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Over-educated or Overly Invested in Education? The Role of Educational Commitment in Asian American Socioeconomic Attainment

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Abstract
Recent scholarship has attributed Asian American socioeconomic attainment to the exceptional selectivity of Asian immigrants since 1965 while also characterizing the second generation as limited by a glass ceiling. Other scholars are critical of the hyper-selectivity thesis for minimizing the role of Asian-family commitment to education and exaggerating Asian disadvantage in the labor market. Using the National Longitudinal Study of Adolescent to Adult Health, I explore how two components of cultural capital (parental educational expectations and adolescent efforts at schoolwork) affect respondents' high-school grade point average (GPA), their degree attainment by adulthood, and their incomes in adulthood. I find partial support for the expected mechanisms in the debate, identify GPA as a critical mediator between family background and racial disparities in adulthood, and show that academic performance (GPA) is a "bottleneck" for the relative advantages of the Asian second-generation in both education and the labor market, particularly for Chinese, Indian, Korean, and Vietnamese Americans. Exploratory analysis also suggests an important role for cross-racial social capital. My conclusion discusses the implications of my findings for advancing the hyper-selectivity debate and rethinking the racial status of Asian Americans in the sociology of race/ethnicity. If Asian Americans represent a "model" to other minorities, it may not only be for their commitment to education but also for their relative acceptance by Whites in the critically important socioeconomic domain.

Keywords Hyper-selectivity · Education · Income · Asian Americans · Race

In 2020, the Asian American population numbered 24 million, comprising roughly 7% of the total US population—a significant increase since 1980, when Asians accounted for only 1.5% of the population (Jones et al., 2021; Paisano, 1993). Their increasing numbers magnify their distinctive status in post-Civil Rights America as *nonminority minorities* whose average socioeconomic circumstances are not substantially lower than those of Whites, unlike the circumstances of every other panethnic grouping (Sakamoto et al., 2009). This contemporary status contrasts starkly with their historic status as disadvantaged minorities who faced decades of racist exclusion, particularly in U.S. immigration and naturalization law (Lee, 2019).

To explain this distinctive status, scholars have called attention to the exceptional selectivity of Asian immigrants to the United States since 1965, for example, the contrast between the 50% of Chinese immigrant adults with Bachelors degrees or more and the 4% of adults in China with the same credentials (Lee & Zhou, 2015; Tran et al., 2018). These researchers argue that this *hyper-selectivity* "boosts second-generation educational outcomes in ways that defy the classic status attainment model;" however, they also assert that this "educational advantage fails to transfer to the labor market for most second-generation Asians" (Tran et al., 2019, 2248, 2249), evidencing a "glass ceiling" that continues to limit the social mobility of all non-Whites.

Other scholars, however, have been critical of this explanation of Asian American socioeconomic attainment, in that it "ignores other relevant findings from prior research, especially in regard to Asian American family processes… and [thereby] dismisses the agency of Asian American families…in regard to educational attainment in the United States" (Sakamoto & Wang, 2021, 17). In addition, these

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researchers counter that "no credible quantitative study reports a systematic net occupational disadvantage for native born Asian Americans in the post-Civil Rights era" (Sakamoto & Hsu, 2020, 529). To date, a significant limitation in the hyper-selectivity debate has been that both hyper-selectivity researchers and their critics focus their quantitative analyses on Census data, which does not include measures of how much families prioritize academic achievement (educational commitment) or how well their children perform apart from the degrees they attain (academic performance).

I contribute to this debate over the socioeconomic status of Asian Americans by exploring how indicators of cultural capital associated with Asian American families affect the educational and labor market outcomes of Asian Americans. The value of the hyper-selectivity thesis is its attention to social class, specifically parental educational background, which provides a critical context for popular explanations that "reduce Asian American academic achievement to Asian culture, [specifically, tautological claims about] East Asia's long Confucian emphasis on education, hard work, and strong families" (Lee & Zhou, 2020, 508). The value of its critics' arguments lies in their recovery of a stream of empirical research on Asian American families and their attention to the increasing complexity of the U.S. labor market, both of which have been glossed in hyper-selectivity research (Leicht, 2008; Sun, 1998; Tao & Hong, 2014).

To examine the role of Asian family processes in status attainment, I focus on shared parental and child commitment to children's education as indicating an important form of cultural capital or "family-mediated values and outlooks that…facilitate access to education" (Perreira et al., 2006, 515). For data, I use the National Longitudinal Study of Adolescent to Adult Health (Add Health) to examine how cultural capital affects status attainment. Add Health is a nationally representative NIH study with a wide range of relevant information. These indicators include parental degree attainment, natal-family educational commitment, respondent social networks, and respondent academic performance (all during adolescence), respondent degree attainment and income (in adulthood), and multiple measures of racial/ethnic identification from adolescence to adulthood. Without these critical measures, the hyper-selectivity debate treats Asian Americans as homogeneous with respect to the critical characteristics that have been theorized to explain their distinctive socioeconomic outcomes.[1] In particular, the measures of cultural capital and academic performance allow me to model an important component of Asian American status attainment: the relationship between Asian parents and their children's course grades.

[1] Worse, the debate sometimes descends into an argument over the plausibility of each side's preferred but unobserved mechanisms.

I begin by reviewing the substantial agreement that actually exists between hyper-selectivity researchers and their detractors on the core process of Asian American status attainment before identifying their critical points of disagreement regarding ethnic social capital and labor market returns to education. Second, I describe how I use Add Health to examine how much educational commitment explains variations between Asian Americans and non-Asian Americans in both educational outcomes and labor market outcomes. I find partial support for the expected mechanisms in the debate and show that academic performance (GPA) is a "bottleneck" for the relative advantages of the Asian second-generation in both education and the labor market, particularly for Chinese, Indian, Korean, and Vietnamese Americans. Lastly, I discuss the implications of my findings for advancing the hyper-selectivity debate and rethinking the racial status of Asian Americans in the sociology of race/ethnicity. In brief, Asian Americans may represent a "model" to other minorities, though not solely for their commitment to education.

The Role of Educational Commitment in the Asian American Hyper-selectivity Debate

Following immigration researchers, I define natal-family educational commitment as a form of the cultural capital that helps the children of immigrants adjust to life in the United States (Zhou & Bankston, 1999). This conception has extended cultural capital beyond familiarity with "high culture" to "values and outlooks [such as] school attachment, college aspirations, parental closeness, and parental control/monitoring" (Perreira et al., 2006). I contend that both forms are consistent with a broader conception of cultural capital as embodied dispositions, competencies, and knowledges that are socially valued apart from, or in excess of, their direct economic value as human capital. The difference is that whereas teachers may register the high-culture form of cultural capital as "brilliance" (Bourdieu, 2010; Jæger & Breen, 2016), they may register the immigrant form of cultural capital as "promise," a more modest but still positive evaluation (Lee & Zhou, 2015). In brief, families invest in cultural capital not only when they expose their children to the culture of the dominant group but also when they influence their children to commit to education as the primary means for improving their life chances, particularly their reception in labor markets controlled by the dominant group.

Despite their disagreements, hyper-selectivity researchers and their critics share a conception of educational commitment as a widespread strategy among Asian immigrant families for attaining social mobility. Both camps also agree that this strategy has been successful, leading to exceptional

educational outcomes among the children of immigrants and, in turn, to better labor market outcomes among the second generation than the outcomes typically associated with disadvantaged groups. Importantly, there is little difference in how each camp describes the intensity with which Asian immigrant families practice this strategy.

Comparing the "success frames" adopted by their Chinese and Vietnamese interviewees with those among their Mexican, White, and Black interviewees,[2] hyper-selectivity pioneers Lee and Zhou (2015) find the Asian frames to be (1) more homogeneous regardless of parental background or migration history and singularly focused on attaining higher education, (2) exacting in their expectations of straight-As, admission to elite universities, and pursuit of high status professions, and (3) primarily benchmarked to the achievements of coethnic role models. Similarly, the critics of the hyper-selectivity thesis observe that "every study based on data from probability samples finds that Asian Americans have, on average, higher academic aspirations than other groups" (Sakamoto & Kim, 2018:15). In addition, they cite research showing that these aspirations are associated with (1) high parental expectations of academic achievement, (2) family understandings of achievement as an obligation to parents, and (3) intense academic efforts by the children of immigrants, which culminate in (4) higher levels of academic performance for Asian Americans than non-Asians (Hsin & Xie, 2014; Schneider & Lee, 1990; Sun, 1998; Tao & Hong, 2014).

