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Chasing the American Dream: The Role of Aspirations and Expectations ⋆

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Abstract

This paper shows that the gap between expectations and aspirations plays a significant role in the educational achievements of immigrant young adults in the US. Using data from the National Longitudinal Study of Adolescent to Adult Health, the study reveals that when aspirations exceed expectations—a positive gap— migrant teens tend to exert more effort, leading to improved educational performance. Furthermore, it demonstrates that the differences in academic performance between migrant children and native-born individuals are rooted in this misalignment of aspirations and expectations. By incorporating this perspective, the paper resolves the well-documented immigrant paradox in educational performance in the US.

Keywords: Add health database, aspirations, expectations, immigrant paradox, education performance.

JEL classifications: I20; I21; I26; J15; F22.

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1. Introduction

This paper examines the joint effects of educational aspirations and expectations on school performance, focusing particularly on how they manifest for migrant children in the United States. Aspirations refer to personal ambitions, such as desired education levels or career goals. The literature shows that aspirations play a crucial role in shaping both educational and professional outcomes (Carlana et al., 2022; Goux et al., 2017; Genicot and Ray, 2017; Dalton et al., 2016), contributing not only to individual achievement but also to the success of organizations (Jung and Lee, 2019). In contrast, expectations depend on contextual factors, including family, school, and neighborhood characteristics (Sewell et al., 1969). While aspirations capture desires and dreams, expectations reflect perceived likelihoods of success, incorporating real-world constraints. Both aspirations and expectations are vital in shaping educational outcomes (Lent et al., 1994); however, the distinction between these concepts is often blurred, making it essential to emphasize their fundamental differences (La Ferrara, 2019).

Interestingly, aspirations and expectations may be either aligned or misaligned. For instance, a young individual might aspire to attend an Ivy League university, but various constraints (e.g., financial or social) may lower their expectations. Conversely, alignment occurs when these constraints are perceived as surmountable and aspirations and expectations are similar. The consequences of misalignment are complex: while high aspirations paired with low expectations can lead to frustration, they may also inspire greater effort (Genicot and Ray, 2017). Experimental evidence from cognitive psychology and sports science suggests that goals that are challenging yet attainable provide the best motivation (Berger and Pope, 2011; Latham and Locke, 1991). However, the dominant effect of this misalignment on educational outcomes remains unclear and necessitates empirical analysis to determine its net impact.

This understanding of aspirations and expectations is particularly relevant when examining the educational performance of migrant children, as highlighted by the immigrant paradox (Card, 2005). This phenomenon—whereby migrant children outperform their native-born peers despite facing numerous disadvantages—is well-documented but not fully understood. According to the OECD (2022), approximately 25% of 15-year-old students in the United States have an immigrant background, a demographic that is both significant and growing. Many of these children experience the trauma of transitioning to a new country, along with language and cultural changes, which can make their aspirations and expectations systematically different from those of their native peers. Specifically, we argue that migrant children might tend to have higher aspirations relative to their expectations, creating a gap that may motivate them to work harder in pursuit of their goals. This gap between aspirations and expectations is a key factor driving the immigrant paradox, influencing academic performance.

To explore this hypothesis, we utilize the restricted-use version of the National Longitudinal Study of Adolescent to Adult Health (Add Health), encompassing a representative sample of 20,774 adolescents in grades 7-12 from U.S.

schools. We construct measures of aspirations and expectations based on responses to two key questions posed in Wave I. The first question asks students to "rate on a scale of one to five, where one is low and five is high, how much do you want to go to college?" This question captures their aspirations. The second question, "How likely is it that you will go to college?" assesses their expectations. By analyzing responses to these questions, we can measure not only aspirations and expectations but also the misalignment between them, defined as the gap between the two measures. There are two types of misalignment: pragmatic individuals have high expectations but low aspirations, or conversely, dreamers have low expectations but high aspirations.

Our measure of educational performance is the overall final Grade Point Average (GPA), which serves as a comprehensive indicator of academic achievement. Additionally, we examine final grades in key subjects: Mathematics, English Literature, and Science. These subjects are particularly significant as they strongly predict performance on standardized tests such as the Scholastic Assessment Test (SAT) and future educational attainment, highlighting their importance in the academic trajectory of students. The survey design effectively mitigates concerns of endogeneity by measuring children's expectations and aspirations well before their academic outcomes, which are assessed at the end of high school.

We demonstrate that greater aspirations and expectations are associated with higher GPAs among all students by the end of high school. Importantly, the positive gap between aspirations and expectations— representing the misalignment between a teenager's dreams and what they perceive as achievable—is a key factor in explaining only the school performance of immigrant teenagers. These students are central to understanding the immigrant paradox. Our findings indicate that the overperformance of immigrant students disappears when accounting for this gap in aspirations and expectations. We reveal the impact of the misalignment while controlling for various contextual factors (such as family, cohort, school, and neighborhood) and individual characteristics (including personality traits, cognitive skills, and BMI, among others). The underlying mechanism of our findings suggests that this misalignment motivates young migrants to dedicate themselves more fervently to their studies in pursuit of their aspirations.

The results are robust to the exclusion of students with one migrant parent and one native parent, capturing the potential advantages and disadvantages of inter-ethnic unions. Also, the results are consistent with the removal of teens who attended 12th grade during Wave I to ensure a strict temporal order between the dependent and independent variables. The results are robust to the exclusion of students who migrated before the age of six or students who migrated after the age of 14. Similar to other papers in the literature (Lekfuangfu and Odermatt, 2022; Ross, 2019), we test the potential importance of unobserved confounders by employing the formal approach proposed by Oster (2019). We show that potential omitted variable bias does not make our results statistically invalid.

This paper intersects with two key strands of literature that we discuss in detail in the next section. The first strand focuses on immigrant integration, particularly the outcomes for immigrant children. Research consistently shows that immigrant teenagers in the USA often outperform their native peers (Palacios et al., 2008), even after

controlling for individual, family, and neighborhood factors. Various mechanisms have been proposed to explain the immigrant paradox, yet no single force has been conclusively identified.

The second aspect pertains to economic studies that examine how individual aspirations and expectations influence performance; however, these two factors have largely been considered separately. Aspirations have been primarily explored in the context of poverty cycles and their implications for growth and inequality. Scholars like Dalton et al. (2016) and Genicot and Ray (2017) have formalized aspirations as reference points for individuals, with deviations indicating utility gains or losses related to outcomes such as income. Expectations are deeply rooted in microeconomics, as established by Morgenstern (1935) and Von Neumann and Morgenstern (1944) in expected utility theory. However, the consequences of mismatches between aspirations and expectations—especially regarding native versus immigrant student performance—have been largely overlooked.

The paper is organized as follows. Section 2 provides selective coverage of the relevant literature to which our paper is connected. Section 3 details the data used to assess the impact of aspirations and expectations on school performance. Section 4 presents our econometric specification and discusses econometric issues related to endogeneity. Section 5 presents our benchmark results and auxiliary results, allowing us to uncover the mechanism at work to explain the impact of misalignment on school performance. It also presents a set of sensitivity analyses in terms of samples and identification of the effects. Section 6 briefly concludes.

