REVISITING THE ASIAN AMERICAN ACADEMIC ADVANTAGE AT THE CLOSE OF THE 20TH CENTURY: THE IMPORTANCE OF SELECTIVE MIGRATION ON COLLEGE ENROLLMENT

INTRODUCTION

Asian immigrants to the United States (U.S.) have experienced great academic success. Data from the National Assessment of Educational Progress shows Asians Americans are more proficient in reading and math than other racial groups in the U.S. (U.S. Department of Education 2015). Recent U.S. Census (2013) data also shows that among adults aged 25 and over, 51 percent of Asian Americans hold a Bachelor's degree or higher compared to 31 percent of white Americans. Because these patterns have persisted for decades, explaining Asian Americans' academic success has become one of the most enduring topics in sociology.

Explanations for Asian Americans' academic success are largely based on experiences of Asians who immigrated to the U.S. after 1965, when large-scale immigration from Asia began. Two major explanations have been well established: a structural explanation that draws on socioeconomic status (SES), and a cultural explanation (i.e., strong academic orientation, work ethic, and parental expectation) (Sakamoto, Goyette, and Kim 2009). Socioeconomic status is often regarded as a key factor explaining academic outcomes and social mobility (e.g., Blau and Duncan 1967; Swell et al. 1969). However, although SES is a major predictor of academic and mobility success among whites, it is not as effective in explaining Asian-white gaps in these factors, and SES cannot explain why some Asian ethnic groups (e.g., Southeast Asians, Chinese) outperform whites despite having lower SES (Kasinitz et al. 2009; Lee and Zhou 2014; Liu and Xie 2016). Cultural explanations attribute the academic advantage of Asian Americans to academic orientation, work ethic, and parenting styles posited to originate from a distinctive

academic culture (e.g., Goyette and Xie 1999; Hsin and Xie 2014; Kao and Tienda 1995; Pong, Hao, and Gardner 2005). Relative to whites and other minorities, Asian Americans perceive higher rewards to education, expend more effort (Hsin and Xie 2014), engage in fewer negative behaviors in school (Harris and Robinson 2007), and Asian parents have higher educational expectation of their children (Chen and Stevenson 1995; Kao and Tienda 1995).

Although it has become conventional wisdom to attribute Asians Americans' academic success to superior academic culture, some researchers suggest cultural (and SES) explanations should be situated within the context of selective migration, which is important to understand the social mobility of immigrants. For example, Ichou (2014) and Feliciano and Lanuza (2017) note explanatory frameworks relying on cultural heritage often ignore the importance of new immigrants' *relative attainment* compared to populations of their countries of origin. Average educational attainment of Asian Americans is not only higher than non-immigrant whites, but also ostensibly higher than the average attainment in Asian sending countries (Lee and Zhou 2014). Some studies examine the impact of selective migration on academic performance among immigrant children in several contexts, such as in legal institutional settings (Levels, Dronkers, and Kraaykamp 2008), and considered pre-immigration SES (Louie 2012), and relative educational selectivity of parents at aggregated (Feliciano 2005) and individual levels (Ichou 2014; Feliciano and Lanuza 2017). However, the extent to which selective migration transmits an academic advantage from parents to youth among Asian Americans has not been clearly studied. Moreover, the theoretical implication of selective migration of Asian Americans is underdeveloped, and its relationship with SES and cultural explanations remains unclear.

In this study, we build on the *relative attainment* approach (Ichou 2014; Feliciano and Lanuza 2017) of selective migration and extend its conceptual utility to the understanding of

Asian American academic advantage across immigrant generations. More importantly, we extend Pierre Bourdieu's notion of habitus to provide a "discrete sources of advantage" framework that unifies the understandings of various sources of Asian Americans' academic advantage across immigrant generations. Our framework fills the gap in the literature on socioeconomic assimilation of Asian Americans, which does not fully consider the theoretical implication of cross-generational changes in socioeconomic attainment (Sakamoto, Goyette and Kim, 2009). The notion that gradually waning Asian cultural heritage across generations explains the generational decline in academic outcomes (Takei et al. 2006) is inaccurate. Instead, our framework argues habitus construction across generations can be relatively discrete; it can be shaped by drastically different elements across generations. For example, first-generation Asian Americans might significantly benefit from the high relative attainment of their parents, which creates a transferred habitus from sending to host countries based on high selectivity that promotes education attainment net of SES and cultural factors. Second-generation Asian Americans' academic advantage relative to whites might primarily be explained by SES, as the advantage of *transferred* habitus in the first generation can potentially be transformed to SES advantage for the second generation. As assimilation proceeds, third-generation Asian Americans are similar academically to non-immigrant whites.

Given that family is a core mechanism of transferred habitus, we consider college enrollment a more compatible outcome with Bourdieu's theory than other outcomes (e.g., years of education). Familial factors play an important role in college enrollment decisions because youths' values and attitudes at this life stage are still largely influenced by families (e.g., parents typically provide housing and emotional and financial support) (Sandefur, Meier, and Campbell 2006). Furthermore, college enrollment is one of the major distinctions between educational

"haves" and "have-nots" (Buchmann, Condron and Roscigno 2010), and reasonably captures both academic success and social mobility. As such, it serves as the outcome for this study. Thus, we use the National Education Longitudinal Study (NELS) and the Barro-Lee dataset to estimate the extent to which Asian American-white differences in college enrollment can be attributed to 1) structural factors through SES, 2) academic cultural factors through schooling behaviors, attitudes, effort, and parental educational expectation, and 3) selective migration based on parents' selectivity scores generated from the Barro-Lee dataset. We assess how these factors contribute to the Asian advantage in college enrollment by generation. We also present results for Asians as a whole and disaggregated by various ethnic groups to account for significant heterogeneity among Asian immigrants.

Our results suggest selective migration is a salient feature of Asian Americans' academic success in the post-1965 historical context. Also, Asian academic advantage should be understood in a "discrete" manner (i.e., generation-specific explanations) rather than as stemming from advantages that decline across generations, as explanations for Asians' advantage dramatically differ across generations. Below we discuss explanations for Asian Americans' higher academic outcomes than whites that rely on culture and SES. Next, we theorize how positive selection in migration might create a unique habitus for first-generation immigrants, primarily through transferred habitus that facilitates class reproduction, and how change in habitus is related to cross-generational changes in Asian Americans' academic outcomes. We then provide research questions that guide our analysis, and describe the data, analytic plan, and results. We conclude with a discussion of the theoretical implications of this study.

STRATIFIED ATTITUDES/VALUES TOWARDS EDUCATION BY CULTURAL HERITAGE AND CLASS

Although SES is an important predictor of academic outcomes, the conventional explanation for Asian Americans' academic advantage over whites is a unique immigrant ethic inherited from Asian cultural heritage (e.g., Sue and Okazaki 1990; Kao 1995; Osajima 2005; Chua 2011, Hsin and Xie 2014). A distinctive parenting style is often credited for explaining the advantage. For example, previous studies find Asian Americans recognize education as an important channel for upward mobility and are often credited with having this view more than other groups (Ogbu 1978; Goyette and Xie 1999). To secure upward mobility for their children, Asian parents are more apt to cultivate pro-school attitudes such as being attentive, applying diligent effort, limiting social activities, and having a higher educational expectation of children (Goyette and Xie 1999; Kao and Tienda 1998; Matthews 2002; Pong, Hao and Gardner 2005). Consequently, Asian Americans show advantages in academic behaviors and overall approach to school relative to white Americans, including putting forth more effort in school (Hsin and Xie 2014), being more attentive in class, engaging in fewer negative behaviors within academic settings (Harris and Robinson 2007), and expressing greater fear of the consequences of academic failure (Eaton and Dembo 1997).

Despite the distinctive academic approach and parenting style found among Asians, researchers question the exact mechanism for how this unique parental style can create an academic advantage for Asians. For example, despite high educational expectations, researchers often find Asian parents are less involved in children's schooling (Robinson and Harris 2014), such as attending parent-teacher meetings, and are more authoritative and directive in interactions with children (Kao 1995; Pong et al. 2005, Goyette and Conchas 2002). Moreover, some researchers also question whether high parental expectation reflects unique values or

attitudes from cultural heritage or immigrant optimism arising from optimistic expectations of educational success in the host country (Sakamoto, Goyette and Kim 2009).

Researchers also find cultural factors are partly associated—and sometimes interact with—structural features, particularly SES (Kao and Thompson 2003; Fong 2008, Liu and Xie 2016). For decades, SES has been regarded as one of the most important factors in the educational attainment of children (e.g., Blau and Duncan 1967; Swell et al. 1969), and studies emphasize the importance of SES as a key structural factor that explains Asian Americans' academic advantage (e.g., Barringer et al. 1993, Cheng and Bonacich, 1984). Because many Asian immigrants are selected for their skills in scientific and technical fields, they often have advantaged occupational status and income, which contributes to high educational achievement among their children. However, SES as an explanation has two main drawbacks. First, SES is often found to be more influential for academic outcomes among whites, more so than an explanation of Asians' academic advantage over whites (Liu and Xie 2016). Second, SES cannot explain high academic outcomes of children from some Asian ethnic groups (e.g., southeast Asian immigrants), who generally have lower SES than whites (Kasinitz et al. 2009; Lee and Zhou 2014).