Where the two camps differ are their expectations for (1) how educational commitment is related to ethnic social capital and (2) its consequences for labor market outcomes. For hyper-selectivity researchers, ethnic capital plays a critical role in producing educational commitment as an Asian American strategy. They characterize educational commitment as a product of class-specific frames, institutions, and mindsets that Asian immigrants import from their countries of origin (Lee & Zhou, 2015). The heightened selectivity of Asian immigrants since the U.S. Immigration and Nationality Act of 1965 led to the dominance of elite immigrants and their cultural frames in ethnic institutions, which allowed them to recreate sophisticated systems of supplemental education that are "freely available in ethnic churches, temples, and community centers…to the children of working class coethnics" (Lee & Zhou, 2020). Among the Asian second generation, the supplemental system has diminished the usual social-class gap in achievement, lending the appearance of empirical validity to the "model minority" image of Asian Americans, originally promoted during the 1960s to make invidious comparisons between Asian "hard work" and Black "demands" for equality. In turn, the cross-class achievements of Asian Americans have encouraged "positive stereotypes [that] affect the way that teachers, guidance counselors, and peers perceive and treat Asian American students" (Lee & Zhou, 2020:510–511), potentially boosting their performance regardless of social-class origins (Gibson et al., 2014; Shih et al., 1999). In brief, ethnic capital is a necessary condition for a "spillover" or cascade of consequences that popular culture reduces to "Asian values."

In contrast, the critics of the hyper-selectivity thesis argue that ethnic capital, rather than precipitating cross-class patterns in achievement, is more likely a "spurious aggregate" of family-level strategies to prioritize their children's education (Sakamoto & Wang, 2021, 17). They counter that (1) the academic performance of second-generation Asian Americans had exceeded that of Whites before 1965, (2) the apparent selectivity of adult Asian immigrants masks their predominant origins as emigrants who were less successful in their home countries' extensively stratified systems of college-entrance examinations, (3) the cross-class character of Asian educational commitment is evident in at least some home countries, and (4) there is no evidence that the availability of ethnic supplemental-education accounts for national patterns of Asian American achievement, especially in smaller cities with few coethnics (Liu & Xie, 2015, 2016; Sakamoto & Kim, 2018; Sakamoto & Wang, 2021; Sun, 1998). Instead, the necessary condition for Asian educational commitment is a cross-class tradition of familial collectivism and interdependence that is the heritage of Confucianism, or some structural equivalent, in their home countries (Model, 2020).

Turning to labor market consequences, hyper-selectivity researchers expect that Asian Americans' intensive commitment to education should also affect their labor market outcomes. However, they argue that the second-generation fails to convert educational advantages into labor market advantages and instead runs into a glass ceiling either because of discrimination or because of "[unmeasured] cultural and social capital variation [that] may affect labor market outcomes above and beyond human capital accumulation" (Tran et al., 2019:2263). Their expectations are consistent with the classic analysis by Hirschman and Wong of Asian American *over-education*, in which they find that "the apparent equality between Asians and Whites is largely a function of educational overachievement by Asians. If Asians experienced the same process of stratification as Whites, their educational credentials would shift their (Asians') occupational and earnings levels substantially above those of the majority population" (1984, 60). In brief, Asian Americans experience a hidden form of racial discrimination.

In response, their critics note that Hirschman and Wong failed to disaggregate (1) U.S. born Asians from (2) Asian

[2] I capitalize all race categories to avoid naturalizing "Whites" and "Blacks," and I use Latinx (and Latinxs) to avoid using the masculine "Latino" (and "Latinos") as gender neutral.

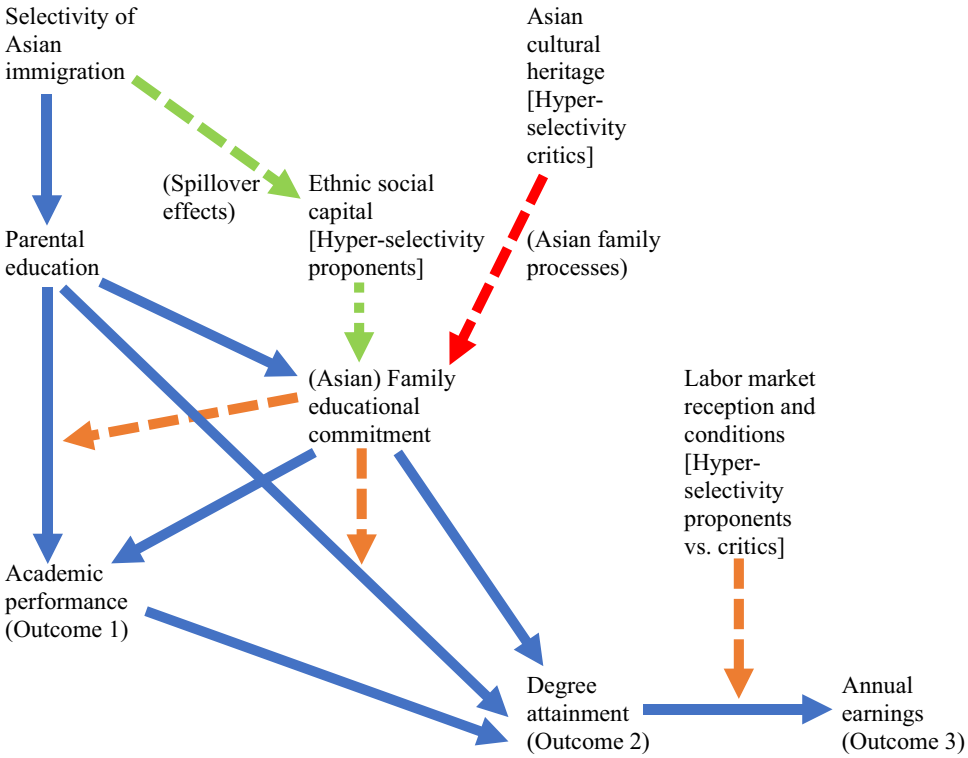

Fig. 1 Asian American socio-economic attainment process in the hyper-selectivity debate

Americans with degrees from foreign countries and argue that hyper-selectivity researchers improperly infer discrimination from poorly specified models that do not recognize the distinctiveness of the labor market from educational attainment (Sakamoto & Hsu, 2020; Zigerell, 2019). In fact, the critics suggest that hyper-selectivity researchers verge on endorsing pro-Asian discrimination if they assume that the labor market should reward educational commitment beyond its effects on degree attainment. They point instead to more careful analyses of labor market outcomes that find no evidence, or modest evidence, of a ceiling on the incomes of more educated Asian Americans (Kim & Zhao, 2014; Sakamoto et al., 2009).

Whereas both sides agree that the over-education thesis is empirically valid for the pre-Civil Rights era, the critics argue that it does not accurately describe subsequent, structural improvements for U.S. born Asians, much less more recent changes in the labor market that have increased inequality among Whites, which increases opportunities for achieving parity with Whites albeit by decreasing the value of that achievement (Leicht, 2008). In fact, Kim and Sakamoto find substantial heterogeneity in whether Asians have attained income parity with Whites. Comparing Asian and White men with the same levels of education and examining the entire distribution of earnings, they find (1) a penalty for more educated Asian men but only at the highest quantiles of income, (2) a larger penalty instead for less educated Asian men at all except the highest quantiles, and (3) Asian-White parity in the middle quantiles for most levels of education (2014). They interpret these findings as primarily revealing employer neglect of Asian Americans who deviate from the image of Asian Americans as an academically oriented minority (Kao & Thompson, 2003). Based on the literature, Fig. 1 presents a conceptual map of the Asian American socio-economic attainment process, noting the agreements and disagreements between hyper-selectivity proponents and their critics.