2. Selected related literature

This paper adds to the current body of research by investigating the level of assimilation among migrants through a study of the educational achievement disparity between children from immigrant households and those from non-immigrant backgrounds.[1] First-generation immigrants tend to have lower educational attainment compared to their native counterparts (Dustmann and Glitz, 2011). However, successive generations of migrants in the USA are reversing this trend. In fact, children of migrants in the USA outperform children of natives from similar socio-economic backgrounds in many educational indicators (Feliciano and Lanuza, 2017).[2] The immigrant paradox has been documented in previous academic work. For example, Card (2005) and Chiswick and DebBurman (2004) show that the offspring of migrants born in the USA have achieved more years of education compared to native individuals. These results align with those reported by Figlio et al. (2019) when analyzing test scores as a measure

[1] An alternative approach analyzes the inter-generational transmission of human capital, comparing the educational attainment of children to that of their parents. This body of literature suggests that the educational achievements of children of migrants are strongly correlated with the educational attainment of their parent's generation (Dustmann and Glitz, 2011; Card et al., 2000; Gang and Zimmermann, 2000)), while the school system or the characteristics of the destination play a smaller role. However, this correlation does not differ significantly when compared to non-migrant populations (Smith, 2003).

[2] Moreover, a recent study by Abramitzky et al. (2021) shows an Immigrants' advantage in inter-generational mobility using data on millions of father-son pairs over 100 years. According to their findings, children of migrants are more upwardly mobile than the children of USA-born parents. This result indicates that the children of migrants in the USA also outperform in terms of income mobility.

of academic performance. Figlio et al. (2019) found that, on average, children of migrants in Florida outperform white natives over time in both mathematics and reading. The performance advantage is predominantly observed in individuals with an Asian background (Portes and MacLeod, 1999; Feliciano, 2005) or from cultures that value long-term orientation (Figlio et al., 2019).

The immigrant paradox is not limited to the USA (Schnepf, 2007; Dustmann et al., 2012) but extends broadly to English-speaking countries, where children of migrants perform better in reading and math test scores when measured in the Program for the International Assessment of Student Achievements - PISA (Schnepf, 2007).[3] Dustmann and Theodoropoulos (2010) finds that the educational attainment of British-born minorities is higher than native British. Moreover, using the PISA database, Dustmann et al. (2012) find a negative gap in academic performance between children of migrants and natives living in countries such as Finland, Austria, Belgium, Netherlands, and Switzerland, even after controlling for family background, school characteristics, and the share of migrants in the school. In other OECD countries such as France, Greece, and Nordic countries (except for Finland), the gap in academic performance disappears after including a large set of control variables. Furthermore, Ours and Veenman (2003) compared second-generation migrants in the Netherlands with native Dutch people and showed that once age and parent's education are added as control variables, both groups do not show any significant difference in educational attainment.

An extensive list of explanatory factors has been proposed to understand the gap in academic performance between migrant students and natives. Factors such as selective migration policies (Levels et al., 2008; Entorf and Minoiu, 2005), parents' self-selection into migration (Feliciano, 2005), the social context at the destination (Portes and Rumbaut, 1996; Portes and MacLeod, 1999), "ethnic capital" (Borjas, 1992), and long-term orientation (Figlio et al., 2019) have been highlighted in the literature. Some authors have documented that ethnic minority adolescents express higher aspirations (Kao and Tienda, 1995), when compared to native youth, but with important heterogeneity across the different nationality backgrounds as documented by Bohon et al. (06) also using Add health data. Feliciano and Lanuza (2017) analyzed parental and child's aspirations which are linked to higher educational attainment in migrant adolescents. Perreira et al. (2006) show that college aspirations are negatively associated with school drop-out among teens with an immigrant background. Using a experimental design Carlana et al. (2022) found that motivational meetings aimed to adjust students aspirations, successfully encouraged high-performing immigrant boys in Italy to choose academic tracks in upper-secondary school, reducing educational segregation between immigrants and natives. Unlike other studies, we focus on the discrepancy between teenagers' aspirations and expectations as a catalyst for effort, explaining the differences in school performance between migrants and natives. We contend that the individual attitudes and beliefs of youngsters are crucial ingredients that must enrich the understanding of this phenomenon.

This paper also contributes to the economic literature on the role of individual aspirations and goals on per-

[3]However, in many other countries, migrant students lag behind native students. (Riphahn, 2003; Algan et al., 2010)

formance. Aspirations summarize preferences, hopes, or wishes to reach a goal, such as an occupation, obtaining a degree, or reaching a certain salary or wealth. Quaglia and Cobb (1996) defined aspirations as the "student's ability to identify and set goals for the future while being inspired in the present to work toward those goals". In the economic literature, the concept of aspiration has been mostly addressed to study "poverty traps" and their incidence in economic growth and inequality. For instance, in the theoretical papers of Dalton et al. (2016) and Genicot and Ray (2017), authors formalize the concept of aspirations as a reference point used by individuals. Deviations from the reference point are expressed as utility gains or losses from achieving an outcome (e.g., income).

On the other side lie people's expectations, widely used in many fields of economics, which reflect the constraints or beliefs acknowledged by an individual about aspects of the future. Expectations and the expected utility theory to analyze uncertain future events are ubiquitous in microeconomics and micro-founded macroeconomics from the seminal work of Morgenstern (1935) and Von Neumann and Morgenstern (1944). An individual uses his or her belief to create a probability distribution about possible future scenarios. The terms aspirations and expectations are often used interchangeably and without precision. However, aspirations differ from expectations. The first concept represents ideals, while expectations embody constraints and perceived limitations (Böhme, 2015) or advantages. Therefore, aspirations and expectations can be aligned, but they can also be strongly misaligned.

How do aspirations affect future outcomes? Dalton et al. (2016) argue that there is a two-way feedback between effort and aspirations. Individuals who do not internalize this relationship tend to aspire less than their actual capacity to achieve and to remain in the lower part of the income distribution. Under this theory, expectations about future outcomes are concealed under rational expectation equilibrium, where the expected value of future income is equal to the future income. The consequences of the misalignment between aspirations and expectations are less clear. On the one hand, very high aspirations can lead to frustration and underachievement. While on the other hand, reachable aspirations can inspire individuals (Genicot and Ray, 2017). Ross (2019), using data from India, shows that the difference between children's occupational aspirations and the current family status has an inverted U-shaped relationship with human capital accumulation. Meaning that a moderate difference between aspirations and family status may motivate children to pursue education and skill development, leading to increased human capital accumulation. However, as the gap widens, the benefits of aspirations might plateau or even decline, potentially due to factors like discouragement, lack of resources, or socio-economic barriers that hinder access to opportunities. A recent study by Lekfuangfu and Odermatt (2022) using a similar measure - the gap between childhood occupational aspirations and the father's occupation score- shows that aspirations are good predictor of future accomplishments, independent of one's abilities and family background. Moreover, experimental evidence from cognitive psychology and sports science shows that "goals that lie ahead but not too far ahead" can be the best motivators to improve performance (Berger and Pope, 2011; Latham and Locke, 1991). In this paper, we first document the size of the effect of aspirations as well as expectations on educational outcomes and then explore the effects of their misalignment. This

exploration is missing in previous studies documenting the immigrant paradox and the "poverty traps" literature. In our paper, we take into account various aspects of parents' socioeconomic status and their aspirations and show that the immigrant paradox is not a parent story but is rather driven by the individual effort to close the gap between aspirations and expectations.