Factors associated with both cultural and SES explanations are limited in their ability to explain Asian Americans' academic advantage because they might result from a selective immigration experience of Asian ethnic groups. Researchers increasingly realize selective migration might be an important mechanism that explains Asian Americans' academic success. As Lee and Zhou (2015) note, post-1965 Asian immigrants are a hyper-selected group; their average level of education is higher than the average U.S. population and substantively higher than populations of their countries of origin. For example, in the early 1980s, 52 percent of Asian

immigrants aged 25 to 65 held a bachelor's degree or greater compared to just 28 percent of the U.S. population (Wong 1986). Immigrants from countries such as China and South Korea contributed to this statistic, as the percentage of bachelor's degrees for people from these countries was above 50 percent. However, during this same period, engagement with higher education in many Asian countries was extremely low. Less than one percent of the population in China had a bachelor's degree or higher in 1982 (Population Research Centre Cass 1985: 653-656), and the percentage was about 8 in South Korea during this same period (OECD 2014). These percentages indicate new immigrants from Asian countries are much more selected compared to their counterparts in their countries of origin, reinforcing the notion that the Asian population within the U.S. is a selected group.

POSITIVE SELECTED IMMIGRANTS: TRANSFERRED "HABITUS" AND CLASS REPRODUCTION

The positive selection of Asian Americans might contribute to their advantage in education attainment and intergenerational mobility. This can occurs partially through traditional mechanisms of SES, as children from families with high SES are more likely to have higher levels of education (Blau and Duncan 1967). More importantly, although most new Asian immigrants are not more socioeconomically advantaged than whites, they are much more advantaged than their non-immigrant counterparts in their countries of origin. Positive selection implies the benefit from an advantaged class background (established in migrants' home countries) might persist even after migration to a host country. As Fernández-Kelly (2008) notes, class "habitus" developed in a sending country is transferrable to mobility advantages in the receiving country. This transferred "habitus" can contribute to high mobility expectations that reinforce immigrants' relatively high status quo (Alexander et al. 2014), and a distinctive non-

material class culture that signals positive values toward educational credentials (Bourdieu 1973; Bourdieu and Passeron 1990). Such values are intrinsic to higher class knowledge and familiarity of how to succeed in an education system constructed to benefit the reproduction of higher class (Bourdieu 1977). Therefore, for positively selected immigrant groups, cultural capital originating from a higher relative class standing contributes to successful upward mobility in a host country.

Much of habitus is developed in individuals' early life experiences. It happens through parenting styles stemming from class status (Lareau 2003; 2015) and a social-psychological process shaped by a sense of relative status (Vaisey 2010). Its formation also involves a multiple-layer mechanism. At the family level, high-class parenting style emphasizing pro-school value is more commonly observed among Asian families due to their selective origin, fostering a stereotype of an Asian parenting style (Chua 2011). At the ethnic-community level, clusters of highly selected Asian immigrants provide high-quality ethnic resources to immigrant children, which positively influences their academic outcomes (Borjas 1987; 1992). At the ethnic-group level, high selectivity of some Asian groups leads to an advantageous group image. The internalization of a collective sense of advantage constructs a stable and distinctive habitus, which further contributes to the academic success of new immigrants. The "collective understanding" of habitus strongly impacts the social mobility of new Asian immigrants, even though they may not be residentially clustered nor have daily in-group interactions.

Cultural capital that arises from relative status provides a solution to limitations of the structural and cultural duality in explaining Asian Americans' academic advantage. Specifically, it explains why measures of SES cannot solely account for the Asian advantage over whites by considering a transferable reference group and relative attainment. In other words, it potentially explains why SES is more effective at explaining variation in academic outcomes among whites

than at explaining Asian-white differences. Moreover, cultural capital carried in transferred habitus is different from typical cultural explanations of Asian advantage that often draw on academic behaviors, orientations, and parenting styles. High cultural capital in transferred habitus signals *confidence* and *familiarity* with succeeding in education systems and a *high-class understanding* of the importance of high academic success for upward mobility (Bourdieu 1977). Although this can seemingly overlap with Asian cultural heritage (e.g., academic effort, high educational expectation), it originates from high social class standing relative to sending (and in some cases host) countries and should be distinguished from the culture of high educational expectation. Thus, transferred habitus is a mechanism most existing notions of culture cannot fully capture.

It is also important to note the role of gender in transferred habitus. Much of the literature emphasizes disparities between fathers and mothers in parent-child interactions in transmitting academic advantage, especially the importance of mothers' role as the primary socializing agent (e.g., Reay 1998). This is similar for transmission of cultural capital. According to Bourdieu (1984), women and men differ in the use of advantaged cultural capital: men utilize advantage culture capital to seek success in the job market and their careers, while advantaged cultural capital among women is more likely to affect the family, particularly in the transmission of capital to children. The relative status of mothers can therefore be more important than that of fathers in the formation of habitus for children. Thus, one should expect varying importance in mothers' and fathers' relative attainment in children's class reproduction.

In summary, high educational selectivity of post-1965 Asian immigrants might contribute to their high educational attainment through transferred habitus, especially for first-generation Asian immigrants. The entrenched sense of relative status (i.e., advantages relative to

populations in their sending countries) should not be overlooked. Additionally, the benefit of a transnational class culture among selected immigrants should be distinguished from cultural heritage attached to Asian groups. Moreover, not all Asian American groups are hyper-selected, as the degree of selectivity in education varies across Asian countries (Sakamoto, Goyette, and Kim 2009).[1] It is also important to note the mechanism of relative status should not be considered exclusively as an explanation of Asian Americans' academic advantage over whites. This is key because the effects of relative attainment are not intrinsic to any specific group subscribing to a unique cultural heritage. Rather, relative attainment might be more of a universal mechanism that explains variation both between and within different racial groups, as it varies both between and within groups.

CHANGES IN THE EDUCATION ATTAINMENT ACROSS GENERATIONS AND ASSIMILATION

Given the connection between selection and the mechanism of transferred habitus discussed above, we argue the maintenance of "habitus" is difficult because it erodes across generations due to the assimilation process—the driving force through which various socioeconomic outcomes of immigrants converge to the average American (U.S.) population. Americanization (U.S.) across generations seems to erode work ethic that leads to high academic outcomes and upward mobility (Rumbaut 1999:181). More importantly, Americanization across generations leads to discrete habitus for each generation. For example, habitus construction of second generation Asian immigrants is based on different elements than their first generation counterparts, as their highly selected reference groups (from sending countries) no longer exist. Second generation Asian immigrants develop the identity of Asian Americans, while the high selectivity of their parents against their non-immigrant counterparts is no longer a crucial

element in their habitus construction. Cultural heritage is partially remembered to trace what they were originally and creates a mix of Asian and American identity. Even though they might still benefit from the "model minority" image, the advantage of their academic performance over whites is primarily built upon their advantaged SES (higher than whites on average), rather than the sense of high relative status over their non-immigrant counterparts developed among first-generation Asian immigrants. Third-generation Asian Americans are further from their cultural heritage, as their American identity dominates the Asian identity, and their educational attainment should no longer differ from whites.

The process of change in habitus we describe is consistent with studies of cross-generational changes in Asian Americans' academic outcomes. A salient pattern of Asian Americans' academic outcomes is that first- and second-generation Asian immigrants usually show stronger academic effort, better academic approach, and higher test scores than their third-generation counterparts (Kao and Tienda 1995, Goyette and Xie 1999), whose academic performance is often no different from native-born whites (Rong and Grant 1992; Yang 2004; Pong, Hao and Garnder 2005). Based on diverse understandings of the assimilation process and observations on the inter-generational mobility of different Asian ethnic groups, researchers have developed a number of assimilation theories to explain the generational pattern of Asian Americans' academic success.

The classic *straight-line theory of assimilation* stipulates that as generations proceed, immigrants increasingly adopt norms of a host country and lose norms of origin countries (Alba and Nee 1997). Regarding educational outcomes, assimilation to the American context (U.S.) seems to undermine academic orientation, work ethic, and performance of immigrant descendants. Other researchers find first-generation Asian immigrants academically outperform

both second- and third-and-above generation Asian Americans and use the *accommodation-without-assimilation* hypothesis to explain this pattern (Kao and Tienda 1995). Some researchers show second-generation Asian Americans outperform their non-second-generation counterparts, a pattern they refer to as *the second-generation advantage* (Kao and Tienda 1995; Kasinitz et al. 2009; Suárez-Orozco, Rhodes, and Milburn 2009; White and Glick 2009). Moreover, many researchers acknowledge the different trajectories of social mobility for immigrants from different Asian countries (e.g., Portes and Rumbaut 2001; Portes and Zhou 1993; Zhou and Xiong 2005), which is referred to as *segmented assimilation.*

Regardless of the mechanisms, most empirical evidence generally suggests Asian Americans' academic advantage declines as generations proceed. However, the theoretical implication of this pattern is still underdeveloped (Sakamoto, Goyette, and Kim 2009). As Victor and Nee (2012) suggest, ambiguity in the existing assimilation literature often suggests an "inextricable link" between assimilation and social mobility. Although not well empirically studied, the assimilation process is often viewed as a "continuum", with the association between gradually waning cultural heritage (or eroded work ethic) and declining academic outcomes often expected and speculated (e.g., Takei et al. 2006; Rumbaut 1999: 181). Instead, from the habitus construction perspective, we argue each generation of Asian Americans has a distinct reason for their academic advantage relative to whites because of the discrete sets of elements in habitus construction. First-generation Asian Americans benefit from transferred habitus constructed with positive selection and unique cultural heritage, while the social mobility of second-and-above generation Asian Americans are much less influenced by those factors and more dependent on SES. In other words, resources important for social mobility change across

generations, and different generations of Asians should be viewed as rather "discrete" groups, and sources of their academic advantages should also be separately considered.