Although hyper-selectivity researchers and their critics cite research validating the relationship between educational commitment and academic performance, I propose that a longitudinal examination of (1) how commitment and performance mediate (2) the relationship between family background and outcomes in adulthood -is critical for advancing the hyper-selectivity debate. Using longitudinal data, researchers can empirically explore the following questions about the consequences of natal-family educational commitment:

1. How much does educational commitment explain variations in **academic performance** between Asians and non-Asians?
2. How much does educational commitment and academic performance explain variations in **degree attainment** between Asians and non-Asians?

3. How does educational commitment, performance, and degree attainment explain variations in **labor market outcomes** between Asians and non-Asians?

With measures of commitment and performance, quantitative researchers could examine (1) whether educational commitment uniquely reduces social class variation in academic performance and degree attainment among Asian Americans; (2) whether ethnic social capital uniquely mediates the relationship between educational commitment and outcomes among Asian Americans; and (3) how much commitment and performance account for Asian Americans' documented advantages in educational outcomes. In Fishman's comprehensive analysis of Asian American degree attainment (2020), they document the weak association between the educational attainments of Asian parents and their adult children, arguing that high parental and offspring expectations are an important cause of that uniquely weak association. However, Fishman sidesteps the hyperselectivity debate regarding the sources of Asian American educational commitment.

With longitudinal data, researchers could also examine how much educational commitment and performance have downstream consequences for racial disparities in the labor market. Indeed economists have found that academic performance in high school is a positive and statistically significant predictor of both degree attainment and earnings in adulthood (French et al., 2015). Given high levels of Asian American academic performance, its positive effects might counterbalance racial discrimination in the labor market. On the other hand, another mechanism for lower income returns to education for Asian Americans might be that Asian families invest in the "wrong" kind of cultural capital or more precisely that Asian parents influence their children to become *overly invested* in educational achievement and to under-develop other competencies that are valued in the labor market. In Margaret Chin's examination of Asian Americans in corporate America (2020), she finds that Asian Americans employ a "playbook" for success heavily based on their educational achievements: hard work, acquiring technical skills, deferring to authority, avoiding confrontation, and establishing a record of accomplishments. Though initially successful, they are surprised to see how social and leadership skills become increasingly important in their performance reviews, which also rely on feedback solicited from subordinates and colleagues. Consistent with hyperselectivity critics, her findings suggest that the skills associated with academic achievement may not have the same value in the labor market. In sum, longitudinal data would be helpful for examining how educational commitment and performance are associated with Asian American labor market outcomes, especially whether educational commitment compensates for lower returns to their degree attainments (i.e., over-education) or alternatively whether it depresses their incomes net of degree attainment (i.e., being overly invested in education).

Data and Methods

As a longitudinal study with a wide range of measures, Add Health is an appropriate dataset for advancing the Asian American hyper-selectivity debate. Add Health employs a multistage sample that began with a nationally representative sample of schools, from which it constructed a sampling frame of more than 100,000 students (Harris, 2009). In the first wave of data collection in 1994–1995, the study administered "in-school" interviews with an original sample of 90,118 students when they were 11 to 20 years of age, along with in-home interviews in 1995 with a subsample of 20,745 students and 17,700 parents. The study returned to the in-home sample of students for three additional waves of interviews in 1996 (Wave II), 2001–2002 (Wave III), 2007–2008 (Wave IV), and 2016–2018 (Wave V) when respondents reached 33 to 43 years of age. In my analysis, I use Add Health's restricted-use data from the Wave I in-school and in-home panels, the Wave I in-home parent panel, and the Wave III, Wave IV, and Wave V in-home panels. Wave III includes high school grades from official transcripts, and Wave V includes annual earnings in adulthood.

I matched Add Health respondents across these six panels into a total sample with 91,040 unique respondents. To maintain racial/ethnic consistency across panels (Guluma & Saperstein, 2022; Shiao, 2019), I focus on the 19,990 respondents with at least one valid pair of racial self-classification information (i.e., non-missing) across multiple panels. Within the valid-pairs sample, I focus on respondents who identify consistently and exclusively as Asian, Black, Latinx, or White in order to examine racial disparities between Asian American and non-Asian American monoracials in both educational and labor market outcomes.[3]

Measuring Educational Commitment

To measure natal-family educational commitment, I use the Add Health questions answered by Wave I respondents and their parents, regarding their parents' educational expectations and the intensity of their efforts at schoolwork. For parental expectations, I use the Wave I-parent panel questions on how disappointed the parent would be if their child

[3] Examining racial inconsistency in Add Health, Shiao (2019) finds that most inconsistent-identifiers switch between multiple-race and single-race self-classification in different panels and recommends placing these respondents in a multiracial category (16% of their valid-pairs sample).

did not graduate from college, which parents answered in a range from 1 (very disappointed) to 3 (not disappointed). I reverse-coded their answers as follows:

1. Highest expectations: Very disappointed if respondent did not graduate from college (recoded 2);
2. Modest expectations: Somewhat disappointed (recoded 1) if respondent did not graduate from college;
3. Lower expectations: Not disappointed (recoded 0) if respondent did not graduate from college.

This measure captures parental educational expectations in terms of parents' emotional investment in their offspring's attainment of a Bachelors or higher degree.

For respondents' effort at schoolwork, I used the Wave I-school panel question "how hard do you try to do your schoolwork well?" and its ordinal response categories: (1) "I never try at all," (2) "I don't try very hard," (3) "I try hard enough, but not as hard as I could," and (4) "I try very hard to do my best." This measure captures the intensity of respondents' own commitment to their academic performance, partly in response to their parents' expectations.

Measuring Race/Ethnicity in Add Health

I operationalize race using multiple measures for each respondent. In multiple waves, Add Health permitted its respondents to self-classify by multiple race categories as well as by whether they identified as Hispanic/Latinx. In Wave V, Add Health dropped the separate Latinx question and permitted Latinx as a response to its racial self-classification question. I classify the race of respondents as Asian, Black, or White if they or their biological parents identified consistently and exclusively as (1) Asian and not Latinx, (2) Black and not Latinx, or (3) White and not Latinx, across 2 + panels. I classify respondents as Latinx if (1) they or their biological parents consistently identified as Latinx, regardless of their answers on the race question before Wave V, and (2) they did not identify as non-Latinx in Wave V. For this article, I exclude respondents who identify with multiple, changed, and other race categories across panels in order to focus on monoracials.

In addition, I modify the estimation of "Asian effects" with measures of Asian heterogeneity, specifically, (1) a dummy variable for ***not*** consistently and exclusively identifying as either Chinese, Indian, Korean, or Vietnamese (CIKV) and (2) a set of interaction terms for the relative deviation of 1.5 and 2nd generation Asian Americans[4] from the main effects of education (e.g., Asian 2nd generation X parents with high school diploma at most) (2). These measures identify the subset of Asians at the heart of the hyper-selectivity debate: CIKV respondents with immigrant parents (Fishman, 2020; Kim & Sakamoto, 2014; Lee & Zhou, 2015). As an adolescent-cohort study, Add Health does not include 1st generation or 1.25 generation respondents, mitigating the methodological flaw in over-education research (Hirschman & Wong, 1984).

Outcome Variables

To examine the effects of educational commitment on educational and labor market attainment, I use three outcomes: academic performance, degree attainment, and annual income. To summarize respondents' academic performance while they were directly influenced by family educational commitment, I use Add Health respondents' cumulative high-school GPA, measured from their official transcripts which were collected for Wave III respondents, from the last secondary school that they attended.[5] To summarize their degree attainment, I use the question for respondents' highest degree completed in Wave V, supplemented by corresponding questions in Waves III and IV as needed, and I focus on whether they have completed a Bachelors (or higher) degree. To summarize their annual income, I use respondents' personal income in Wave V, reported in income categories which I replaced with each category's median (e.g., $35,000 for the $30,000-$39,999 category) before taking its natural log, given the high positive skew of the distribution of earnings.

Because Add Health respondents are nested within schools, I estimate multilevel models of each outcome, with two levels (i.e., respondents with random intercepts for schools), using Stata 15.1. Specifically, I use the Stata *mixed* procedure to estimate hierarchical linear models of GPA and log income, and I use the *meqrlogit* procedure to estimate hierarchical logistic models of Bachelors degree attainment.[6]

Independent Variables and Covariates

For all outcomes, I use racial identification, degree attainment (either parental or respondent), non-CIKV ethnicity, Asian 2nd generation X education, natal-family educational

[4] For simplicity, I mostly refer to 1.5 and 2nd generation respondents together as 2nd generation (based on parent nativity).