3. Data and descriptive statistics

3.1. The Add Health data set

Our analysis is based on the restricted-use version of the National Longitudinal Study of Adolescent to Adult Health (Add Health) collected by the Carolina Population Center. Add Health was designed to investigate the health, social conditions, education, environment, family situation, and friendships of adolescents in the USA throughout their transition into adulthood. While the study is not specifically devoted to migration, the sample size and the oversampling of particular migrant groups allow researchers to have a bigger sample size compared to other studies. The sample includes 20,774 adolescents between grades 7-12 drawn from a representative sample of schools in the United States.[4] An extensive questionnaire was filled out by the students at home. In addition, the parents of the students filled out another questionnaire that included questions about themselves, their partners, and the child.

The students were followed from 1994 until 2018 using five interviews, which gives rise to a 6-wave survey. In Wave IV, subjects were aged between 24 and 32 years, and most of them had finished school and were entering the labor market. Our final sample of students consisted of 9,153 individuals. We omitted from the overall sample students with missing values (5,517 observations) in relevant questions. Wave III data contains follow-up interviews from the 14,979 initial respondents, which implies we do not observe the School transcript data for over 6,000 respondents from Wave I. We use adjusted sampling weights calculated by the Add Health team to account for panel attrition as well as school transcript non-response.[5]

3.2. Main variables

3.2.1. Outcome variables: educational outcomes

We study school performance measured by the weighted average Grade-Point-Average (GPA) for Mathematics, English Literature, Science, and the overall GPA during the four years of high school. Although previous studies have used standardized test scores, we use grades since they are a strong predictor of the final test score (Scholastic Assessment Test-SAT) and posterior educational attainment. For example, Zwick and Sklar (2005) show that an

[4]To select the sample, all the students from each school filled out a questionnaire at the school. The students were interviewed during the 1994-95 school year when they were between 13 and 18 years old. Using the in-school questionnaire, the Add Health researchers selected a random sample of students from strata defined by gender and grade (17 boys and 17 girls per grade per school).

[5]The transcripts were not collected when the respondent was home-schooled, attended high school outside the USA, the school closed, refused to provide information or the information was incomplete or incorrect.

increase in one standard deviation in high school GPA increases the first-year grade-point averages (FGPAs) among first-year college students by one-third standard deviation.

The GPA measures came from the Adolescent Health and Academic Achievement (AHAA) study. The AHAA data corresponds to a collection of school transcripts for 12,241 Add Health respondents from Wave I. The data alloweds to measure the performance of the students at the end of high school.

3.2.2. Aspirations, expectations and misalignment

We define aspirations as hopes and desires about the future, while expectations are the beliefs about what will happen in the future (DeMoss, 2013; Jacob and Wilder, 2010). To measure educational expectations and aspirations to attend college, we utilized two questions asked in Wave I, administered before the assessment of school performance. Specifically, questions about aspirations and expectations were posed in Wave I (1994-95), whereas records of school performance were extracted from school transcripts for the final year of high school.

Students were presented with the following inquiries: "Rate on a scale of one to five, where one is low, and five is high, how much do you want to go to college? And how likely is it that you will go to college?" We categorized responses into three groups for each variable. Students with Low aspirations or expectations corresponded to those who answered on a scale of one to three, Medium corresponded to answering four, and High corresponded to the maximum level (or five).

We define misalignment as the difference between the level of aspiration and expectations demonstrated by the students. We establish three dummy variables: Asp $<$ Exp, equal to 1 if aspirations are smaller than expectations and zero otherwise; Asp $>$ Exp, equal to 1 if aspirations are larger than expectations and zero otherwise; and Asp $=$ Exp, equal to 1 if aspirations are equal to the level of expectations and zero otherwise. When Asp $<$ Exp, the adolescent is **calculative**, and student expects to attend college more than she desires. Conversely, when Asp $>$ Exp, the adolescent is **inspirational**, but she anticipates difficulty in attending college. As a result, she downgrades her expectations. This second type of misalignment is prone to feelings of frustration that may impede educational performance or, conversely, can act as a driving force for better performance. We investigate which effect predominates in determining school performance and whether there is a heterogeneous effect between native and immigrant children.

3.2.3. Migration generation

Following the migration definition of Rumbaut (2004), where 1.5 generation are defined as who migrated as children, were not born in the USA, and whose biological parents were born outside the USA.

Table 1: Definition of migration generation

	Child	
Parent	Born in U.S	Born outside U.S
Born in U.S.	Natives	Natives
Born outside U.S.	Generation 2.0	Generation 1.5

Since the students in the Add Health sample were still in high school, many of them spent most of their school years in the USA.[6] For this group of immigrants, migration is not a choice. Importantly, they lived the trauma of the migratory process with their parents, bringing with them some of the experiences accumulated in their countries of origin. The second generation or generation 2.0 refers to teens born in the USA with at least one biological parent born outside the country. Lastly, we considered native children such as those who were born in the USA and both of their biological parents as well. Children born abroad whose parents were born in the USA are also assimilated into native children.[7] Table 1 presents a summary of individual and family characteristics for each case.

To determine the migration generation, we used the country of birth indicated by the child. Nevertheless, in cases where the information was missing, we used the parent's responses or the answers in the school questionnaire. In addition, we used the country of birth of the biological parents answered by the child in the questionnaire collected at home during Wave I. When information about the biological parents was missing in the children's' questionnaire, we then employed the answers from the questionnaire collected during the the school interview. Moreover, When biological parents were absent, we used the information on the adoptive or step-parents.

3.2.4. Covariates

A comprehensive list of the control variables is available in Tables A.10 and A.11 reported in the appendix of this paper. Among others, we control for cognitive ability and different non-cognitive traits that affect human capital investment, such as internal locus of control and self-esteem. According to Coleman and DeLeire (2003), teenagers who believe that outcomes are a result of their efforts have a larger likelihood of graduating from high school. Moreover, high self-esteem and confidence are associated with better learning and school success (Mocan and Yu, 2020). We included a self-esteem index constructed using different questions asked to the student in Wave I (see Table 2 for detail). Moreover, body mass index (BMI) is included in the regressions as a health indicator, but it also captures aspects of self-esteem development (Mocan and Tekin, 2011; Huang et al., 2022). In addition, we included age since it allowed us to take into account whether the students began high school at different ages. More mature students might have a better understanding of their aspirations and how to accomplish them. We also include gender and ethnicity as controls.

[6] The average age of migration of the teens born abroad is 7.6 years old.

[7] Among the Add health total sample, we have identified only 140 students born abroad and whose parents are US-born. Out of these 140 students, 40% of them migrated back to the USA before the first year.