RESEARCH QUESTIONS

The overall goal of this study is to determine whether the academic experience of Asian Americans is consistent with the transferred habitus hypothesis for explaining their academic advantage relative to whites. We also seek to clarify the relationship between our framework and the classic cultural (i.e., schooling behaviors, attitudes, effort, and parental expectation) and socioeconomic explanations. We use the outcome of college enrollment. As such, the following research questions guide our analysis:

1. Is relative educational attainment associated with college enrollment net of academic cultural differences and socioeconomic status?
2. What is the relative importance of the explanations of relative education attainment, academic culture, and socioeconomic status for different generations?
3. Is the effect of maternal relative attainment on college enrollment more salient than that of paternal relative attainment?

DATA, MEASURES, AND ANALYTICAL PLAN

DATA SOURCES

Data for this study are from the National Education Longitudinal Study (NELS), a nationally representative survey consisting of five waves (1988-2000) on 24,599 eighth graders in 1988 (National Center for Education Statistics 1990). Our study is based on the first four

waves of data and is restricted to respondents who self-identify as either Asian American or non-immigrant white (i.e., third-or-above generation whites). We also use the Barro-Lee Educational Attainment dataset to construct the selectivity measure for parents in the NELS (Barro and Lee 2013). The Barro-Lee (2013) dataset provides education distributions of most Asian countries by gender in five-year age groups since the 1950s.

The NELS is appropriate for this study for two reasons. First, the focus of this study is on the college enrollment of Asian youth whose families arrived during the time of the fastest rate of growth in the Asian population within the U.S., which was from the mid-1960s through 1990 (Zong and Batalova 2016). Prior to 1965, U.S. immigration law followed a nation-origin quota scheme that restricted the number of legal immigrants from Asian countries in favor of immigrants from northwestern Europe. The Immigration Act of 1965 led to an increase in the growth of immigrants with scarce occupational skills and was the beginning of large-scale immigration from Asia (Zong and Batalova 2016). Given that the NELS captures youth born in the mid-1970s, it contains a nationally representative sample of children whose parents (or themselves) immigrated from Asian countries during the first two decades following the Immigration Act of 1965, when large-scale immigration from Asia began. Second, the richness of measures and longitudinal design of the NELS provide a good opportunity to make clear delineations between students' academic orientation and work ethic and assimilation characteristics, and to estimate their effects on college enrollment net of prior academic success. Moreover, NELS also surveyed parents and documented demographic background (e.g., foreign-born status, year of birth) and countries (or regions) of origin, which allows for the inclusion of relative selectivity into this study.

MEASURES

The outcome for this study is college enrollment, measured by whether students enrolled in college by 1994. Enrolling in college two years post-high school is indicative of pursuing higher education within a timeframe regarded as traditional and is consistent with the approach that often reflects some level of academic success (relative to not attending college or attending college at a later time, which would be considered non-traditional).

We gauge students' academic orientation and work ethic based on six measures intended to capture youths' disposition and approach toward schooling: 1) negative behaviors, 2) schooling attitudes, 3) time on homework, 4) preparation for class, 5) effort in school, and 6) parental educational expectation. Because very few students report negative schooling behaviors and attitudes, we dichotomize four of these variables. For negative behaviors, 0 represents a response of "no" and 1 represents a response of "yes to any" indicators used to construct *negative behaviors* (e.g., skip school/cut classes). For schooling attitudes, which is also comprised of a number of indicators that capture negative attitudes toward school (e.g., whether youth believes it is o.k. to skip school, cheat on tests), 0 corresponds to "not never" to all indicators, and 1 corresponds to "never" to all indicators. Thus, a coding of 1 for each variable represents more negative schooling behavior and more favorable schooling attitudes, respectively. This coding strategy ensures results are not driven by outliers (i.e., students who report several negative behaviors and attitudes). The third measure of academic orientation is frequency of homework per week (in hours), which ranges from zero (none) to 7 (15 hours or more). The next measures—preparation for class and effort in school—are dichotomized, with 0 representing lack of preparation and lack of effort, and 1 representing a preparation for class and more effort in school. The final measure of academic orientation assesses parental educational

expectation (by mother), an ordinal variable indicating the highest expected level of education. These measures are from grade 10, which serves as a proxy for youths' disposition and approach toward academics during high school. Table 1 contains a complete description of measures used in this study.

[Table 1 about here]

Relative selectivity is based on an index that measures how a parent's educational attainment in the NELS would fit into the educational distribution of his or her country of origin; it is similar to the percentile rank of their level of education relative to the population of their country of origin. By incorporating the education statistics of Asian countries from the Barro-Lee (2013) dataset, we are able to generate selectivity scores in a manner that accounts for gender (fathers and mothers) and age group (5-year group).

We calculate selectivity scores following the strategy Ichou (2014) and Feliciano and Lanuza (2017) employ in their studies. The calculation follows two steps. First, we collapse parental education based on the NELS into four categories: 1) less than high school, 2) high school graduate, 3) junior college or less than 4 years of college, and 4) 4-year college graduate or more. Second, we assign students' parents a score based on the four categories in the Barro-Lee dataset (no-education, primary education, secondary education, and tertiary education). Figure 1 provides a visual illustration of this strategy. Compared to the U.S. system of education, primary, secondary, and tertiary education correspond to grades 1-6, middle and high school, and college or university, respectively. As such, the selectivity score for parents within the NELS who did not finish high school is calculated as the sum of the share of the population of the same gender and age group in their country of origin with no education, primary education, and secondary education, each multiplied by a factor of 0.5. Since a high school diploma is a higher

level of education than the first two categories from the Barro-Lee dataset (no education and primary education), the selectivity score for a parent in the NELS whose highest level of education is high school completion is the sum of the entire share of the population in their country of origin with both "no education" and "primary education," and 0.5 of the share of the population with secondary education. Parents with junior (or less than four years) college education receive the sum of the entire share of the first three Barro-Lee categories and 0.25 of the tertiary group. Lastly, parents with a four-year college degree or more also receive the sum of the entire share of the first three Barro-Lee categories and 0.50 of the tertiary group.

[Figure 1 about here]

To ensure our construction of selectivity scores would not significantly affect the results, we conducted additional sensitivity analysis using the following two alternative constructs for the category of "less than high school" as "100%* (no education)+100% * (primary school)+25%* (secondary school)" and as "100%* (no education)+50%* (primary school)+ 25%* (secondary school)." The selectivity scores calculated using these alternative constructs produce similar analytical results (results available upon request).

Table 2 provides a specific example of how we calculate selectivity scores. The scores are based on mothers between the ages of 35 and 39 in 1990 who migrated from China any time prior to 1990. An educational level of less than high school completion would place her in the 48.7 percentile (25.9 * 0.5 + 32.8 * 0.5 + 38.7 * 0.5) of the Chinese population of women between ages 35 and 39 in 1990. For the same parameters (gender, age, and reference year in China), a mother in the NELS whose highest level of education is a high school diploma would be in the 78.05 percentile in China. Lastly, educational attainment of junior (or less than 4-years)

college and four-year college degree or more correspond to the 98.05 and 98.7 percentiles, respectively.[2]

[Table 2 about here]

Figure 2 provides a visual illustration that makes the meaning of selectivity (and the differences in educational selectivity between countries/contexts) more intuitive. It shows the cumulative distribution of educational attainment for men aged 40-44 in 1990 based on the Barro-Lee dataset for the five countries and two regions represented in this study. The vertical line highlights that the "secondary completed" educational level (analogous to high school completion) corresponds to the 31st percentile in the U.S., as the U.S. is a highly educated (and literate) country relative to many other countries. However, this same level of education would mean one has equal or more education than most of the population of Japan (77%), Korea (80%), the Philippines (82%), South Asia (93%), Southeast Asia (95%), and China (97%) (though the quality of education might vary).