[5] I acknowledge that cumulative high school GPA partly depends on subjective teacher evaluation including of student effort, but it is also a more direct measure of how students perform in their coursework than a standardized test such as the Add Health Picture Vocabulary Test.

[6] Due to concerns regarding the estimation of interaction terms in nonlinear models, I also estimated the degree attainment models as linear models using Stata *mixed*. The pattern of results was identical to the logistic models.

commitment, and ethnic social capital as independent variables, along with gender (female) and a proxy for cognitive ability in adolescence as covariates.[7] For the outcomes of degree attainment and annual income, I add academic performance (mean-centered high school GPA) as a potential mediator of educational commitment. For the outcome of income, I add disability status and usual hours worked per week (mean-centered) as covariates.[8]

I measure parental education and respondent education using their highest degree completed and coded in four categories: Less than high school (including GED), high school degree only, Bachelors degree only, and postgraduate degree. I measure ethnic social capital using the proportion of same-race persons in non-White respondents' friendship networks (*send* nominations of Asians, Blacks, and Latinxs), which I construct from the Wave-I network data. Same-race friendships provide a respondent-specific measure of ethnic social capital accessible across places with varying levels of co-ethnic concentration.

Following Sun (1998), I compensate for the relatively small N of Asian Americans respondents by imputing missing values for GPA, usual hours worked, and for exploratory analysis, the proportion of friends (of any race) with parents who had attained a Bachelors or higher degree, for Asian Americans only.[9] Friendships with peers who have college-educated parents provide a non-ethnic measure of social capital to circumvent a possible spuriousness in hyper-selectivity research based on studying Asians in places with high Asian concentrations.

Analytic Strategy

I examine estimates for each outcome across nested models to examine how the addition of variables for educational commitment, ethnic social capital, and academic performance changes coefficients from simpler models. Table 1 shows the variables in each model by outcome. For each outcome, Model 1 estimates the total effects of race, controlling for gender, while Model 2 is the baseline model that estimates the unique characteristics of Asian American socioeconomic attainment, which subsequent models should reduce, if the additional variables mediate the effects in Model 2.

To analyze educational outcomes, Model 2 adds parental education (with Bachelors-only as the reference category) and 2nd generation Asian American X parental education interaction terms (Fishman, 2020), along with cognitive ability as a covariate. Model 3 adds the educational commitment measures of parental educational expectations and respondent effort at schoolwork, which are expected to reduce the Asian-specific effects of parental education. For the specific outcome of GPA, Model 4 adds ethnic social capital, as indicated by the proportion of same-race friends, which is expected to reduce the effects of educational commitment, and Model 4E adds select variables from the sensitivity analysis (discussed below), for Asian-specific variations in educational commitment, ethnic social networks, and non-ethnic social networks.

For the outcome of degree attainment, Models 2 and 3 are the same as for GPA, Model 4 adds ethnic social capital, Model 5 adds GPA to explore how academic performance mediates the effects of parental education and ethnic social capital, and Model 5E adds select variables from the sensitivity analysis for racial variation in non-ethnic social capital, while subtracting ethnic social capital. To analyze labor market outcomes, Model 2 adds respondent education (with Bachelors-only as the reference category) and 2nd generation Asian American X respondent education interaction terms, along with cognitive ability, disability, and usual hours worked as covariates. Model 3 adds both educational commitment measures, Model 4 adds GPA, and Model 4E adds select variables from the sensitivity analysis for racial variation in non-ethnic social capital.

Limitations

Using Add Health involves multiple trade-offs to employ its range of longitudinally collected measures, which in turn reduce the conclusiveness of my results. Most importantly, its sample size is considerably smaller than the Census data used by hyper-selectivity researchers and their critics, especially when restricted to confirmed monoracials. As a cohort study, it precludes examination of both earlier and later birth cohorts, and its income data is limited by the age of respondents in the most recent panel (early 40s at most). The income data is also limited by its highest response category, which has a median of only $250,000. The Wave I parent panel only surveyed one parent, indirectly collected information on that parent's partner, and did not ask for the partner's nativity or educational expectations, meaning that respondents were coded according to the responding parent's nativity and expectations. In addition, Add Health has not

[7] I focus on cisgender respondents by comparing the Wave V questions on gender and sex assigned at birth. For ability, I use respondents' mean-centered and age-standardized score on the Add Health Picture Vocabulary Test (AH-PVT) (French et al., 2015).

[8] I measure disability using whether respondents felt in Wave V that having a physical disability was a reason that they were treated with less courtesy or respect, received poorer service, treated as if they were not smart, been threatened or harassed, or had people act afraid of them, in their day-to-day lives. I measure usual hours worked using respondents' self-reported weekly hours at all current jobs in Wave V.

[9] Instead of group-mean substitution (Sun 1998), I use multiple imputation with a multivariate normal model and estimate the analysis models using 70 imputed datasets. I determined the number of imputations needed using the Stata command how_many_imputations (Von Hippel 2020).

Table 1 Variables in nested models by outcome

Outcomes	Model 1	Model 2 (Model 1 +)	Model 3 (Model 2 +)	Model 4 (Model 3 +)	Model 4E (Model 3 +)
Cumulative high school GPA (0–4.0)	Race/ethnicity Asian non-CIKV Asian 1.5-2nd generation Gender (female)	Parental education (highest degree completed) 2nd gen Asian X Parent education AH-PVT	Parental educational expectations (Parent educ expectation) Respondent effort at schoolwork	Non-White X Proportion same-race friends (Prop SR-friends)	2nd gen Asian X Parent educ expectation Asian X Prop SR-friends Non-Asian non-White X Prop SR-friends Non-ethnic social capital (see notes*)

	Model 1	Model 2	Model 3	Model 4	Model 5 (Model 4 +)	Model 5E**
Degree attainment (Bachelors or higher)	Race/ethnicity Asian non-CIKV Asian 2nd generation Gender	Parental education 2nd gen Asian X Parent education AH-PVT	Parent educ expectation Respondent effort at schoolwork	Non-White X Proportion same-race friends	Cumulative high school GPA (mean centered)	Non-ethnic social capital*

	Model 1	Model 2	Model 3	Model 4	Model 4E (Model 4 +)
Annual earnings (Log income)	Race/ethnicity Asian non-CIKV Asian 2nd generation Gender	Respondent education (highest degree completed) 2nd gen Asian X Resp. education AH-PVT Disability status Usual hours worked per week	Parent educ expectation Respondent effort at schoolwork	Cumulative high school GPA	Non-ethnic social capital*

GPA is grade point average. CIKV is Chinese, Indian, Korean, or Vietnamese ethnicity. AH-PVT is age-standardized score on Add Health Picture-Vocabulary Test (proxy for adolescent cognitive ability). *Non-ethnic social capital indicators are 2nd gen Asian X Proportion friends whose parents have BAs, non-Asian non-White X Proportion friends with BA parents, and White X Proportion friends with BA parents (mean centered). **Degree attainment Model 5E excludes non-White X Proportion same-race friends

Table 2 Sample Means and Group-Specific Means for Selected Variables

	Analytic sample	Asian American	White	Black/African American	Latinx
N	2253	223	1501	341	188
Cumulative high school GPA	2.89	3.22	2.98	2.53	2.53
Respondents with Bachelors or higher attainment	0.54	0.69	0.54	0.49	0.44
Annual income in adulthood	$66,080	$76,177	$68,564	$49,809	$63,777
Parents with Bachelors or higher attainment	0.40	0.62	0.42	0.36	0.10
Parental educational expectations (0–2)	1.35	1.71	1.25	1.47	1.50
Respondent effort at schoolwork (0–3)	2.32	2.43	2.28	2.44	2.27
Proportion same-race friends (0–1)	0.78	0.53	0.84	0.74	0.68
Proportion friends with BA parents (0–1)	0.38	0.56	0.39	0.33	0.21
1.5-2nd generation Asian American	0.08	0.78			
Chinese, Indian, Korean, or Vietnamese ethnicity	0.03	0.31			

Sample comes from the National Longitudinal Study of Adolescent to Adult Health (Add Health). GPA is grade point average and includes imputed values for 51 Asian Americans. Proportion friends with BA friends includes imputed values for 55 Asian Americans

collected fields of study for either respondents or parents with postsecondary degrees (Kim et al., 2015). Nevertheless, Add Health remains a valuable dataset for advancing the hyper-selectivity debate, especially for its data on social networks (respondents' friendship networks) and labor market outcomes (incomes in adulthood), which are absent from more recent, larger scale educational studies.