Aligned with the extensive literature on education, we include other household controls such as family structure, number of siblings, parental expectations for higher education, parental involvement, income,[8] and a dichotomous variable that is equal to one if the family speaks English at home and zero otherwise. We include the education level of the most highly educated parent. When the father is not present in the household, we use the education of the mother or the adult in charge.[9]

Following the research of Feliciano and Lanuza (2017), we incorporate parental contextual attainment as a control variable. This term denotes the percentage of individuals in the parent's country of origin, within the same age bracket, who have attained equal or lower levels of education than the parent. In instances involving native-born parents, the mother's educational level is considered to avoid missing information when the father is not living in the household. Data on educational distribution in the parent's country of origin is obtained from Barro-Lee Educational Attaintment Data (Barro and Lee, 2013).

3.3. Descriptive Statistics

Tables 2 and 3 report the means and standard deviations for all control variables by type of pupils. Children of immigrants represent 21 percent of the sample. Migrant generations 2.0 and 1.5 represent 13 and 7 percent, respectively. Both children of immigrants and natives in this sample express strong desires to achieve a college education. While 73 percent of native teens report the highest level of aspiration, nearly 79 percent belonging to the 1.5 generation express the same wish. Moreover, 56 percent of them report having the same level of aspirations and expectations, while 38 percent report having larger aspirations than expectations. Conversely, about 22 percent of native youths aim higher than their expectations.

Although immigrant children might understand the benefits of higher education, they might perceive lower returns on education as a result of potential labor market discrimination or the lack of role models in their community or neighborhood. This group of students reports a lower score on the vocabulary test (PPVT), diminished self-confidence score, and lower body mass index when compared to the native students. Furthermore, they hail from lower-income households with more siblings, are less likely to converse in English at home, and the parent tend to have lower educational attainments than native parents. Notably, nearly 37 percent of 1.5-generation immigrant students have parents who did not complete high school, in stark contrast to the mere 10 percent among native students.

The children corresponding to the second-generation immigrants show similar aspiration levels when compared to natives. However, over 27 percent of them show larger aspirations than expectations. Second-generation (2.0) migrants do not seem to differ when compared to natives in aspects such as BMI, age, gender, internal locus of

[8]There are missing values in family income because some parents were not surveyed in Wave I. Only 76% of the families reported income in the survey; therefore, we impute some values using the mean of the income.

[9]27 percent of children do not report a father living in the household nor their education level. For a detailed description of the control variables see Table A.10 and A.11.

Table 2: Descriptive statistics for the Addhealth sample - Part 1

	Natives	Gener. 1.5	Gener. 2.0	Mean Difference	
	(1)	(2)	(3)	(1)-(2)	(1)-(3)
College Aspirations					
(1-3)	0.142	0.091	0.105	0.050***	0.036***
	(0.336)	(0.345)	(0.372)	[0.019]	[0.016]
4	0.126	0.116	0.130	0.010	-0.004
	(0.320)	(0.383)	(0.408)	[0.021]	[0.014]
5	0.731	0.792	0.763	-0.060***	-0.031
	(0.427)	(0.485)	(0.515)	[0.028]	[0.021]
College Expectations					
(1-3)	0.200	0.196	0.171	0.004	0.028
	(0.385)	(0.475)	(0.457)	[0.030]	[0.019]
4	0.202	0.315	0.249	-0.113***	-0.046**
	(0.387)	(0.556)	(0.524)	[0.024]	[0.022]
5	0.596	0.487	0.579	0.017***	0.017
	(0.472)	(0.598)	(0.598)	[0.038]	[0.273]
(Mis)Alignment					
Asp.= Exp.	0.711	0.560	0.650	0.150***	0.061**
	(0.436)	(0.593)	(0.578)	[0.034]	[0.022]
Asp.< Exp.	0.068	0.0503	0.072	0.017	-0.004
	(0.242)	(0.26)	(0.313)	[0.012]	[0.011]
Asp.> Exp.	0.220	0.389	0.277	-0.168**	-0.056**
	(0.399)	(0.583)	(0.542)	[0.035]	[0.021]
Age	15.38	15.88	15.41	-0.502**	-0.028
	(1.705)	(2.085)	(2.19)	[0.238]	[0.168]
Male	0.499	0.454	0.493	-0.044	-0.005
	(0.481)	(0.595)	(0.605)	[0.031]	[0.026]
Body-Mass-Index	22.467	21.709	22.301	0.758***	0.166
	(4.379)	(4.551)	(5.259)	[0.271]	[0.223]
PPVT	103.862	89.986	102.558	13.875***	1.304
	(12.606)	(20.144)	(17.139)	[1.476]	[1.006]
Self-esteem index	0.186	-0.322	0.018	0.509**	0.1683
	(1.808)	(2.193)	(2.592)	[0.119]	[0.118]
Internal Locus =1	0.753	0.781	0.739	-0.028	0.013
	(0.415)	(0.494)	(0.532)	[0.030]	[0.021]
Observations	7356	643	1154		

Notes: Standard deviations are in parentheses and standard errors are in brackets. PPVT: Peabody Picture Vocabulary Test. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 3: Descriptive statistics for the Addhealth sample - Part 2

	Natives	Gener. 1.5	Gener. 2.0	Mean difference	
	(1)	(2)	(3)	(1)-(2)	(1)-(3)
English at Home =1	0.996	0.316	0.705	0.680***	0.291***
	(0.059)	(0.556)	(0.552)	[0.055]	[0.036]
White non-hispanic	0.770	0.088	0.324	0.681***	0.445***
	(0.405)	(0.339)	(0.567)	[0.032]	[0.037]
Hispanic	0.045	0.482	0.413	-0.437***	-0.367***
	(0.200)	(0.598)	(0.596)	[0.077]	[0.043]
Black non-Hispanic	0.170	0.039	0.063	0.131***	0.107***
	(0.362)	(0.232)	(0.295)	[0.025]	[0.020]
Asian	0.007	0.373	0.152	-0.365***	-0.145***
	(0.081)	(0.578)	(0.435)	[0.068]	[0.023]
Other	0.007	0.020	0.045	-0.010	-0.039**
	(0.080)	(0.573)	(0.252)	[0.010]	[0.014]
N siblings	1.435	2.406	1.825	-0.970***	-0.389
	(1.189)	(2.516)	(1.711)	[0.208]	[0.119]
Parental Education					
Less than high school	0.103	0.368	0.234	-0.264***	-0.130***
	(0.296)	(0.574)	(0.502)	[0.048]	[0.035]
High school graduate	0.608	0.259	0.462	0.349***	0.145***
	(0.473)	(0.521)	(0.591)	[0.033]	[0.029]
College graduate	0.287	0.2535	0.236	0.033	0.051*
	(0.439)	(0.517)	(0.503)	[0.048]	[0.029]
Both biological parents	0.614	0.652	0.702	-0.037	-0.087**
	(0.472)	(0.566)	(0.542)	[0.047]	[0.028]
At least one step-parent	0.159	0.1364	0.1384	0.023	0.0210
	(0.355)	(0.408)	(0.409)	[0.022]	[0.020]
Single parent or other	0.225	0.211	0.158	0.014	0.066
	(0.405)	(0.485)	(0.433)	[0.040]	[0.021]
High parental aspirations	0.406	0.715	0.584	-0.292***	-0.182***
	(0.476)	(0.536)	(0.584)	[0.028]	[0.029]
Parent involvement index	0.029	0.163	-0.014	0.013	0.043
	(1.267)	(1.421)	(1.402)	[0.093]	[0.065]
Contextual educational attainment	36.9653	79.935	72.575	-42.970	-35.609
	(15.110)	(13.692)	(22.0149)	[1.091]	[0.944]
Income (Thousand)*	48.838	32.524	46.487	16.314***	2.351
	(43.803)	(45.816)	(55.858)	[4.153]	[3.140]
Observations	7356	643	1154		

Notes: Standard deviations are in parentheses and standard errors are in brackets.
* Income is reported for 7,103 respondents * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

control, family income, or the number of siblings in the household. In contrast, they show significantly lower average scores on the vocabulary test. This could be explained by the fact that 29% live in families that do not speak English at home, and the parents are less educated than the parents of native students.