[Figure 2 about here]

ANALYTIC PLAN

We address the research questions by comparing Asians Americans to non-immigrant whites on college enrollment under five scenarios. We begin by reporting the difference in college enrollment in a baseline model (scenario 1) only adjusting for family structure, youths' sex, and academic skills, followed by a model that adjusts for SES factors (scenario 2), including parents' education and household income (all subsequent models are net of these factors). In the third scenario, we account for the aforementioned measures of academic culture and then

alternatively account for selectivity scores in scenario 4. Finally, we show results after accounting for all aforementioned factors simultaneously in scenario 5.

Several points regarding our analyses are worthy of note. First, prior to assessing Asian-white differences in college enrollment, we establish whether these groups differ in academic orientation, work ethic, and parental expectation. As discussed above, Asian Americans are credited with having a more advantageous academic orientation and work ethic than other racial groups (Kao 1995; Osajima 2005; Chua 2011; Hsin and Xie 2014). As such, an examination of differences on a series of factors that reasonably capture students' academic behaviors and attitudes might uncover the mechanisms by which Asian Americans maintain an academic advantage, or whether their advantage could stem from differences in academic approach.

Second, we show Asian-white comparisons with Asian Americans as a single group (pooled), by Asians' generational status, and with Asians disaggregated by various Asian ethnic groups. Xie and Goyette (2004) note although most Asian Americans identify as belonging to a distinct ethnic group if given a choice (e.g., Chinese or Korean), their overall low numbers and lack of political power might lead some to feel the need to develop a pan-ethnic Asian American identity. Therefore, we provide analyses that allow for heterogeneity across ethnic groups. Our analysis also only compares Asian Americans to third or above generation whites. This strategy is consistent with previous research (e.g., Feliciano and Lanuza 2017), and eliminates the effect by recent white immigrants on the academic difference between Asian Americans and whites. Relatedly, we remove all whites with missing information on their generational status.

Third, to facilitate the comparison across nested models, this study calculates the average marginal effects (AME) for all coefficients in logistic regression models, which is interpreted as the probability change in the outcome associated with a one-unit change in the predictor.

Research shows that the comparison among coefficients in generalized linear models (e.g., logistic and Probit models) is often plagued by the scaling effect in the nonlinear link functions (Karlson, Holm, Breen, 2012; Mood, 2010). Instead, AME rescales odds ratios by multiplying the average of all transformed predicted values in the model, which yields comparable partial effects for the average observation across nested models (Greene 2008). All analyses are based on R 3.4.1, with AMEs generated using the R package "mfx" (Fernihough 2014).

Fourth, for robustness considerations, we employ the missing indicator variable control method instead of multiple imputation to account for missing data. Given immigration trajectories of Asian subgroups might inherently vary and differ from whites, missing data should be imputed separately for each subgroup (otherwise, group differences are obscured by the imputation and the imputed information is dominated by whites). However, imputation with limited sample size for certain subgroups (e.g., only 48 Japanese) might incur conservative inference by over-estimating the variance (Barnard and Rubin 1999). Finally, to ensure the mechanism of transferred habitus is conceptually clear, we remove all respondents who live in homes with no mother, father, step-mother, or step-father. Such analytical strategy is to ensure the "transferred habitus" measured by parental relative attainment potentially happened in the home environment.

RESULTS:

ASIAN-WHITE DIFFERENCES IN ACADEMIC CULTURE

Table 3 contains the findings for whether group differences exist in academic orientation, work ethic, and parents' educational expectations net of background and SES factors. As a group, Asian Americans display fewer negative schooling behaviors, spend more time on

homework, and have parents with higher educational expectation than whites. However, they do not differ from whites in schooling attitudes, preparation for classes, and general effort in schooling. These findings are generally reflected for analysis in which Asian Americans are disaggregated by generation. The Asian American advantage in behaviors appears to be driven by first- and second-generation immigrants. This pattern in similar for time on homework and parental educational expectation. Moreover, first-generation Asian Americans also display significantly more positive schooling attitudes than whites. Interestingly, the lack of Asian-white difference in academic preparation for class and general effort in school holds regardless of generational status.

[Table 3 about here]

ASIAN-WHITE DIFFERENCES IN COLLEGE ENROLLMENT

Table 4 contains results for the Asian American-white difference in college enrollment by different Asian generations. The first model shows first- and second-generation Asian Americans have roughly a 15.5 percent higher probability of college enrollment net of basic background factors. Third-generation Asians do not have a clear advantage over whites. Model 2 shows accounting for SES increases first-generation Asians' advantage in college enrollment over whites to 17.1 percent and explains second-generation Asians' advantage over whites. Both parental education and familial income are positively associated with the chance of college enrollment. Model 3 shows after accounting for youths' academic orientation, work ethic, and parental expectation, the advantage in college enrollment for first generation Asian Americans declines to 15 percent. This appears to be driven by four characteristics of academic culture: negative behaviors, class preparation, effort in school, and parental educational expectation. All

these factors predict college enrollment in the expected manner, with a decline in negative behaviors and an increase in class preparation, effort in school, and parental educational expectation associated with increases in college enrollment. Model 4 shows the first-generation Asian American advantage in college enrollment relative to whites can also be attributed partially to relative attainment, which reduces the Asian advantage to 13.5 percent. Higher selectivity scores for both parents are associated with higher probability of college enrollment. Also, parents' selectivity appears to be related to SES, especially parental education. Finally, the full model shows parents' selectivity remains significant even after accounting for academic cultural factors, among which the effects of effort in school and parental education expectation slightly decreased (relative to Model 3).

[Table 4 about here]

We repeat this analysis with Asian Americans disaggregated into ethnic groups (with generational status as covariates) and report the findings in Table 5. Model 1 shows that with the exception of Filipino and Japanese youth, all Asian ethnic groups have higher college enrollment than whites. However, only Chinese and Southeast Asians retain this advantage after accounting for SES in Model 2. Model 3 shows that this pattern remains virtually unchanged after accounting for academic culture, despite the significance of negative behaviors, school preparation, effort in school, and parental expectation. In contrast, Model 4 shows parents' selectivity index is a significant predictor of college enrollment and reduces the advantage of Chinese and Southeast Asians. The final model shows parents' relative attainment is a significant predictor of college enrollment, even after accounting for all other factors. Although negative behaviors, school preparation, effort in school, and parental educational expectation remain significant in the full model, they do not additionally contribute to explaining the academic

advantage for Chinese and Southeast Asian youth. Interestingly, mothers' selectivity is significant at 0.01 level compared to the 0.05 level for fathers' selectivity.

[Table 5 about here]

ASIAN-WHITE DIFFERENCE IN COLLEGE ENROLLMENT BY GENERATIONS

Given that generational status might create substantive differences in the mechanisms involved in explaining the Asian advantage in college enrollment, we repeat the analysis for each generation of Asian Americans compared to whites in Tables 6 and 7. Table 6 compares the college enrollment of first-generation Asian Americans to whites. The results are similar to that presented in Table 4. Model 2 shows Asians have 17.6 percent higher chance of college enrollment after accounting for SES. The next two models suggest parents' selectivity explains more of this Asian advantage than youths' academic culture. Whereas Model 3 shows accounting for academic cultural characteristics reduces Asians' advantage to 15.4 percent, Model 4 shows parents' relative attainment explains a greater share of Asians' advantage, as their advantage is reduced to 13.9 percent. In the full model, both cultural characteristics and relative attainment significantly explain first generation Asian Americans' advantage, which together explain nearly one-third of their greater college enrollment than whites observed in Model 2 (reduced to 12.5 percent). Unlike fathers' selectivity, mothers' selectivity remains significant.

[Table 6 about here]

In Table 7, we assess whether second- and third-generation Asian Americans differ from whites in college enrollment. The left-hand panel shows SES explains away the advantage in college enrollment for second-generation Asian Americans. The right-hand panel shows third-generation Asian Americans do not differ from whites in college enrollment. Parents' relative

attainment still significantly predicts college enrollment in both full models (Models 5 and 5'), though this is the case only for mothers' selectivity score.

[Table 7 about here]

We display the results of average marginal effects for first- and second-generation Asian Americans disaggregated by ethnicity in Figure 3 (given that third-generation Asian Americans are similar to whites in college enrollment, we do not graph their results). The left panel shows college enrollment for each ethnic group relative to whites across two subpanels: first- and second-generation youth. The results are conditional on background factors and SES. This subpanel shows the advantage in college enrollment for Asians relative to whites is driven by first-generation Chinese, Southeast Asians, and Korean. These are the only groups with levels of college enrollment above the mean for Asians pooled, which is represented by the dashed line. The second subpanel shows that no significant differences in college enrollment exist between whites and all six Asian ethnic groups for youth who are second generation immigrants. In contrast, the right panel shows results conditional on SES, background factors, and relative attainment for both parents. This panel shows that first-generation Chinese, Southeast Asians, and Koreans still have a significant advantage in college enrollment compared to whites, but the advantage is reduced with the inclusion of selectivity scores. Second-generation immigrants do not differ from whites (though the average marginal effects of each ethnic group relative to whites decline further).