Results

Table 2 presents the sample means and group means for select variables. Relative to White, Black, and Latinx respondents, the Asian respondents report the highest mean GPA (3.22), proportion of Bachelors degrees (0.69), incomes ($76,177), proportion of parents with Bachelors degrees (0.62), and parental educational expectations (1.71 on a scale of 0–2). They also report the second highest effort at school (2.43 on a scale of 0–3), after Black respondents (2.44). In terms of social capital, Asian Americans actually report the lowest proportion of same-race friends (0.53), in comparison with Latinxs (0.66), Blacks (0.73), and Whites (0.84), but they report the highest proportion of friends whose parents have Bachelors degrees (0.56), followed by Whites (0.39), Blacks (0.33), and Latinxs (0.21). Interestingly White respondents face the lowest parental expectations and report the second lowest effort at school, despite reporting higher GPAs, more Bachelors degrees among respondents and their parents, and higher incomes, relative to Black and Latinx respondents. Lastly, 78% of the Asian respondents have immigrant parents (i.e., 22% are 3rd and later generation), and 31% are exclusively Chinese, Indian, Korean, or Vietnamese (CIKV) (i.e., 69% report Filipino, Japanese, or multiple Asian backgrounds).

The Contribution of Educational Commitment to Academic Performance

Table 3 examines how much educational commitment explains racial disparities in GPA among Asian, Black, Latinx, and White respondents in Add Health. As expected, in Model 1, Asian Americans have a mean advantage in GPA (+0.39 relative to Whites) whereas Blacks and Latinxs show disadvantages (− 0.44 and − 0.35, respectively). The addition of parental education and 1.5-2nd generation Asian X education interaction terms in Model 2 highlights the important role of parental education in the lower GPAs of Blacks and Latinxs, as expected by status attainment theory, while confirming persistent racial disadvantages for Blacks as well as a weaker association between parental education and offspring GPA, for Asian Americans with immigrant parents, especially parents without college degrees. Also evident is a persistent disadvantage for non-CIKV Asians relative to Chinese, Indian, Korean, and Vietnamese Americans, even net of the weak association between parental education and offspring GPA that they share with CIKV Asians.[10]

In Model 3, the addition of educational commitment shows that parental expectations and respondents' effort at schoolwork slightly mediate the estimated Asian advantages in GPA in Model 2 (e.g., the main effect of being Asian declines 7.9% from a + 0.38 increase in GPA to a + 0.35 increase between Model 2 and Model 3). Similarly, in Model 4, the proportion of same-race friends has a small, negative,

[10] Further analysis of GPA restricted to non-CIKV Asians (not shown) confirms that the Asian 2nd generation X less-educated parents interactions are also positive and statistically significant, though smaller in size.

Table 3 Selected Parameter Estimates of Cumulative High-School GPA in Add Health

Variables	Model 1	Model 2	Model 3	Model 4	Model 4E
Race (Ref: Whites)					
Asian American	0.39**	0.38**	0.35**	0.37**	0.33*
Non-CIKV Asian	− 0.26*	− 0.25*	− 0.22*	− 0.20^{+}	− 0.23^{+}
1.5-2nd generation Asian American	0.05	− 0.02	− 0.12	− 0.12	− 0.73*
Black	− 0.44**	− 0.23**	− 0.27**	− 0.23**	− 0.18*
Latinx	− 0.35**	− 0.03	− 0.08	− 0.05	− 0.00
Parent education (Ref: Bachelors)					
Less than HS (LTHS)		− 0.42**	− 0.38**	− 0.37**	− 0.35**
High school (HS)		− 0.21**	− 0.16**	− 0.16**	− 0.15**
Postgraduate		0.17**	0.18**	0.18**	0.16**
2nd gen Asian x Education interactions					
2nd gen Asian x LTHS		0.70**	0.68**	0.66**	0.71**
2nd gen Asian x HS		0.24^{+}	0.23^{+}	0.23^{+}	0.28*
2nd gen Asian x Postgraduate		− 0.09	− 0.08	− 0.09	− 0.03
Parental educational expectations			0.14**	0.14**	0.13**
2nd gen Asian X Parental expectations					0.21^{+}
Respondent effort at schoolwork			0.22**	0.22**	0.22**
Non-White X Proportion same-race friends				− 0.07	
Asian X Prop same-race friends					0.11
Non-Asian non-White X Prop same-race friends					− 0.16^{+}
Race/generation X Proportion friends with parents with BAs					
2nd gen Asian X Prop frnds (BA-par)					0.33*
Non-Asian non-White X Prop frnds (BA-par)					0.07
White X Prop frnds (BA-par) (centered)					0.18**
Intercept (fixed-effects equation)	2.83**	2.76**	2.08**	2.08**	2.09**
Across-schools variance (random intercept)	0.058	0.051	0.051	0.051	0.053
Individual-level N	2202	2202	2202	2202	2202
School-level N	124	124	124	124	124

Estimates are from multilevel linear regression models of GPA (without imputed values). All models also include gender (female), and Models 2–5 also include AH-PVT, as covariates. $^{**}p<0.01$, $^{*}p<0.05$, $^{+}p<0.10$

non-significant effect that does not change the effects of educational commitment from Model 3 and changes only slightly the Asian main effect and the 2nd-generation Asian X lower parental education interactions.

The results confirm that the academic performance of Asian Americans is uniquely less affected by family origins in terms of parental education; however, educational commitment does not appear to be critical for estimated Asian advantages in GPA, as indicated by the persistently positive Asian main effect and 2nd-generation Asian X education interactions. Furthermore, ethnic social capital, as measured by same-race friends, is also not critical for the positive effects of educational commitment, much less the Asian advantages in GPA.

In Model 4E, I add select variables from the sensitivity analysis (not shown), which reveal Asian-specific variations in educational commitment, ethnic social networks, and non-ethnic social networks. For each unit increase in parental expectations (0–2), 2nd-generation Asian Americans experience a + 0.34 increase in GPA in comparison to a + 0.13 increase as experienced by other respondents; in other words, parental expectations have a 162% greater effect on respondents with Asian immigrant parents relative to other respondents. In addition, the non-significant, negative effect of same-race friends doubles in size (from − 0.07 to − 0.16) and approaches significance ($p<0.10$) but only for non-Asian non-Whites, whereas the comparable effect for Asians is positive but remains non-significant, suggesting an Asian-specific *non*-penalty for ethnic social capital. Similarly, the proportion of friends whose parents have Bachelors degrees increases the GPAs of Whites and 2nd-generation Asian Americans only, whereas the effect for non-Asian non-Whites is much smaller and not statistically significant.

Critically, the inclusion of the 2nd generation Asian interaction terms in Model 4E is associated with a substantial

change from Models 1–4, in the negative coefficient for being 2nd generation Asian American, which serves as the base category for the 2nd generation Asian X parental education interactions (i.e., 2nd generation Asian Americans whose parents have Bachelors degrees). In Model 4E, this base coefficient becomes statistically significant and increases to a size (-0.73) slightly larger than the positive coefficient for being 2nd generation Asian American and having parents who have not attained high school degrees (+0.71). In other words, without the contribution of Asian-specific variations in educational commitment and non-ethnic social capital, 2nd generation Asian Americans would experience the same penalty for having less-educated parents as experienced by other Americans including later-generation Asian Americans.

To illustrate the magnitude of the Asian-specific variations, I use the statistically significant coefficients in Model 4E to calculate the predicted GPAs of Whites and 2nd generation Asian Americans whose parents have not attained high school degrees.[11] Among respondents who have parents reporting the lowest educational expectations and have no friends with college-educated parents, the Asian respondents have an average advantage of + 0.38 in GPA over the White respondents, whereas among respondents who are at the White means for parental expectations and proportion of friends with college-educated parents, the Asian advantage grows to + 0.70. This also raises their predicted academic performance to a GPA (2.60) above that of even the Whites whose parents have attained Bachelors degrees and are also at the White means for parental expectations and friends with college-educated parents (2.25).