Despite these socioeconomic differences, the parents of both 1.5 and 2.0 generations of immigrants express high expectations for their child's academic future when compared to native adolescents. While 40 percent of native students have parents who express high expectations for college attendance for their children, this proportion is equal to 71 and 58 percent for the 1.5 and 2.0 generation of immigrants, respectively.

4. Empirical Strategy

We bring the data to the following econometric specification using variation across individuals i, schools s, and education grades g. We estimate the association between aspirations, expectations, the misalignment between the two, and its interaction with migration generation:

$$\begin{aligned} Y_{isg,t+4} &= \gamma_0 + \gamma_1 Gen_{isg} + \gamma_2 W_{isg,t} + \gamma_3 Z_{isg,t} + \gamma_4 Gen_{isg} \times W_{isg,t} \\ &\quad + \gamma_5 Gen_{isg} \times Z_{isg,t} + \gamma_6 X_{isg,t} + \mu_s + \mu_g + \epsilon_{isg,t+4} \end{aligned} \tag{1}$$

Where $Yisg, t+4$ represents either the overall high school GPA across all subjects or the GPA in specific subjects (Math, Science, or English literature) at the conclusion of high school for teenager i, attending school s, in grade g. $Genisg$ is a vector of binary variables indicating whether the teenager is a 1.5-generation migrant, a second-generation migrant, or a native. The variable $Wisg, t$ is assigned a value of 1 for cases where Asp< Exp, and 0 otherwise. Conversely, the variable $Zisg, t$ takes a value of 1 for cases where Asp> Exp, and 0 otherwise. The baseline category is when there is no discrepancy between the level of aspiration and expectations chosen by the students. Additionally, we incorporate control variables as described in Appendix A.1. Among these variables, the levels of aspirations or expectations for higher education are represented using two categorical variables. These variables differentiate between cases where individual-level aspirations or expectations are high and those where aspirations or expectations have a medium level, while low aspiration or expectation levels serve as the baseline categories. Moreover, they are also interacted with $Genisg$ in some specifications.

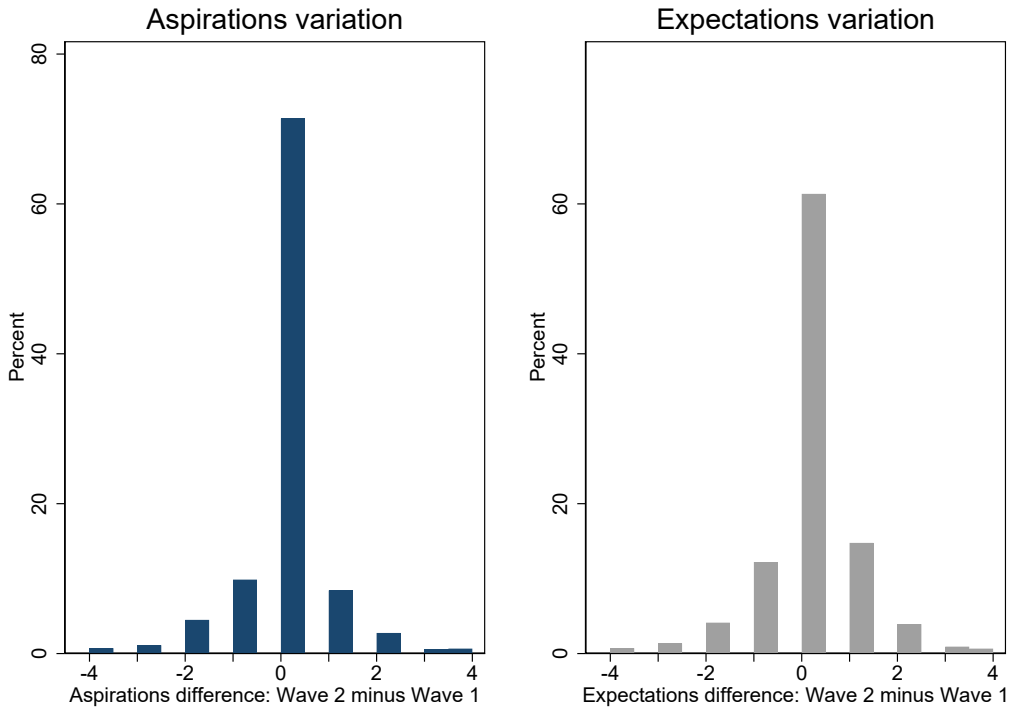
We include school and grade fixed effects (μ_s and μ_g, respectively). We also substitute the school-fixed effects with neighborhood-fixed effects as an alternative since not all schools are nested within the same neighborhood or vice versa.[10] These results are presented in Appendix A.3.

[10]The Add Health sample includes charter, choice, and magnet schools that offer open enrollment programs allowing students to attend schools outside their residence districts. Moreover, due to the sample size for each school, we do not use a cross-classified multilevel model.

4.1. Endogeneity issues

The design of the survey mitigates extensively our concerns of reverse causality as the expectations and aspirations of the children are measured well before the measurement of their academic outcome. In this sense, aspirations, expectations, and (mis)alignment are predetermined concerning their final GPA. While it could be argued that teens update their expectations as a response to their performance, we observe that expectations and aspirations do not vary for most students when we compare the responses to the survey in Wave I and II. Nearly 70% of the students remain with their same "level" of aspirations, while 60% remain with the same expectations to attend college (see Figure 1). In addition, we incorporate school and grade fixed effects to mitigate the influence of any unobserved factors. Our analysis also controls for a comprehensive set of individual and household-specific variables, including BMI, ability, self-esteem, internal locus of control, race, parental education, family composition, income, parental involvement in school-related activities, and the contextualized educational attainment of migrant parents, among other covariates.