[Figure 3 about here]

SUMMARY AND DISCUSSION

This study revisits the advantage of Asian Americans over whites in college enrollment at the close of the 20th century. We incorporate the concept of habitus into the study of Asian Americans' academic advantage and reexamine the classic notion that academic success among Asian Americans is due to their superior academic culture and high SES. We employ the NELS, which contains data on college enrollment for a nationally representative sample of children whose parents (or themselves) immigrated from Asian countries during the first two decades following the Immigration Act of 1965. With the Barro-Lee dataset, we also construct selectivity scores for parents to measure relative attainment crucial to the habitus construction of youths. We estimate the extent to which Asian Americans' greater college enrollment than whites can be attributed to SES, academic culture, and relative attainment of parents. There are three major findings worthy of note.

First, our findings show that the advantage in college enrollment of Asian Americans is driven by first- and second-generation Asian Americans. This pattern is consistent with the finding by Kao and Tienda (1995). Furthermore, this advantage appears to be entirely driven by Chinese, Southeast Asians, and Koreans, and only the former two groups net of SES, reconfirming that the notion Asian Americans are a monolithic "model minority" group with high academic outcomes and advantages relative to the non-Asian American population is flawed (e.g., Xie and Goyette 2004).

Second, although first- and second- generation Asian Americans have a similar magnitude of advantage in college enrollment compared to whites, the academic advantage of each group appears to be driven by different factors. The relative attainment of parents significantly explains the advantage in college enrollment of first-generation Asian Americans

over whites net of classic background factors, SES, and academic culture, indicating the importance of relative attainment in explaining the class reproduction of Asian immigrants. In contrast, the advantage of second-generation Asian Americans can be entirely explained by SES, and the high relative attainment of foreign-born parents does not contribute to explaining the advantage of second-generation Asian Americans over whites. Thus, the academic success among Asian Americans appears to be a story about selective migration and parents' relative attainment for first generation Asian immigrants, and SES for second generation Asian immigrants.

Interestingly, parents' relative attainment is a stronger factor in explaining first-generation Asian Americans advantage in college enrollment relative to whites than academic culture. In fact, parents' relative attainment accounts for nearly twice as much of this advantage than academic culture. This suggests transformed habitus with elements of a relative sense of class can be a (if not the) major factor in explaining the academic advantage of new Asian immigrants. Although first-generation Asian Americans display advantageous academic behaviors and orientation and have higher parental educational expectation than whites, these factors are secondary in terms of their explanatory power compared to the relative attainment of parents. This suggests that although the superior academic culture often attributed to Asian Americans in the literature might be accurate (Sue and Okazaki 1990; Kao 1995; Osajima 2005; Chua 2011), the main mechanism of transmitting advantage from Asian parents indeed stems from the positive selection of migration. Moreover, the inclusion of selectivity scores reduces the estimated effect of SES but has negligible impact on different aspects of academic culture, suggesting high selectivity means relative high SES and high class understanding of education.

These results are consistent with the theoretical implication of high class culture that points to confidence and familiarity with education systems (Bourdieu 1977).

Third, parents play different roles in the formation of transferred habitus in children. The relative attainment of mothers is likely to be more important than fathers' relative attainment in explaining Asians' advantage in college enrollment. This finding is consistent with the existing understanding that mothers are youths' primary socializing agent, and with the classic notion of habitus formation and transmission of class culture (Bourdieu 1984).

Habitus and A framework of "discrete Sources of advantage" Across Asian Generations

The notion that Asians possess a superior academic culture is perhaps the most popular explanation for their academic advantage relative to whites within the U.S. (Osajima 2005; Chua 2011). However, this study shows that the advantage of Asian Americans of different generations can be based on rather different mechanisms, including relative attainment, academic cultural heritage, and SES. First-generation Asian Americans largely benefit from high selectivity signaling their class standings from sending countries and the cultural heritage brought to the U.S., whereas second-generation Asian Americans primarily benefit from the high socioeconomic status that might originate from the first generation's high selectivity and cultural heritage. Third-generation Asian Americans do not differ from whites in college enrollment, suggesting assimilation can eliminate Asian-white differences in academic outcomes. Such pattern suggests that the academic advantage of Asian Americans across generations should be understood in a rather "discrete" manner, as mechanisms explaining the academic advantage of Asian Americans in different generations appear to be drastically different. This conception contrasts with traditional assimilation often viewed as a smooth and gradual process associated

with the declined achievement, with a decline in the retention of original cultural heritage, and the adoption of American cultural features as generation proceeds.

As our analysis stemming from the idea of transferred habitus suggests, a habitus formation component is missing from current research of Asian American advantage. Such process is related to identity formation, which can be in rather discrete forms from one generation to another. In the formation of habitus, the knowledge of class, ethnicity, origins, peer groups, and optimism can be combined in drastically different forms among Asians of different generations. As segmented assimilation theory posits, different Asian ethnic groups might have diverse trajectories of migration and assimilation, which are dependent on the contexts of the sending and receiving countries (Portes and Zhou 1993). Such consideration should also be exteneded to the time dimension in the cross-generational assimilation process, in which the habitus formation of immigrant youths potentially happens in relatively discrete socialization contexts rather than as a continuum across generations. Although one can view assimilation as a continuum, the explanatory power of various factors across generations does not appear to be a continuum because of "discrete" assimilation experiences and identity formation for each generation. Understanding the differences in habitus and identity formation across generations might provide an ultimate solution to unify existing frameworks of cultural heritage, SES, and other contextual factors, such as specific immigrant cohorts and changed immigration laws. Future studies should examine differences in habitus and identity formation of Asian Americans, which could lead to a more comprehansive image of the framework of "discrete advantage" of Asian Americans across generations.

The habitus formation of Asian Americans should also be understood under the historical context of American immigration, as third-or-above generation Asian Americans in the NELS

potentially migrated in a very different context compared to the first-generation Asian Americans in the sample. Prior to 1965, U.S. immigration law followed the nation-origin quota scheme that favored immigrants from northwestern Europe and restricted the number of legal immigrants from Asian countries to as low as hundreds per year (Wong 1986). Asian Americans were largely segregated, discriminated against, and the contexts in which they strived to seek higher education was different, as education was an important institution for learning American culture and gaining assimilation (Takaki 2012; Wu 2015). It was the Immigration Act of 1965 that paved the way for growth in immigrants with scarce occupational skills (rather than for cheap labor), which had an important role in shaping the educational advantages of the Asian population within the U.S. (Wong 1986). The wave of positively selected Asian immigrants—more than 20 percent of total immigrants between 1965 and 1980 (which are captured by the NELS)—had exceptionally high levels of education. The findings of this study are consistent with the notion that large-scale immigration from East Asia after the Immigration Act of 1965 formed a positively selected group, though the degree of selectivity in education varies across Asian countries. Such cohort effect can also be included in the *discrete sources of advantage* framework, and future studies should compare differences in the elements of habitus formed in different periods, so that period effects and assimilation effects can be further disentangled.

Conclusion

Asian Americans have advantages across numerous major indicators relevant for upward mobility. Their advantages within the academic domain are so well known that it is conventional wisdom to regard Asians as the model minority within the U.S. The notion that Asians possess a superior academic culture is perhaps the most popular explanation for their academic advantage

relative to other racial groups within the U.S. (Osajima 2005; Chua 2011). However, the transferred habitus formed in parental contexts (i.e., the relative selectivity of parents compared to their non-immigrant counterparts in sending countries) was not examined by previous studies. This study shows that academic orientation, work ethic, and parental educational expectation explain a smaller share of first-generation Asian Americans' advantage in college enrollment relative to whites than the relative attainment of parents (or parents' selectivity). The advantage in college enrollment of second-generation Asian Americans is entirely explained by SES. The transmission of both class and ethnic privilege from generation to generation among immigrants should not be misconstrued as entirely due to distinctive culture. Rather, "discrete sources of advantage" of Asian Americans across generations should receive more attention as a potential framework for explaining Asian Americans' academic success. The change in Asian Americans' academic outcomes across generations appears to be driven by different factors for each generation (discrete view) rather than by gradual declines in the levels of the same factors—typically cultural—across generations (continuum view).

Research Ethics

This study does not violate the ethical standards articulated in the 1964 Declaration of Helsinki and its subsequent amendments and Section 12 (“Informed Consent”) of the ASA’s Code of Ethics. Given that this study is based on secondary data analysis from two publicly available datasets, the research does not constitute human subjects research in the traditional sense; the primary data were collected by the National Center for Education Statistics from the late 1980s through 2000. Thus, although the data are based on human subjects, steps required for research from first-hand data collection are unnecessary.

ENDNOTES

1. Studies show wide variation in educational outcomes and socioeconomic status (SES) among Southeast Asians within the U.S., with some having high achievement, being early high school dropouts, having refugee status, or high SES (Ngo and Lee 2007). A large share of Asian Americans who originate from Southeast Asia (e.g., Vietnam, Cambodia, and Lao) immigrate for political reasons, and many have been admitted to the U.S. as refugees under special terms, particularly the post-1975 wave of refugees (Ngo and Lee 2007). Although these commonly noted disadvantaged Asian groups only represents 4 percent of Asian Americans (Sakamoto, Goyette, and Kim 2009), they are important to study if one is to carefully understand the selective migration for different parts of Asia.