The Mediating Role of Academic Performance in Degree Attainment

Table 4 examines how much educational commitment and academic performance explain racial disparities in degree attainment. In Model 1, Asian Americans have a substantial advantage in attaining Bachelors degrees (a + 203% increase in the odds of attaining Bachelors degrees relative to Whites) whereas Blacks and Latinxs show disadvantages (a − 33% decrease and a − 40% decrease, respectively). In Model 2, the addition of parental education and 1.5-2nd generation Asian X education interactions highlights the important role of parental education in the lower degree attainments of Blacks and Latinxs; indeed, parental education accounts for all of the estimated disadvantage for Blacks in Model 1 and reveals an unexpected, repressed advantage for Latinxs. In comparison, the estimated advantage of Asians persists and increases in Model 2, which also shows a weaker association between Asian parental and offspring education, particularly for Asian Americans with immigrant parents without high school diplomas.

In Model 3, the addition of educational commitment shows similar effects on degree attainment as it did on academic performance. Although positive, these effects only slightly mediate the estimated Asian advantages in Model 2. For example, the main effect of being Asian declines 12.8% from a + 286% increase in the odds of attaining a Bachelors degree to a 249% increase, relative to being White. Similarly, the effects of proportion of same-race friends in Model 4 is positive but not statistically significant; furthermore, its addition does not change the effects of educational commitment from Model 3 and changes only slightly the Asian main effect and the 2nd-generation Asian X lower parental education interactions.

In contrast, the addition of GPA in Model 5 collapses the effects of respondent effort at schoolwork, almost halves the effects of parental expectations, and reduces to non-significance the main effect of being Asian and the 2nd-generation Asian X parental education interactions, as well as the main effect of being Black. In brief, academic performance serves as a "bottleneck" for Asian advantages in degree attainment. GPA also reduces the disadvantage of non-CIKV Asians to non-significance, which indicates its central role in disparities in degree attainment not only between Asians and non-Asians but also among Asian Americans themselves.

In Model 5E, I add select variables from the sensitivity analysis, which reveal racial variation in non-ethnic social capital: The proportion of friends whose parents have Bachelors degrees only increases the odds of Bachelors degrees for non-Asian non-Whites. Further analysis (not shown) shows that this non-ethnic social capital only increases the odds of degree attainment for Whites and 2nd-generation Asian Americans if GPA is excluded from the model. In brief, only for other non-Whites does non-ethnic social capital have effects that are independent of academic performance.

The Reach of Academic Performance in Shaping Income in Adulthood

Table 5 examines how much educational commitment, performance, and attainment explain racial disparities in income. Unlike the analysis of educational outcomes, Model 1 shows no evidence of an estimated Asian advantage in logged annual earnings (relative to Whites) while showing an estimated Black disadvantage. Similarly, the addition of respondent education and the 2nd generation Asian X education interaction terms in Model 2 does not show an

[11] I use the coefficients for being Asian American, 2nd generation Asian, parent education, 2nd generation Asian x parent education, parental expectations, 2nd generation Asian x parental expectations, 2nd generation Asian x proportion friends with BA parents, and White x proportion friends with BA parents, along with the group means for expectations and proportion with BA parents in Table 2.

Table 4 Selected parameter estimates of bachelors-degree attainment in log odds in add health

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 5E
Race (Ref: Whites)						
Asian American	1.11*	1.35**	1.25*	1.22*	0.59	0.72
Non-CIKV Asian	− 0.79^{+}	− 0.84^{+}	− 0.77^{+}	− 0.81^{+}	− 0.44	− 0.41
1.5-2nd generation Asian American	− 0.01	− 0.38	− 0.59	− 0.60	− 0.54	− 0.71
Black	− 0.40*	0.20	0.07	− 0.02	0.44	0.44*
Latinx	− 0.52*	0.57*	0.46*	0.38	0.61^{+}	0.65*
Parent education (Ref: Bachelors)						
Less than HS (LTHS)		− 1.71**	− 1.64**	− 1.65**	− 1.40**	− 1.36**
High school (HS)		− 1.04**	− 0.96**	− 0.96**	− 0.85**	− 0.84**
Postgraduate		0.82**	0.84**	0.84**	0.58**	0.55**
2nd gen Asian x Education interactions						
2nd gen Asian x LTHS		1.68*	1.64*	1.66*	1.16	1.14
2nd gen Asian x HS		0.66	0.71	0.71	0.50	0.48
2nd gen Asian x Postgraduate		− 0.06	− 0.08	− 0.06	− 0.07	− 0.10
Parental educational expectations			0.40**	0.40**	0.23**	0.24**
Respondent effort at schoolwork			0.37**	0.37**	0.03	0.03
Non-White X Proportion same-race friends				0.14	0.34	
Race/generation X Proportion friends with parents with BAs						
2nd gen Asian X Prop frnds (BA-par)						0.36
Non-Asian non-White X Prop frnds (BA-par)						0.67*
White X Prop frnds (BA-par) (centered)						0.27
Cumulative high school GPA (centered)					1.86**	1.83**
Intercept (fixed-effects equation)	− 0.06	− 0.05	− 1.43**	− 1.43**	− 0.87**	− 0.88**
Across-schools variance (random intercept)	0.538	0.150	0.159	0.159	0.407	0.375
Individual-level N	2253	2253	2253	2253	2253	2253
School-level N	124	124	124	124	124	124

Estimates are from multilevel logistic regression models of Bachelors degree attainment. All models also include gender (female), and Models 2–5 also include AH-PVT, as covariates. $^{**}p<0.01$, $^{*}p<0.05$, $+p<0.10$

advantage for less educated Asians but rather suggests a disadvantage, specifically for those who attain less than a high school degree (i.e., $e^{-1.02}$ = a − 64% decrease in income relative to similarly educated Whites). This disadvantage persists with the addition of educational commitment in Model 3 and the addition of GPA in Model 4. Indeed, the estimated disadvantage for less-educated Asians becomes larger in Model 4, even though adding GPA reduces the main effects of respondent education.

Returning to Model 3, the addition of educational commitment is associated with only slight changes in the 2nd generation Asian x respondent education interactions and in the main effects of being Asian, Black, or Latinx. Specifically, the effect of parental expectations is relatively small (+4% increase in income for each unit increase in expectations) and becomes non-significant with the addition of GPA in Model 4, whereas the effect of respondent effort at school is consistently negative and non-significant.[12] In brief, the effects of educational commitment are not consistent with the possibility that Asian Americans are "overly invested" in education relative to their incomes in adulthood. Instead, the persistently negative main effect of being Asian, which decreases Asian incomes by − 28% (=$e^{-0.33}$–1, relative to Whites in Model 4) revives the over-education thesis. This disadvantage contrasts with the higher mean incomes of Asian Americans (i.e., $76 K vs. $69 K for Whites in Table 1), which suggests a compensating role for Asian American educational achievement, not only through higher degree attainment but also through better academic performance than Whites. That said, the sensitivity analysis

[12] Sensitivity analysis (not shown) shows that the negative effect of school effort on adult income is concentrated among non-Asian non-Whites but remains non-significant.