Figure 1:



Further, we evaluate the robustness of the results by analyzing the stability of the coefficient of interest to the inclusion of observed controls employing the formal approach proposed by Oster (2019). The idea is to evaluate how important is the contribution of the omitted variables that are necessary to invalidate the obtained estimates. The procedure requires assumptions about the relationship between selection along observable and unobserved determi-

nants. Based on Altonji et al. (2005), Oster (2019) presents the connection between omitted bias and coefficient stability theoretically by exploiting the coefficient stability and R-squared movements. Formally, Oster (2019) proposes the following adjusted coefficient of interest ($\gamma_{adjusted}$):

$$\gamma_{adjusted} = \tilde{\gamma} - \delta[\gamma^* - \tilde{\gamma}]\frac{R_{max} - \tilde{R}}{\tilde{R} - R^*} \tag{2}$$

where $\tilde{\gamma}$ and $\tilde{R}$ correspond to the coefficient of interest and the R^2 from the regression with controls. γ^* and R^* correspond to the coefficient and the R^2 from the regression without controls. R_{max} would be the maximum possible R^2 if both unobserved and observed variables were included in the specification. A maximum value of R_{max} would be 1, while a minimum value would be $\tilde{R}$. The parameter δ corresponds to the degree of selection on unobserved factors proportional to the observable characteristics necessary to make the coefficient of interest statistically insignificant ($\gamma = 0$). Oster (2019) proposes two approaches for robustness. The first, in which the researcher assumes a value for R_{max} and calculates the relative degree of selection on unobservables proportional to observable factors (δ) for which $\gamma = 0$. The second, in which the researchers use bounds on R_{max} and δ to develop a set of bounds for γ. While this method relies on the assumption that the relationship between non-observable factors and the treatment can be retrieved from the relationship between the observable variables and the treatment, it is informative about the degree of omitted variable bias in our results. We adapt this framework to ours in which the treatment effect varies with aspirations/expectations. As shown in Section 3.5.3, reassuringly, the problem of omitted variable bias seems negligible in our estimations.

5. Results

5.1. Estimation results

The regression results relative to the overall GPA are presented in Table 4 showing different specifications. All estimations include the control variables reported in Tables 2 and 3, as well as grade and school fixed effects.[11] Since we study three variables—aspirations, expectations, and the misalignment between aspirations and expectations—the tables report three different specifications. Column (1) reports the results where we regress GPA on 1.5 students, including all control variables. Columns (2), (3), and (5) display the interaction between 1.5 students and the student's aspirations, expectations, and misalignment, respectively. Finally, column (6) includes the interaction between 1.5 students and their misalignment while aspirations and expectations are added as control variables.

According to the baseline estimates, children born abroad have a higher overall GPA score than native children after controlling for a very extensive list of individual, family, and school-fixed effects. The difference in the GPA

[11] For space considerations, the estimated coefficients for the control variables are not reported but are available upon request.

Table 4: OLS regression results for Overall GPA (4-year average) with school fixed effects

	(1) GPA	(2) GPA	(3) GPA	(4) GPA	(5) GPA	(6) GPA
Gener. 1.5	0.168**	0.314*	0.476***	0.188***	0.098	0.078
	(0.066)	(0.185)	(0.117)	(0.067)	(0.075)	(0.075)
Gener. 2	-0.040	-0.016	0.018	-0.027	0.0001	0.003
	(0.052)	(0.135)	(0.104)	(0.052)	(0.057)	(0.054)
Medium aspi.		0.151***				0.128**
		(0.0425)				(0.056)
High aspi.		0.349***				0.288***
		(0.034)				(0.085)
Gener. 1.5 × Medium aspi.		-0.063				
		(0.228)				
Gener. 1.5 × High aspi.		-0.205				
		(0.188)				
Gener. 2 × Medium aspi.		-0.074				
		(0.136)				
Gener. 2 × High aspi.		-0.019				
		(0.130)				
Medium Exp.			0.208***			0.093*
			(0.034)			(0.048)
High Exp.			0.439***			0.200**
			(0.033)			(0.088)
Gener. 1.5 × Medium Exp.			-0.224*			
			0.127)			
Gener. 1.5 × High Exp.			-0.438***			
			(0.119)			
Gener. 2 × Medium Exp.			-0.060			
			(0.113)			
Gener. 2 × High Exp.			-0.032			
			(0.108)			
Asp.< Exp.				-0.0719*	-0.056	0.080
				(0.038)	(0.041)	(0.063)
Asp.> Exp.				-0.148***	0.160***	-0.119*
				(0.028)	(0.032)	(0.064)
Gener. 1.5 × Asp.< Exp.					-0.063	-0.016
					(0.143)	(0.131)
Gener. 1.5 × Asp.> Exp.					0.254***	0.264***
					(0.095)	(0.095)
Gener. 2 × Asp.< Exp.					-0.151	-0.151
					(0.103)	(0.102)
Gener. 2 × Asp.> Exp.					-0.049	-0.043
					(0.089)	(0.085)
Constant	2.984***	2.883***	2.826***	2.974***	3.013***	2.839***
	(0.421)	(0.421)	(0.405)	(0.417)	(0.412)	(0.401)
Observations	9153	9153	9153	9153	9153	9153
R^2	0.397	0.415	0.427	0.401	0.403	0.430
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
Household controls	Yes	Yes	Yes	Yes	Yes	Yes
Grade fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
School fixed effects	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Control variables include age, gender, BMI, PPVT, self-esteem index, internal locus of control, ethnicity, English at home, number of siblings, parent education, parental contextual attainment, family structure, parental aspirations for higher education, parent involvement index, and household income. Standard errors clustered by school are displayed in parentheses. Significance levels * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. The results in this table were estimated using Wave III Education Sample weights, which considers the possibility of attrition.

between 1.5 immigrant teenagers and native teens is only 0.16 points, as depicted in row one in column (1) of Table 4. Moreover, after including an extensive list of control variables, we found no significant differences in GPA between US-born teens of a migrant parent (2.0 migrants) and the USA-born teens of USA-born parents. Different studies illustrate that immigrant parents and their children express high educational aspirations and expectations (Kao and Tienda, 1995; Tjaden and Hunkler, 2017; Tjaden and Scharenberg, 2017). While the descriptive statistics reveal that 1.5 generation migrant teens express higher aspirations to attend college compared to native teens, our analysis uncovered no discernible differential impact of aspirations on final GPA between offspring of migrants and native-born (refer to Table 4, column 2) after accounting for various covariates. Aspirations correlate with a higher grade point average (GPA) for the average student regardless of their place of birth. A similar pattern was found when analyzing specific subjects. Table 5 reports the coefficients following equation (1) but breaking down the outcome by topics, i.e. considering GPA in mathematics, science, or English literature separately. The results shows that greater aspirations are associated with a higher grade point average (GPA) for any subject at the end of high school. This pattern is general for all the interviewed teens.

For expectations, we also found a positive association between higher expectations to attend college and high school final GPA. Nonetheless, we found a negative and significant interaction effect between higher expectations levels and being for 1.5 migrant generation teens when compared to natives. This means that while higher expectations at the start of high school are important, it seems that at higher levels of expectation, the difference in GPA between native teenagers and migrant teenagers decreases. When both groups of students have high expectations, the difference in the average GPA is closer to zero (0.038). When the students have a medium expectation level, the difference in the average overall GPA between native and 1.5 children is 0.25.

When students have a low expectation level, the difference in the average overall GPA between native and 1.5 children is 0.476. A similar pattern is found when the dependent variable is a specific subject such as Math, English literature, or Science. These results led us to explore the gap between aspirations and expectations.

