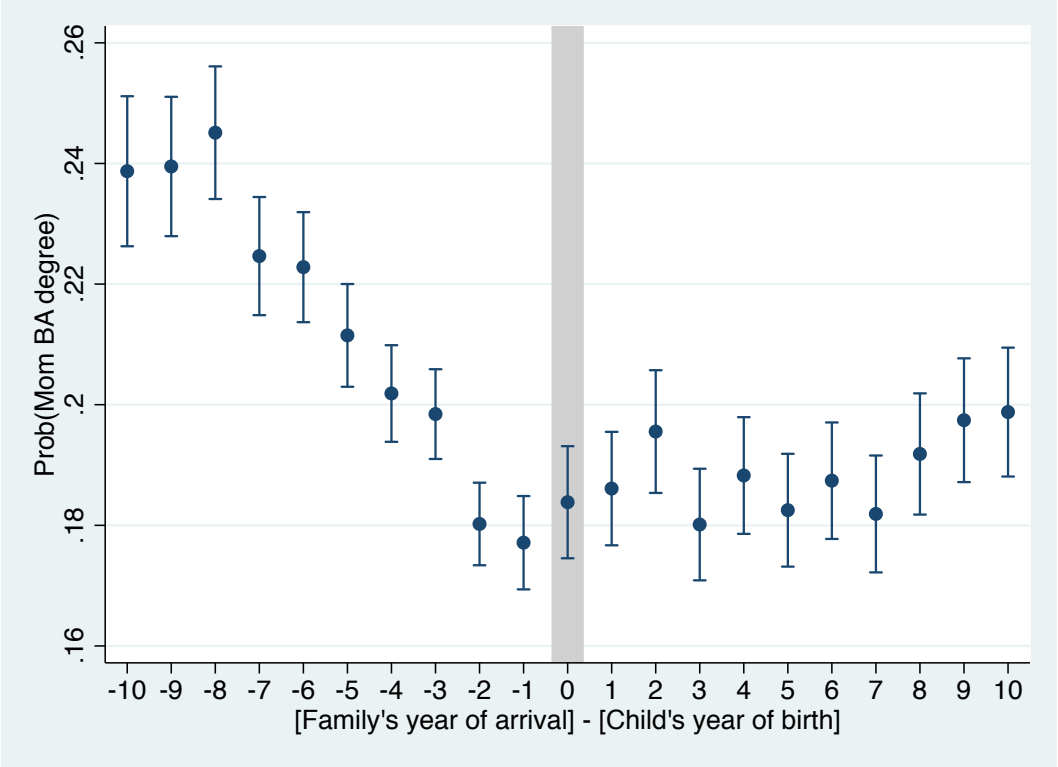


(H) Bachelor's degree

Figure 4: Educational inputs by relative time of arrival, Census/ACS data

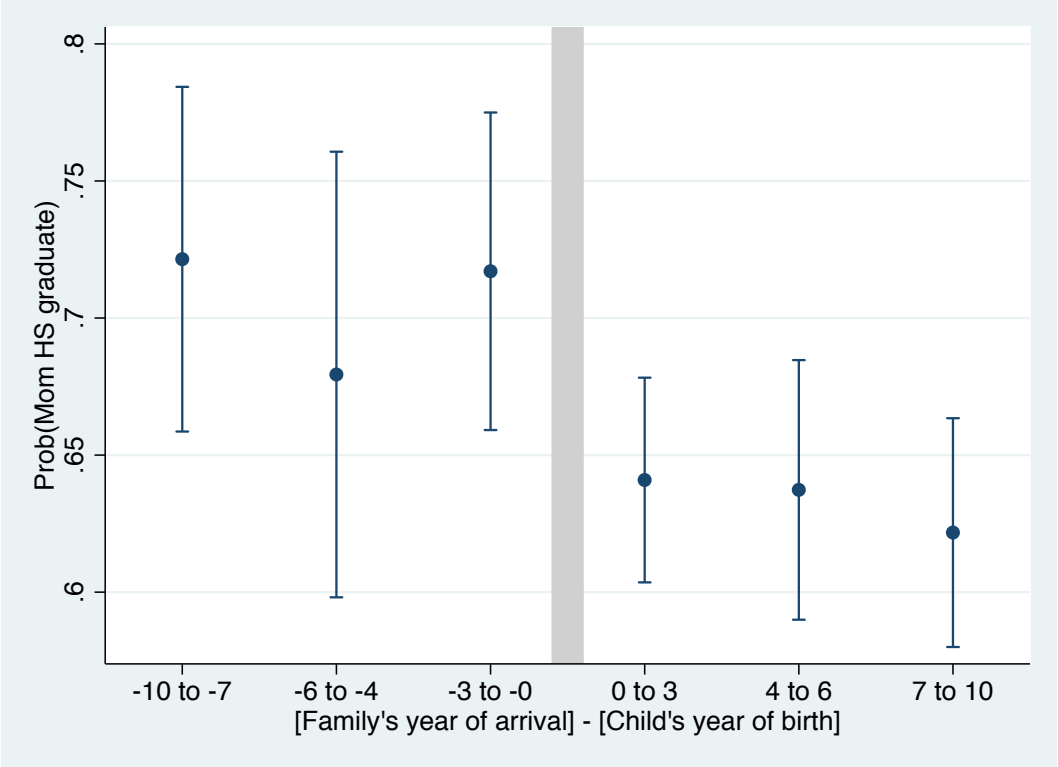


(A) Mom high school graduate

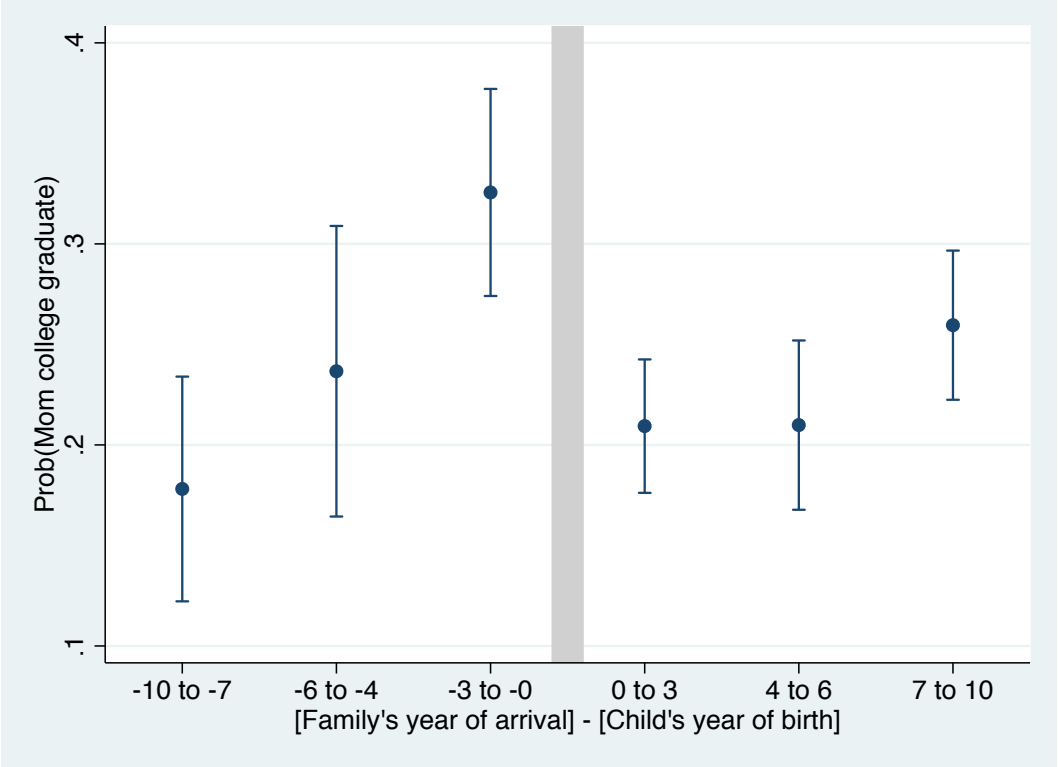


(B) Mom college degree

Figure 5: Educational inputs by relative time of arrival, CILS data



(A) Mom high school graduate



(B) Mom college graduate

Table 1: Descriptive statistics, Census/ACS data

	Born after mother migrated (2nd generation)	Born before mother migrated (1st generation)	Difference (After − Before) (2nd − 1st)	Native-born mother
Below grade	0.306	0.370	-0.064***	0.381
High school dropout	0.024	0.041	-0.016***	0.034
Mother HS graduate	0.611	0.592	0.019***	0.914
Mother college graduate	0.206	0.190	0.016***	0.267
Age (years)	16.40	16.44	-0.04***	16.41
Female	0.489	0.483	0.007**	0.487
Father not present	0.208	0.201	0.007***	0.262
Not Hispanic	0.470	0.439	0.031***	0.909
Mexican	0.366	0.377	-0.010***	0.061
Puerto Rican	0.021	0.035	-0.014***	0.013
Cuban	0.007	0.015	-0.008***	0.002
Other Hispanic	0.136	0.134	0.001	0.015
White	0.445	0.480	-0.035***	0.770
Black/African American	0.079	0.081	-0.001	0.155
American Indian or Alaska native	0.004	0.004	0.000	0.011
Chinese	0.051	0.032	0.019***	0.001
Japanese	0.003	0.003	0.000	0.001
Other Asian or Pacific Islander	0.164	0.0151	0.014***	0.004
Other single race	0.207	0.217	-0.010***	0.023
Two major races	0.044	0.031	0.013***	0.031
Three or more major races	0.003	0.002	0.001***	0.003
Observations (unweighted)	151,144	126,739		2,181,980

Notes: * $p < .1$, ** $p < .05$, *** $p < .01$.