Table 5 Selected parameter estimates of log annual earnings in add health

Variables	Model 1	Model 2	Model 3	Model 4	Model 4E
Race (Ref: Whites)					
Asian American	− 0.24	− 0.27*	− 0.28*	− 0.33*	− 0.31*
Non-CIKV Asian	− 0.13	0.04	0.04	0.07	0.05
1.5-2nd generation Asian American	0.35*	0.16	0.14	0.15	0.07
Black	− 0.26**	− 0.22**	− 0.23**	− 0.16**	− 0.19**
Latinx	0.03	0.16*	0.15*	0.20**	0.17*
Respondent education (Ref: Bachelors)					
Less than HS (LTHS)		− 0.67**	− 0.66**	− 0.38**	− 0.37**
High school (HS)		− 0.41**	− 0.40**	− 0.31**	− 0.30**
Postgraduate		0.24**	0.23**	0.20**	0.20**
2nd gen Asian x Education interactions					
2nd gen Asian x LTHS		− 1.02^{+}	− 1.04^{+}	− 1.17*	− 1.15*
2nd gen Asian x HS		0.22	0.22	0.20	0.20
2nd gen Asian x Postgraduate		0.19	0.20	0.20	0.21
Parental educational expectations			0.04 +	0.03	0.03
Respondent effort at schoolwork			− 0.01	− 0.04	− 0.04
Race/generation X Proportion friends with parents with BAs					
2nd gen Asian X Prop frnds (BA-par)					0.14
Non-Asian non-White X Prop frnds (BA-par)					0.11
White X Prop frnds (BA-par) (centered)					0.12*
Cumulative high school GPA (centered)				0.19**	0.19**
Intercept (fixed-effects equation)	11.05**	11.10**	11.05**	11.06**	11.05**
Across-schools variance (random intercept)	0.039	0.013	0.013	0.018	0.017
Individual-level N	2253	2253	2253	2253	2253
School-level N	124	124	124	124	124

Estimates are from multilevel linear regression models of income. All models also include female (gender), and Models 2–4 also include AH-PVT, disability status, and usual works worked weekly, as covariates. $^{**}p < 0.01$, $^{*}p < 0.05$, $^{+}p < 0.10$

indicates that this persistent disadvantage is concentrated among 3rd and later generation Asian Americans.

In Model 4E, I add select variables from the sensitivity analysis, which again reveals racial variation in non-ethnic social capital: The proportion of (adolescent) friends whose parents have Bachelors degrees only increases the incomes of White respondents, whereas the comparable effects for 2nd generation Asians and non-Asian non-Whites are positive but not statistically significant. In sum, although *ethnic* social capital does not appear to increase Asian American academic performance, degree attainment, or income, *non-ethnic* social capital appears to have racially differentiated effects at each socioeconomic outcome.

Sensitivity Analysis

To construct the exploratory analysis in the models for GPA (Model 4E), degree attainment (Model 5E), and income in adulthood (Model 4E), I examined the sensitivity of my results in the main models to (1) racial and generational heterogeneity in the effects of educational commitment and social capital and (2) alternative specifications of educational commitment, social capital, and Asian ethnic heterogeneity. *To test for racial heterogeneity,* I used group-specific interaction terms in Models 3–4 for GPA, Models 3–5 for Bachelors attainment, and Models 3–4 for income. For educational commitment, I added two alternate sets of interactions to the main effects for parental expectations and effort at school: (1) 2nd-generation Asian X [variable] and non-Asian non-White X [variable] (e.g., 2nd generation Asian X school effort and non-Asian non-White X school effort) and (2) Asian X [variable] and non-Asian non-White X [variable]. For ethnic social capital, I replaced the proportion same-race friends for non-White respondents in Model 4 for both GPA and Bachelors attainment, with the same two sets of interactions: (1) 2nd-generation Asian X proportion same-race friends and non-Asian non-White X proportion same-race friends and (2) Asian X proportion same-race friends and non-Asian non-White X proportion same-race friends. I only found two statistically significant interactions and only in the analysis of GPA (i.e., 2nd generation Asian X parental expectations and non-Asian non-White X

proportion same-race friends in GPA Model 4E). In brief, no other measures of racial heterogeneity showed the positive effects of either (1) Asian educational commitment expected by both hyper-selectivity proponents and critics or (2) Asian social capital expected by hyper-selectivity proponents.

To test for generational heterogeneity, I restricted the Asian sample to 3rd and later generation Asian Americans, relaxed the 2nd generation Asian interaction terms to include all Asian Americans (e.g., Asian X education interactions and Asian X proportion same-race friends), and re-ran the models for every outcome. I found no significant deviations from the main effects of education, unlike the 2nd generation Asian x education interactions in the main analysis, whereas the effect of proportion same-race friends remained the same for 3rd generation Asians as for 2nd generation Asians. In brief, 3rd generation Asian Americans also show an Asian-specific non-penalty for ethnic social capital, but they do not share their 2nd generation counterparts' invulnerability to having less educated parents (i.e., no cross-class convergence).

To test alternative specifications of educational commitment, I replaced the main measures of parental expectations and effort at school, in the models of GPA and Bachelors attainment with: (S1) three indicators (1/0) for academic activities that respondents reported doing with their parents in the preceding four weeks (i.e., discussed school work or grades, worked on a project for school, and discussed other things at school); (S2) an index composed of the three indicators of shared academic activities (0–3); and (S3) an indicator for respondents reporting both the highest parental expectations and the highest effort at school (1/0). Of the three activity indicators (S1), only "discussing other things at school" had significant effects and solely for GPA; testing for racial heterogeneity also revealed that the effects were only significant for Whites. The index (S2) showed small, significant effects for both educational outcomes; however, its effects collapse when parental expectations and school effort are restored to the GPA models, and in the Bachelors models, testing for racial heterogeneity reveals that its effects are only positive for non-Asians. The indicator for both high expectations and high effort (S3) had significant effects on GPA before collapsing when parental expectations and school effort are restored, and it is never significant in the Bachelors models. In brief, the activity-based measures and the measure of highest expectations and effort failed to show either (1) the positive effects for Asian Americans as expected by both hyper-selectivity proponents and critics or (2) stronger effects than shown by my main measures of educational commitment.

To test alternative specifications of social capital, I replaced the main measure of proportion same-race *friends* for non-White respondents with: (S1) non-White x proportion same-race *students at school*, (S2) non-White x proportion of same-race *residents in respondents' census tract*, and (S3) non-White x proportion of friends whose parents have Bachelors degrees; I also tested for racial heterogeneity by replacing them with the same two sets of interactions as for proportion same-race friends. In the analyses using proportion same-race at school (S1) or in census tract (S2), the tract proportion has a negative and significant effect on GPA, whereas the school proportion has a positive effect on Bachelors attainment that approaches statistical significance, both only for non-Asian non-Whites. In brief, neither of the place-based specifications of ethnic social capital showed the positive effects for Asian Americans expected by hyper-selectivity proponents.

However, in the analysis using proportion of friends, regardless of race, whose parents have Bachelors degrees (S3), I found significant effects in the GPA and Bachelors models and tested for heterogeneity including with a third group-specific interaction for Whites (centered on the White mean), as this measure represents non-ethnic social capital. I identified significant effects for these interactions at both outcomes and incorporated all three interactions into the exploratory models for each outcome including income. Similar to the Asian-specific effect of parental expectations, the Asian-specific effect of non-ethnic social capital in the GPA models is also limited to 2nd generation Asian Americans.

To test alternative specifications of Asian ethnic heterogeneity, I restricted the Asian sample to non-CIKV Asian Americans, relaxed the 2nd generation Asian interaction terms to include all Asian Americans (e.g., Asian X education interactions and Asian X proportion same-race friends), re-ran the models for each outcome, and found the same pattern of results. In addition, I replaced the non-CIKV indicator with alternate indicators for Asian ethnic heterogeneity: (S1) consistent identification as Filipino and (S2) consistent identification as non-East Asian American. Although the effects of being Filipino are not statistically significant in any model, the effects of being non-East Asian are similar in direction, size, and significance with the effects of being non-CIKV Asian, which suggests that Asian American socioeconomic attainment contains somewhat more heterogeneity than is indicated by the CIKV/non-CIKV boundary.

Discussion and Conclusions

In this article, I have explored the role of cultural capital in Asian American socioeconomic attainment by examining the effects of natal-family educational commitment on educational and labor market outcomes. By using the wide range of available data in the National Longitudinal Study of Adolescent to Adult Health (Add Health), I have examined how two components of educational commitment (parental

educational expectations and adolescent efforts at schoolwork) affect Add Health respondents' cumulative high-school grade point average (GPA), their eventual degree attainment by adulthood, and their annual incomes in early-mid adulthood (33–43 years of age). Consistent with prior research, my analysis confirms that social class origin, as indicated by parental education, has a weaker association with educational outcomes for Asian Americans in comparison with non-Asian Americans. Against the expectations of both hyper-selectivity proponents and their critics, I find that my main indicators of educational commitment have positive effects that only slightly mediate the Asian advantages in academic performance (GPA) and degree attainment. In other words, average group differences in parental expectations and student effort do not explain much of the racial disparities in socioeconomic attainment among Asian, Black, Latinx, and White respondents in Add Health. Furthermore, the effects of educational commitment on degree attainment and income decrease substantially and/or lose statistical significance when GPA is added. Also, Asian 2nd generation advantages in degree attainment dissolve when GPA is added, suggesting that academic performance serves as a bottleneck for Asian American socioeconomic attainment.