As explained by Genicot and Ray (2017), the absolute level of aspirations is not enough to explain performance. Instead, researchers must consider the distance between the aspiration and the status quo (or the perception of the status quo in this case) to understand how individuals manage to achieve the aspired goal. Following this theoretical conclusion, we estimate the effect of misalignment between aspirations and expectations on the difference in GPA between 1.5 migrant teens, second-generation teens, and native teens. We uncovered that misalignment between aspiration and expectations is associated with lower grades for most children. When all groups of students have aligned expectations and expectations, the difference in the GPA between 1,5 migrant generation, second generation, and native children is statistically not different from zero. However, there is a positive and significant interaction effect between frustration (i.e., high aspiration but low expectation) and being a 1.5 migrant teen. When the teens express higher aspirations than expectations, the difference in the average overall GPA between native and 1.5

Table 5: OLS regression results for the GPA for each subject area(4 year average) with school fixed effects

	(1) All	(2) Math	(3) English	(4) Science
Gener. 1.5	0.078	0.062	0.170*	0.109
	(0.075)	(0.097)	(0.088)	(0.088)
Gener. 2	0.003	0.035	0.010	0.004
	(0.054)	(0.064)	(0.057)	(0.065)
Medium aspi.	0.128**	0.088	0.102	0.133*
	(0.056)	(0.066)	(0.063)	(0.072)
High aspi.	0.288***	0.245**	0.299***	0.335***
	(0.085)	(0.107)	(0.110)	(0.111)
Medium Exp.	0.093*	0.059	0.056	0.072
	(0.048)	(0.059)	(0.059)	(0.058)
High Exp.	0.200**	0.169	0.212**	0.125
	(0.088)	(0.112)	(0.107)	(0.111)
Asp.< Exp.	0.080	0.126	0.097	0.110
	(0.063)	(0.082)	(0.076)	(0.094)
Asp.> Exp.	-0.119*	-0.099	-0.094	-0.181**
	(0.064)	(0.087)	(0.074)	(0.075)
Gener. 1.5 × Asp.< Exp.	-0.016	-0.056	-0.094	0.049
	(0.131)	(0.137)	(0.187)	(0.123)
Gener. 1.5 × Asp.> Exp.	0.264***	0.328***	0.224**	0.200*
	(0.095)	(0.118)	(0.106)	(0.113)
Gener. 2 × Asp.< Exp.	-0.151	-0.175	-0.141	-0.143
	(0.102)	(0.117)	(0.129)	(0.133)
Gener. 2 × Asp.> Exp.	-0.043	-0.067	-0.079	-0.079
	(0.085)	(0.104)	(0.098)	(0.090)
Observations	9153	9124	9119	9091
R^2	0.430	0.300	0.384	0.348
Individual controls	Yes	Yes	Yes	Yes
Household controls	Yes	Yes	Yes	Yes
Grade fixed effects	Yes	Yes	Yes	Yes
School fixed effects	Yes	Yes	Yes	Yes

Notes: Control variables include age, gender, BMI, PPVT, self-esteem index, internal locus of control, ethnicity, English at home, number of siblings, parent education, parental contextual attainment, family structure, parental aspirations for higher education, parent involvement index, and household income. Standard errors clustered by school are displayed in parentheses. Significance levels * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. The results in this table were estimated using Wave III Education Sample weights.

children is 0.26 points, which is equivalent to a difference of 0.31 standard deviations. While this difference is small, it also suggests that migrant children might have a positive reaction when facing misaligned aspirations that reflect in their final high school grades. Table 5 indicates a similar conclusion for all subjects at the end of high school, reflecting a general pattern among the interviewed teens.

We find similar results using neighborhood fixed effects (See tables A.16 to A.19 in Appendix B). Interestingly, it appears that 1.5 migrant teens who are endowed with educational aspirations but are pessimistic about their future educational career do not give up their dreams. The results point to the conclusion that teenagers with low expectations, but possibly high aspirations, are the ones explaining the positive difference in GPA between migrant children and natives. It is precisely this difference the driving force of the immigrant paradox. As we will explore in Section 5.2, this sub-population of 1.5 generation migrant children spend less time in leisure activities and possibly study more.

5.2. Mechanism: role of misalignment on effort and leisure

In this section, we study a potential mechanism that links student goals and beliefs with outcomes. We explore the idea that migrant children might compensate for their perceived disadvantage with an increase in their studying effort. Misalignment can be a driving force to study more rather than disappointment and giving up. To test this hypothesis, we estimate auxiliary regressions and introduce an outcome variable that measures the number of hours teenagers spend watching TV as a proxy of leisure time and a possible direct substitute for studying time.[12] Column (2) in Table 6 reports estimates of the relationship between 1.5 generation migrant children and (mis)alignment on the number of hours watching TV measured in Wave II. Column (3) includes the level of hours watching TV measured in Wave I. In general, we found that migrant children who have misaligned aspirations in Wave I are associated with fewer TV hours measured one year later. This correlation persists when we control for the current hours spent watching TV in Wave I. Nevertheless, there is a reduction in the coefficient associated with 1.5 generation and misalignment (Aspirations greater than Expectations). The result suggests that this particular group of students might be dedicating less time to leisure activities and potentially more time to study.

5.3. Omitted variable bias and coefficient stability

We employ Oster (2019) approach to test for the stability of the coefficients of interest considering the variance explained by the control regressors. The underlying idea is that if a coefficient is invariant after including the observed controls, the omitted variable bias is narrow. Tables A.12 to A.15 (in Appendix B) show the stability of the results

[12] Other potential activities could have also been considered as leisure activities such as playing video games. However, not all children likely possessed a video console in 1994, and this might also reflect some income differences. The survey does not give information about the hours spent doing homework or playing sports. Nevertheless, it is debatable whether sports should be a direct substitute for study time since sports can improve the health of children and make them more able to perform other tasks, including school activities.

Table 6: OLS estimation on the number of hours watching TV per week in Add health's wave II

	(1)	(2)	(3)
	$TVhours_t$	$TVhours_t$	$Tvhours_t$
Generation 1.5	-4.044***	-2.151	-1.611
	(1.252)	(1.323)	(1.352)
Generation 2.0	-1.020	-1.488	-1.040
	(0.929)	(0.924)	(0.806)
Asp.< Exp.		0.241	0.351
		(0.811)	(0.760)
Asp.> Exp.		0.831	0.760
		(0.661)	(0.558)
Gener. 1.5 x Asp.< Exp.		0.947	3.252
		(4.431)	(3.850)
Gener. 1.5 x Asp.> Exp.		-6.329***	-5.636***
		(1.665)	(1.505)
Gener. 2 x Asp.< Exp.		-1.976	-3.021*
		(1.921)	(1.718)
Gener. 2 x Asp.> Exp.		1.760	1.370
		(1.889)	(1.828)
TV Hours in t-1			0.354***
			(0.020)
Observations	8420	8420	8402
R^2	0.130	0.133	0.242
Individual controls	Yes	Yes	Yes
Household controls	Yes	Yes	Yes
Grade	Yes	Yes	Yes
School FE	Yes	Yes	Yes

Notes: Control variables include age, gender, BMI, PPVT, self-esteem index, internal locus of control, ethnicity, English at home, number of siblings, parent education, parental contextual attainment, family structure, parental aspirations for higher education, parent involvement index, household income. Standard errors clustered by school are displayed in parentheses. Significance levels * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. The results in this table were estimated using Wave II Sample weights.

for overall GPA, Math, English literature, and Science. The tables present a step-wise inclusion of individual, family, and school control variables. Moreover, we present in Table 7 the adjusted coefficients for 1.5 generation migrants, misalignment, and the interaction of misalignment and 1.5 generation migrants. The unbiased-adjusted coefficients are based on the assumption that the unobservable determinants explain as much of the variation in the outcome as the observable variables.