2. Four other points are worth noting about our calculation of selectivity index. First, because parents' time of migration is unavailable in the NELS, this measure assumes degrees obtained within the U.S. are comparable to those obtained from countries of origin, which might not be accurate. Second, since the Barro-Lee dataset does not distinguish undergraduate and graduate degrees in the tertiary education category, we calculate the selectivity of four-year college degree, Master's, and Doctorate degree holders in the same way, which leads to a more conservative estimate of the selection effect among Asian Americans. Third, the selectivity score relative to countries of origin are only calculated for first- and second-generation Asian Americans. For third-generation or above Asian immigrants and whites, selectivity score is calculated based on the educational distribution of the U.S. population (also available in the Barro-Lee

dataset). Fourth, because NELS does not specify country of origin for immigrant parents from Southeast Asia and South Asia, we create population-weighted education distributions for each region based on the available countries in the Barro-Lee dataset. Specifically, for Southeast Asian parents, selectivity index is based on Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Singapore, Thailand, and Vietnam. Selectivity index for South Asian parents are based on Afghanistan, Bangladesh, India, Maldives, Nepal, Pakistan, and Sri Lanka.

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Table 1. Means, Standard Deviations, and Descriptions for Variables in the Analysis: NELS 1988, 1990, and 1992

Variable Name	*Description*	Metric	Means (SD) Whites[a]	Asians	Chn.	Fil.	Jpn.	Kor.	SE As.	S As.
Educational Outcome										
College Enroll	Whether youth enrolled in 2-4 yr college.	0 = No / 1 = Yes	.71	.89	.92	.86	.86	.92	.89	.86
Cultural Measures: Academic Orientation and Work Ethic, and Parental Educational Expectation (Grade 10)										
Negative Behavior (Alpha = .616)	Whether any of the following happened to youth: a) cut/skip classes; b) got in trouble; c) placed on in-school suspension; d) placed on out-of-school suspension; e) transferred for disciplinary reasons.	0 = No / 1 = Yes	.63	.59	.55	.63	.57	.59	.61	.65
School Attitude (Alpha = .816)	Whether youth feels it is ok to: a) cut a couple of classes; b) skip school a whole day; c) cheat on tests; d) copy someone's homework; e) destroy school property; f) abuse teachers; g) talk back to teachers; h) disobey school rules.	0 = ~ Never to all 1 = Never to all	.14	.18	.18	.09	0.26	.16	.24	.20
Homework	Time (hours) youth spends on homework per week.	0 = None 7 = 15 or more	2.18 (1.57)	1.92 (1.55)	1.80 (1.50)	2.08 (1.60)	1.76 (1.18)	2.07 (1.82)	1.97 (1.50)	1.81 (1.64)
Prepared (Alpha = .677)	How often youth attends class without pencil, paper, or books.	0 = ~ Never to all 1 = Never to all	.37	.38	.39	.42	.40	.31	.35	.38
Effort - School (Alpha = .605)	Whether youth works hard in math and reading everyday.	0 = ~Yes to both 1 = Yes to both	.33	.35	.32	.36	.29	.35	.39	.45
Par. Education Expectation	The highest level of education attainment expected by mother.	1 = Less than HS 6 = PHD/MD/JD	4.85 (1.05)	5.43 (.77)	5.43 (.70)	5.25 (.88)	5.33 (.61)	5.69 (.60)	5.41 (.92)	5.58 (.61)
Generational Status (Grade 8)										
1st Gen	Whether youth is foreign born.	0 = No / 1 = Yes	---	.52	.41	.48	.11	.49	.88	.57
2nd Gen	Youth born in U.S., either parent foreign born.	0 = No / 1 = Yes	---	.36	.47	.40	.23	.51	.10	.43
3rd Gen	Youth and parents born in U.S.	0 = No / 1 = Yes	1.0	.12	.12	.12	.65	.00	.02	.00

(Table 1 continued on next page)

Table 1 Continued.

Variable Name	*Description*	Metric	Means (SD) White[a]	Asians	Chn.	Fil.	Jpn.	Kor.	SE As.	S. As.
Selectivity Index										
Father Select.	Quintile of father's highest degree in home country (See Sec. 4.2 for details)	16.2= Min 100 = Max	55.49 (30.19)	86.81 (20.14)	90.39 (17.89)	81.70 (21.84)	78.54 (19.36)	84.87 (22.58)	89.67 (19.88)	97.20 (11.52)
Mother Select.	Quintile of mother's highest degree in home country (See Sec. 4.2 for details)	4.02 = Min 99.94 = Max	46.30 (27.59)	81.93 (22.63)	82.21 (24.64)	82.09 (22.34)	69.80 (21.57)	78.34 (22.34)	86.52 (21.40)	95.03 (9.83)
Background Factors										
Parents Educ.	Highest of either parent.	1 = Less than HS 6 = PHD/MD/JD	3.22 (1.20)	3.76 (1.42)	3.61 (1.52)	3.77 (1.12)	3.71 (1.27)	4.24 (1.34)	3.08 (1.42)	5.00 (1.04)
HH Income	Total annual family income.	0 = None 15 = $200,000 or >	10.18 (2.28)	10.19 (2.76)	9.71 (3.08)	10.61 (2.21)	11.21 (1.52)	11.09 (2.14)	8.73 (2.99)	11.79 (2.03)
Two Parent	Whether youth is from a two-parent household.	0 = No (Non-married) 1 = Yes (Married/like)	.86	.91	.91	.90	.94	.97	.87	.93
Female	Whether youth is female.	0 = Male / 1 = Female	.52	.52	.56	.48	.51	.59	.42	.63
Prior Reading	Item Response Theta (IRT) estimated number right.	29.01= Min 68.09 = Max	52.35 (9.67)	53.87 (9.74)	54.37 (9.87)	51.24 (9.69)	54.43 (8.47)	57.71 (9.28)	51.25 (9.31)	58.81 (8.51)
Prior Math	IRT estimated number right.	29.88= Min 71.37= Max	52.59 (9.73)	57.37 (9.45)	59.75 (8.98)	53.23 (9.73)	57.65 (9.39)	60.97 (11.61)	55.38 (8.66)	59.02 (7.93)

Note: The summary statistics are based on imputed data with N=6,251 (5,817 whites and 434 Asians).

[a] Values are for whites in third generation or above, which comprise 94 percent of the original white sample.

Table 2. Based on the Barro-Lee dataset for a female aged 35-39 in China in 1990

	Educational Attainment in the NELS			
Population Distribution - China	< HS	HS Grad	Jr /<4yr	4yr or >
1) No schooling (25.9%)	* 0.5	* 1.0	* 1.0	* 1.0
2) Primary school (32.8%)	* 0.5	* 1.0	* 1.0	* 1.0
3) Secondary school (38.7%)	* 0.5	* 0.5	* 1.0	* 1.0
4) Tertiary education (2.6%)	---	---	* 0.25	* 0.5
Selectivity Score:	48.7	78.05	98.05	98.7

Table 3. Average Marginal Effects of Logistic Regressions of Academic Orientation, Work Ethic and Parental Education Expectation on Ethnicity, SES and Controls by Generations.

	Negative Behaviors		School Attitude		Homework [a]	
Ind. Variables	(1)	(2)	(1)	(2)	(1)	(2)
Asian Amer.	-.030***	---	.003	---	.350***	
	(.007)		(.006)		(.089)	
1st Gen	---	-.030***	---	.017***	---	.311*
		(.008)		(.004)		(.122)
2nd Gen	---	-.029*	---	-.019	---	.455**
		(.013)		(.019)		(.143)
3rd Gen	---	-.025	---	-.028	---	.182
		(.016)		(.031)		(.257)
Whites	---	---	---	---	---	---
N =	5,677		5,821		5,751	

	Preparation		Effort - School		Parental Exp. [a]	
Ind. Variables	(1)	(2)	(1)	(2)	(1)	(2)
Asian Amer.	.028	---	.047	---	.359***	
	(.027)		(.027)		(.057)	
1st Gen	---	-.036	---	-.272	---	.462***
		(.039)		(.372)		(.081)
2nd Gen	---	-.015	---	.317	---	.318***
		(.046)		(.290)		(.086)
3rd Gen	---	.079	---	-1.323	---	.088
		(.085)		(1.074)		(.160)
Whites	---	---	---	---	---	---
N =	5,197		5,087		5,547	

Note: Numbers in parentheses are standard errors. Estimates are relative to 3rd generation or above whites. Models control for background factors, which include parents' education, household income, family structure, youths' sex, and academic skills. Models also control for indicator variables for students with missing values on each covariate.

[a] Estimates are based on linear models.