Table 2: Descriptive statistics, CILS data

	Born after mother migrated (2nd generation)	Born before mother migrated (1st generation)	Difference (After − Before) (2nd − 1st)
Math percentile score	62.06	52.99	9.07***
Reading percentile score	50.41	38.73	11.69***
Grade point average	2.61	2.65	-0.04
Know English very well	0.820	0.578	0.242***
Aspire to finish college	0.943	0.895	0.048***
Expect to finish college	0.866	0.767	0.099***
High school diploma	0.969	0.963	0.007
Bachelor's degree	0.331	0.264	0.068***
Mother has HS diploma	0.711	0.634	0.077***
Mother has college degree	0.253	0.226	0.027
Age (years)	14.11	14.33	-0.22***
Female	0.540	0.539	0.001
U.S. citizen	0.995	0.386	0.609***
U.S. citizen missing	0.009	0.175	-0.165***
Mexican	0.135	0.088	0.048***
Cuban	0.291	0.156	0.135***
Caribbean, except Cuban	0.095	0.100	-0.004
Central American	0.043	0.159	-0.116***
South American	0.103	0.087	0.016
Filipino	0.192	0.128	0.065***
Southeast Asian, except Filipino	0.065	0.247	-0.182***
Other Asian	0.049	0.027	0.022**
Middle Eastern/African	0.008	0.005	0.002
European/Canadian	0.018	0.004	0.014**
Miami/Ft. Lauderdale metro	0.572	0.516	0.056**
Present in Wave 3	0.709	0.682	0.027
Observations	650	1,827	

Notes: * $p < .1$, ** $p < .05$, *** $p < .01$.

Appendix

Figure A.1: Histogram of relative time of arrival, Census/ACS data

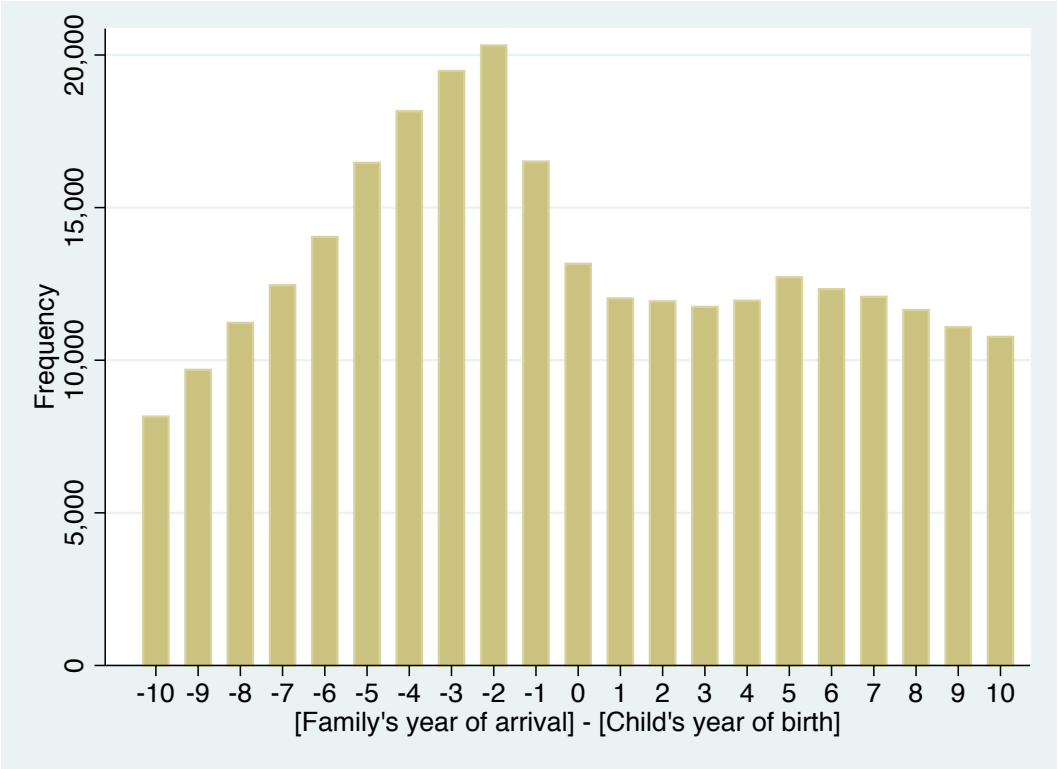


Figure A.2: Histogram of relative time of arrival, CILS data