In addition, my exploratory models reveal important Asian-specific variations in educational commitment, ethnic social networks, and non-ethnic social networks. First, parental educational expectations have a significantly larger effect on the GPAs of respondents with Asian immigrant parents than on the GPAs of all other respondents including 3rd and later generation Asian Americans. This finding is consistent with the conception of Asian American educational commitment shared by hyper-selectivity researchers and their critics, namely that Asian immigrant parents communicate their educational expectations less as aspirations and more as family obligations (Tao & Hong, 2014). This suggests that the critical distinctiveness of Asian American educational commitment is not that Asian parents have higher expectations or that Asian students make more effort at schoolwork but that certain Asian American students are uniquely more responsive to parental expectations. In brief, the meaning of educational expectations is qualitatively different in Asian immigrant families.

Second, the effects of ethnic social capital, as indicated by same-race friendships, are only partly consistent with the expectations of hyper-selectivity proponents (Lee & Zhou, 2015). On the one hand, they have a distinctly positive though non-significant effect on GPA for Asian Americans (including for 3rd and later generation Asians) in comparison to the larger, negative, and statistically significant effect they have for other non-Whites. On the other hand, the Asian-specific effect does not mediate the positive effects of educational commitment for either academic performance or degree attainment, consistent with the expectations of hyper-selectivity critics (Sakamoto & Wang, 2021). Rather than benefiting from unique ethnic social capital, Asian Americans may simply experience a unique exception from the penalty for ethnic association imposed on other non-Whites' educational outcomes. That said, future research might explore alternative measures of ethnic social capital that might mediate educational commitment without leading to co-ethnic friendships among adolescents, for example, parental social networks even in places without sufficient population or resources for establishing supplemental education systems.

Nevertheless, my findings suggest that it is actually *non-ethnic* social capital, as indicated by the proportion of friends whose parents are college educated, that contributes to Asian American socioeconomic outcomes. In fact, this social capital in conjunction with their greater responsiveness to parental expectations[13] largely explains 2nd generation Asian American advantages in GPA, which in turn entirely mediate 2nd generation Asian advantages in Bachelors degree attainment. This finding suggests that contra hyper-selectivity critics, ethnic social capital is less a spurious aggregate of family-level educational commitment than the misrecognition of non-ethnic social capital by hyper-selectivity researchers studying Asian Americans in places with high concentrations of Asian Americans.

Given that Asian American educational achievement is a national pattern not confined to such places, I suggest that cross-racial social capital is an under-examined factor in Asian American socioeconomic attainment. Future research should examine how cross-racial acceptance, particularly by socioeconomically advantaged White families, shapes variations in socioeconomic attainment both between and among Asian Americans and other non-Whites, especially in predominantly White communities. At the risk of stating the obvious, racism may be a critical but unacknowledged factor in longstanding debates over whether Asian American socioeconomic attainment is the product of "class or culture," of which the hyper-selectivity debate is but the latest iteration. If Asian Americans represent a "model" to other minorities, it may be not only for their commitment to education but also for the value of their relative social acceptance by socioeconomically advantaged Whites. That said, non-ethnic social capital does not improve the GPAs of 3rd generation Asian Americans, similar to its non-effects for other non-Whites.

Unlike ethnic social capital that primarily "spills over" from the extreme selectivity of Asian immigration into

[13] Further analysis (not shown) indicates that the 2nd generation Asian X parental expectations coefficient is only statistically significant in models for GPA when the 2nd generation Asian X proportion of friends with Bachelors parents interaction is also in the model.

family educational commitment (Fig. 1), non-ethnic social capital also includes cross-racial resources, is associated with a greater responsiveness to the expectations of Asian immigrant parents as expected by hyper-selectivity critics, and has direct effects on academic performance not mediated by educational commitment. In sum, certain Asian Americans appear to benefit from a broader field of social capital generated at the intersection of not only immigration selectivity but also relative racial acceptance and cultural heritage. Future research should examine the process by which Asian immigrant families generate this resource, how much the process varies by local co-ethnic concentration, and what replaces it among later generation Asian Americans.

Focusing on labor market outcomes, my results partially confirm the expectations of both hyper-selectivity proponents and critics regarding the labor market reception of Asian Americans. Consistent with hyper-selectivity proponents, I find evidence that Asians experience a racial penalty in income consistent with the over-education thesis, though it primarily affects 3rd and later generation Asian Americans (Hirschman & Wong, 1984). Consistent with hyper-selectivity critics, I find that Asians who attain less than a high school degree also experience an income penalty, though it only affects 2nd generation Asian Americans and clearly differentiates them from their more educated, same-generation peers (Kim & Sakamoto, 2014). The latter, modal group of 2nd generation Asian Americans have reached parity with Whites, though like other non-Whites, they do not seem to benefit from non-ethnic social capital as do their White counterparts. As this social capital measure is based on friendship networks from adolescence, future research should examine how early social networks continue to affect the labor market outcomes of Whites in adulthood but not non-Whites.[14] More broadly, future research should examine how non-ethnic social capital has racially differentiated effects that are distinct for each socioeconomic outcome.

To conclude, I find that a significant fraction of Asian Americans have attained socioeconomic parity with Whites, partly as a result of Asian immigrant parents' accurate perception that educational commitment is an accessible and effective strategy for improving their children's life chances. In brief, Asian Americans are not overly invested in education. There are significant caveats, however: First, the racial penalty experienced by less-educated 2nd generation Asian Americans suggests a compulsory element to their intensive commitment to education: the promise of racial acceptance conditional on their attaining a high school diploma. Similarly, the situation of 3rd generation Asian Americans suggests that 2nd generation achievements are temporary. By the 3rd generation, Asian Americans seem to have lost most of the advantages of their 2nd generation peers in academic performance (GPA) without gaining the advantages of their non-Asian non-White peers in degree attainment or of their White peers in income. Future research might examine whether these subgroups' disadvantages and "non-advantages" are indeed the result of subgroup-specific labor-market reception or whether they mask unobserved differences from other Asian Americans, including differences that are idiosyncratic to Add Health's historical cohort (e.g., 3rd generation adolescents of the 1990s).

Second, the relative disadvantage experienced by non-CIKV Asians suggests a systematic heterogeneity in Asian American socioeconomic attainment that is inconsistent with Filipino exceptionalism and only partly consistent with East Asian Confucianism (Feliciano & Lanuza, 2017; Fishman, 2020; Gambol, 2022). Future research should examine whether different processes characterize the socioeconomic attainments of CIKV and non-CIKV Asians and whether this heterogeneity includes an intermediate cluster of Indian, Japanese, and Vietnamese Americans.

Last but not least, the persistence of anti-Asian racism in the sociopolitical order continues to shape the social experience of Asian Americans including their participation in the schools and workplaces that otherwise reward their efforts and contributions (Chin, 2020; Dhingra, 2007, 2020). This inconsistency suggests that after World War II the racial status of Asian Americans in the socioeconomic domain became decoupled from their racial status in other domains despite major geopolitical events that have repeatedly racialized Asian Americans as "perpetual foreigners," ranging from (1) U.S. involvement in military conflicts in Korea and Southeast Asia to (2) trade wars with Japan and China to (3) hate violence, most recently during the Covid-19 pandemic, which former U.S. President Donald Trump blamed on China. Future research should examine how this decoupling of racial statuses has occurred, exposing Asians to inconsistent combinations of racism and acceptance across different domains and setting them on a distinct path from other non-Whites in their relations with Whites.

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[14] Beyond this article scope, future research might also examine how these social networks have an effect on degree attainment for non-Asian non-Whites, independent of academic performance (GPA).

Declarations

Conflict of interest The author declares that they have no conflict of interest.

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