* $p < .05$ ** $p < .01$ *** $p < .001$ (two-tailed tests)

Table 4. Average Marginal Effects (AME) of Logistic Regression Models for College Enrollment on Asians (Pooled v.s. Whites), Academic Culture, SES, Selectivity and Controls

Ind. Variables	Model 1	Model 2	Model 3	Model 4	Model 5
First Gen Asian	.155***	.171***	.150***	.135***	.120***
	(.031)	(.028)	(.030)	(.034)	(.035)
Second Gen Asian	.156***	.083	.059	.050	.033
	(.043)	(.053)	(.057)	(.058)	(.061)
Third Gen Asian	.103	.066	.086	.052	.075
	(.071)	(.079)	(.075)	(.081)	(.078)
SES Variables					
Income	---	.027***	.025***	.025***	.024***
		(.004)	(.004)	(.004)	(.004)
Parental Education	---	.095***	.085***	.073***	.068***
		(.007)	(.007)	(.008)	(.009)
Academic Culture					
Negative Behaviors	---	---	-.134***	---	-.135***
			(.014)		(.014)
Attitude-School	---	---	-.027	---	-.025
			(.021)		(.021)
Homework	---	---	-.006	---	-.006
			(.004)		(.004)
Prepared	---	---	.019*	---	.019*
			(.009)		(.009)
Effort in School	---	---	.041**	---	.039*
			(.015)		(.015)
Parental Expectations	---	---	.062***	---	.059***
			(.007)		(.007)
Relative Attainment					
Father Selectivity/10	---	---	---	.008**	.006
				(.003)	(.003)
Mother Selectivity/10	---	---	---	.009**	.007*
				(.003)	(.003)

Note: All models control for prior reading and math achievement, family structure, and sex. The number of observations is 6248 (5814 whites and 434 Asians). All results are average treatment effect (standard error) calculated for logistic regression models.

* $p < .05$ ** $p < .01$ *** $p < .001$ (two-tailed tests).

Table 5. Average Marginal Effects (AME) of Logistic Regression Models for College Enrollment on Asians (Disaggregated v.s. Whites), Academic Culture, SES, Selectivity and Controls

Ind. Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Chinese	.224***	.218***	.216***	.205***	.205***
	(.059)	(.056)	(.057)	(.062)	(.062)
Filipino	.116	.059	.084	.044	.073
	(.094)	(.110)	(.102)	(.112)	(.104)
Japanese	.043	-.002	.014	-.013	.007
	(.094)	(.103)	(.145)	(.106)	(.106)
Korean	.180*	.105	.144	.128	.138
	(.090)	(.131)	(.102)	(.108)	(.108)
SE Asian	.223***	.234***	.234***	.222***	.222***
	(.062)	(.050)	(.050)	(.056)	(.054)
South Asian	.182*	.071	.097	.058	.089
	(.092)	(.141)	(.131)	(.145)	(.133)
Generational Status (ref= 3rd-Gen Asians & Whites)					
First Gen Asian	-.056	-.011	-.058	-.038	-.080
	(.137)	(.132)	(.139)	(.135)	(.141)
Second Gen Asian	-.019	-.075	-.119	-.092	-.133
	(.131)	(.142)	(.147)	(.142)	(.146)
SES Variables					
Income	---	.028***	.026***	.025***	.025***
		(.004)	(.004)	(.004)	(.004)
Parental Education	---	.096***	.086***	.070***	.070***
		(.007)	(.007)	(.009)	(.009)
Academic Culture					
Negative Behaviors	---	---	-.134***	---	-.134***
			(.014)		(.014)
Attitude-School	---	---	-.027	---	-.026
			(.021)		(.021)
Homework	---	---	-.006	---	-.005
			(.004)		(.004)
Prepared	---	---	.019*	---	.019*
			(.009)		(.009)
Effort in School	---	---	.041**	---	.039*
			(.015)		(.015)
Parental Expectations	---	---	.061***	---	.059***
			(.007)		(.007)
Relative Attainment					
Father Selectivity/10	---	---	---	.008*	.008*
				(.003)	(.003)
Mother Selectivity/10	---	---	---	.009**	.009*
				(.003)	(.003)

Note: All models control for prior reading and math achievement, family structure, and sex. The number of observations is 6248 (5814 whites and 434 Asians). All results are average treatment effect (standard error) calculated for logistic regression models.

* $p < .05$ ** $p < .01$ *** $p < .001$ (two-tailed tests).

Table 6. Average Marginal Effects (AME) of Logistic Regression Models for College Enrollment on 1st-Generation Asians (v.s.Whites), Academic Culture, SES, Selectivity and Controls.

Ind. Variables	Model 1	Model 2	Model 3	Model 4	Model 5
First Gen Asian	.151***	.176***	.154***	.139***	.124***
	(.033)	(.029)	(.031)	(.035)	(.036)
SES Variables					
Income	---	.027***	.026***	.026***	.025***
		(.004)	(.004)	(.004)	(.004)
Parental Education	---	.099***	.089***	.077***	.060***
		(.007)	(.008)	(.009)	(.008)
Academic Culture					
Negative Behaviors	---	---	-.136***	---	-.137***
			(.014)		(.014)
Attitude-School	---	---	-.030	---	-.029
			(.022)		(.022)
Homework	---	---	-.006	---	-.005
			(.005)		(.005)
Prepared	---	---	.019*	---	.019*
			(.009)		(.009)
Effort in School	---	---	.039*	---	.037*
			(.015)		(.015)
Parental Expectations	---	---	.063***	---	.060***
			(.008)		(.008)
Relative Attainment					
Father Selectivity/10	---	---	---	.008*	.006
				(.003)	(.003)
Mother Selectivity/10	---	---	---	.009**	.007*
				(.003)	(.003)

Note: All models control for prior reading and math achievement, family structure, and sex. The number of observations is 5994 (5814 whites and 180 Asians). All results are average treatment effect (standard error) calculated for logistic regression models.
* $p < .05$ ** $p < .01$ *** $p < .001$ (two-tailed tests).

Table 7. Average Marginal Effects (AME) of Logistic Regression Models for College Enrollment on 2nd-Generation and 3rd-Generation Asians (v.s.Whites), Academic Culture, SES, Selectivity and Controls.

	Second Gen Asians v.s. Whites					Third Gen Asians v.s. Whites				
Ind. Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 1'	Model 2'	Model 3'	Model 4'	Model 5'
Asian Americans	.154***	.081	.087	.050	.034	.105	.068	.058	.056	.078
	(.044)	(.055)	(.079)	(.060)	(.062)	(.074)	(.082)	(.059)	(.084)	(.081)
SES Variables										
Income	---	.033***	.031***	.031***	.030***	---	.033***	.031***	.031***	.030***
		(.004)	(.004)	(.004)	(.004)		(.004)	(.004)	(.004)	(.004)
Parental Education	---	.097***	.090***	.076***	.060***	---	.100***	.087***	.080***	.060***
		(.007)	(.008)	(.009)	(.008)		(.008)	(.008)	(.009)	(.008)
Academic Culture										
Negative Behaviors	---	---	-.133***	---	-.135***	---	---	.135***	---	.134***
			(.015)		(.015)			(.015)		(.015)
Attitude-School	---	---	-.017	---	-.029	---	---	-.022	---	-.016
			(.022)		(.022)			(.022)		(.022)
Homework	---	---	-.004	---	-.005	---	---	-.004	---	-.004
			(.005)		(.005)			(.005)		(.005)
Prepared	---	---	.019*	---	.019*	---	---	.018*	---	.019*
			(.009)		(.009)			(.009)		(.009)
Effort in School	---	---	.035*	---	.037*	---	---	.037*	---	.033*
			(.016)		(.015)			(.016)		(.016)
Parental Expectation	---	---	.062***	---	.060***	---	---	.062***	---	.060***
			(.008)		(.008)			(.008)		(.008)
Relative Attainment										
Father Selectivity/10	---	---	---	.007*	.005	---	---	---	.006*	.004
				(.003)	(.003)				(.003)	(.003)
Mother Selectivity/10	---	---	---	.009*	.008*	---	---	---	.009**	.007*
				(.003)	(.003)				(.003)	(.003)

Note: All models control for prior reading and math achievement, family structure, and sex. The number of observations is 5948 (5814 whites and 134 Asians) for Models 1-5 in the left panel. The number of observations is 5857 (5814 whites and 43 Asians) for Models 1' to 5' in the right panel. All results are average treatment effect (standard error) calculated for logistic regression models.

* $p < .05$ ** $p < .01$ *** $p < .001$ (two-tailed tests).

Figure 1. Calculation of Selectivity Scores for Parents' in the NELS Based on Their Educational Attainment and the Educational Categories in the Barro-Lee Data

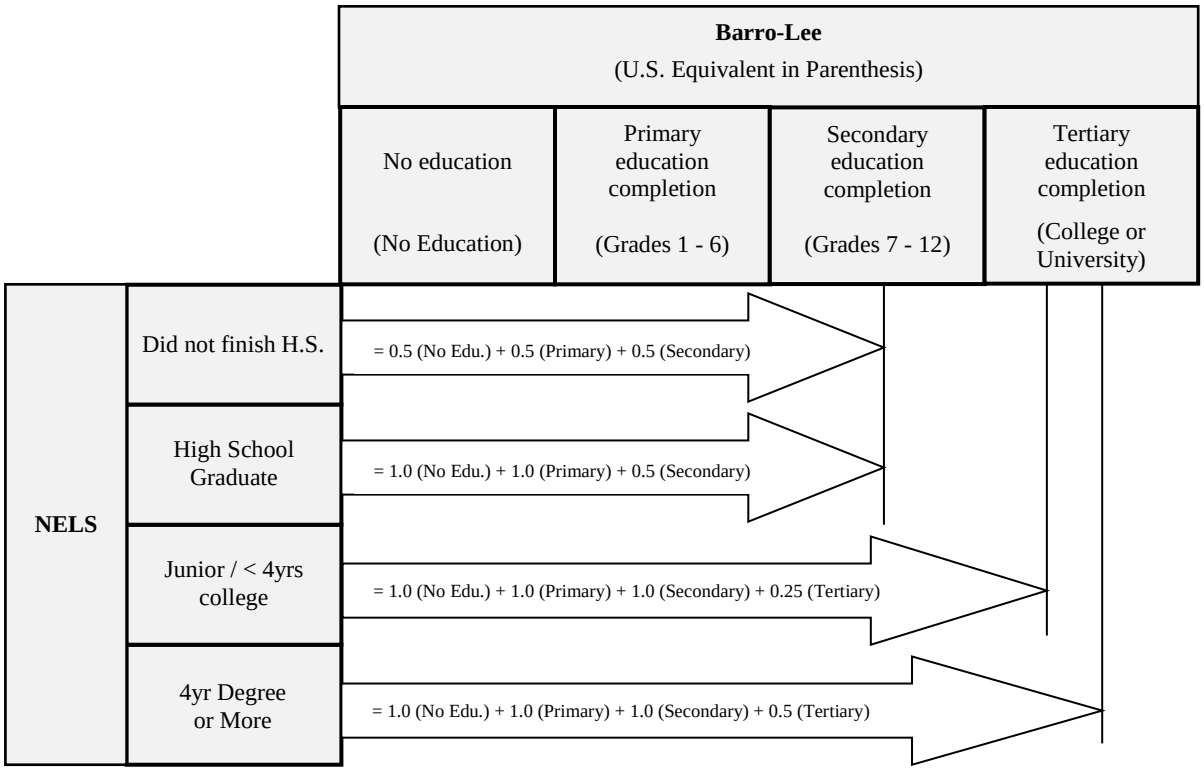
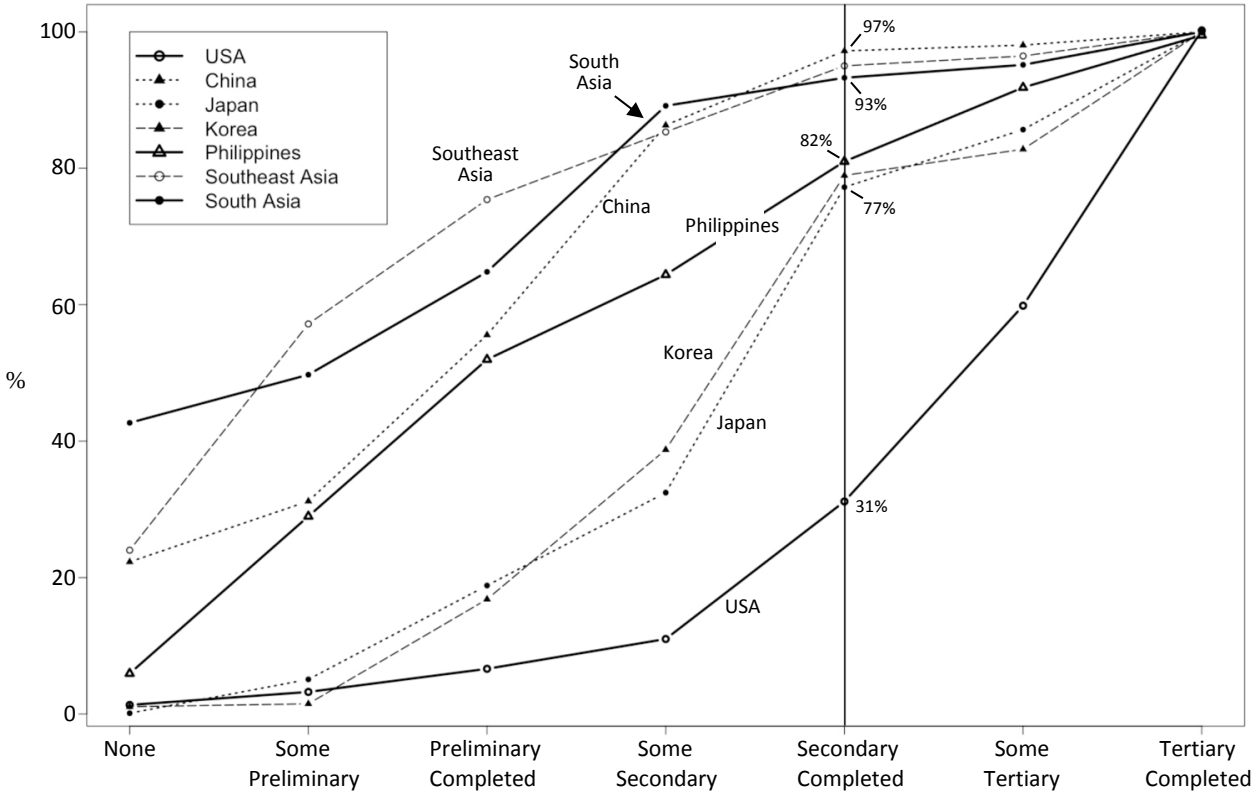
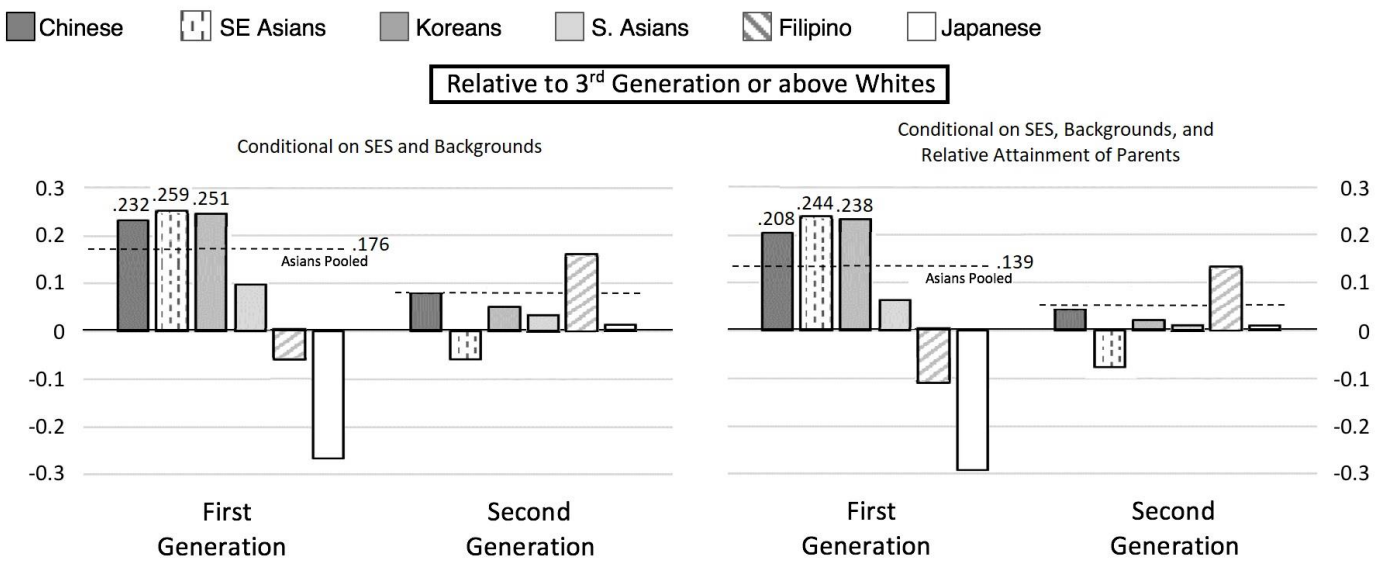


Figure 2. Cumulative Distribution of the Highest Education Level Attained



Note: All cumulative distributions are based on males aged 40-44 in 1990 in the Barro-Lee dataset.

Figure 3. Probability Difference in College Enrollment by Generation Status



Note: Estimates are average marginal effects based on logistic regression models of the difference in college enrollment between each Asian ethnic group and the reference group (third-generation or above whites). Estimates on the left panel are net of parents' education, household income, family structure, youths' sex, academic skills, and indicator variables for students with missing values on each covariate. The dashed lines in all panels indicate the pooled average of estimates for Asian Americans across different generations. Bars with numbers are estimates that are statistically significant ($p < 0.05$). Only the pooled average for the first-generation Asian Americans is significantly larger than the average for whites. Effect sizes on the top of the bars are only presented for groups with significant differences from the reference groups.