Table 7: Omitted variable bias analysis following Oster (2019)

	(1) Overall GPA	(2) Math GPA	(3) English GPA	(4) Science GPA
A) Uncontrolled Coefficients				
Gener. 1.5	-0.047	-0.078	0.060	-0.039
Asp.> Exp.	-0.396	-0.363	-0.401	-0.412
Gener. 1.5 x Asp.> Exp.	0.323	0.376	0.244	0.256
r^2	0.038	0.026	0.032	0.031
B) Controlled Coefficients				
Gener. 1.5	0.078	0.062	0.170	0.109
Asp.> Exp.	-0.119	-0.099	0.094	-0.181
Gener. 1.5 x Asp.> Exp.	0.264	0.328	0.224	0.200
r^2	0.43	0.300	0.384	0.348
C) Bias Adjusted Coefficients				
Gener. 1.5	0.120	0.108	0.205	0.158
Asp.> Exp.	-0.027	-0.012	0.257	-0.104
Gener. 1.5 x Asp.> Exp.	0.244	0.312	0.217	0.181
D) Oster δ				
Oster δ Gener. 1.5	-1.896	-1.348	-4.743	-2.222
Oster δ Asp.> Exp.	1.305	1.148	-0.584	2.379
Oster δ Gener. 1.5 x Asp.> Exp.	13.597	20.803	34.222	10.844

Notes: Columns 1–4 present results from OLS specifications. Part A shows the coefficients of a regression without controls. Part B of the table presents the coefficients after adding the full set of controls that includes aspirations, expectations, age, gender, BMI, PPVT, self-esteem index, internal locus of control, ethnicity, English at home, number of siblings, parent education, parental contextual attainment, family structure, parental expectations for higher education, parent involvement index, household income and school fixed effects. The last two parts shows the analysis of the potential omitted variable bias as proposed by Oster (2019). In part C, we display the bias-adjusted coefficients assuming that the level of selection on observables is equal to the selection on unobservables (δ= 1) with the highest R^2 value equal to 1.3*R^2 of the specification that includes all the control variables. In the part D, we calculate Oster δ for Gener. 1.5 ; Asp.> Exp and Gener. 1.5 x Asp.> Exp, for a null hypothesis of zero and for a the highest R^2 value equal to 1.3*R^2 of the specification that includes all the control variables. * $p < 0.10$, ** $p < 0.05$, $^{+}$ $p < 0.01$.

Table 7 also presents the different calculated δ. These deltas show the degree of importance that the unobservable determinants would need to have relative to the observable ones to make the treatment effect equal to zero. Oster's δ values are calculated for a maximum R^2 corresponding to 1.3 times the R^2 of the specification that includes all the control variables. The results indicate that the degree of selection on unobservables needs to be between 10.8 to 34 times that of the degree of selection on observable characteristics so that the omitted variable bias is important enough to make the value of the coefficient associated with the interaction between 1.5 generation migrants and misalignment to be statistically non-significant. In the estimations, we observe that the degree of selection on unobservables would have to be in the reversed direction of the bias to alter the coefficient associated with 1.5 migrant children, as shown

by the negative sign of δ_1. Finally, all δ, taken in absolute values, fall farther from the bound (0 to 1) suggested by Oster (2019). The above suggests that our results not subject to an ommitted variable bias.

5.4. Robustness checks

Censoring of GPA. In the previous sections, we show how the misalignment between aspirations and expectations is a major driving force that explains the over-performance of migrant teens in the USA. The misalignment is associated with fewer leisure activities for this group of students. In this section, we assess the robustness of our main findings. In addition to the OLS estimation presented in the previous section, the censoring of the GPA between zero and four is addressed in this section. While our measure of GPA is a weighted average by credits, it is continuous over the range of zero and four, meaning that students cannot obtain a grade greater than four or smaller than zero. Therefore, to take into account left- and right-censoring in the dependent variable, we estimate Tobit regressions for our measures of GPA. Tables 8 show the results using a Tobit model for high school GPA with zero as the lower limit and four as the upper limit. The size of the coefficients is slightly altered by the use of a Tobit model, nevertheless, the results presented in the tables do not diverge qualitatively from the results reported previously using OLS.

Accounting for age of arrival. We also test whether the results are driven by those students who migrated at younger ages. Since these students have spent more time in the host country, it can be expected that they are better assimilated and more able to achieve similar academic grades. Cortes (2006) shows that the longer first-generation migrant children live in the USA, the score gap between first- and second-generation immigrant teens diminishes. To ensure that our results are not driven by teenagers who migrated at younger ages, we estimate equation (1) excluding the adolescents who migrated before the age of six. Table 9 contains the OLS regression results for overall GPA, excluding this sub-sample of children (See Column 1). When comparing the results displayed in Tables 4 and 5, we draw similar conclusions. At first glance, 1.5 migrant teens seem to outperform native teens (column 1). Upon introducing an interaction between the categorical variables representing migration generation and the misalignment between aspirations and expectations, we observe that among 1.5 migrant teens, those exhibiting aspirations exceeding their expectations tend to attain higher GPAs.

In column (2) from Table 9, we present the estimations excluding teenagers who migrated when they were older than 14 years. Once again, we find similar results; nevertheless, it is worth noticing that the coefficient for 1.5 migrant teens in column (1) is marginally smaller by 0.01 points when compared to 4. The above could suggest that those students who arrived in the USA after 14 years old might amplify the performance difference between 1.5 generation migrants and natives but this difference is meaningless in magnitude.

Alternative definition of migrant generation. Another potential factor that might be influencing our results is the chosen definition of children of migrants. We have defined a child of migrants as a child born in the USA, but for which at least one of the biological parents was born outside the USA. Nevertheless, it is also possible that a teen who

Table 8: Tobit regression results for Overall GPA with school fixed effects

	(1)	(2)	(3)	(4)	(5)	(6)
Gener. 1.5	0.166**	0.309	0.474***	0.187***	0.096	0.077
	(0.067)	(0.189)	(0.118)	(0.067)	(0.075)	(0.076)
Gener. 2	-0.041	-0.015	0.016	-0.028	0.002	0.004
	(0.053)	(0.135)	(0.104)	(0.053)	(0.058)	(0.056)
Medium aspi.		0.153***				0.131**
		(0.042)				(0.056)
High aspi.		0.352***				0.292***
		(0.034)				(0.085)
Gener. 1.5 × Medium aspi.		-0.058				
		(0.232)				
Gener. 1.5 × High aspi.		-0.202				
		(0.192)				
Gener. 2 × Medium aspi.		-0.080				
		(0.135)				
Gener. 2 × High aspi.		-0.019				
		(0.130)				
Medium Exp.			0.208***			0.091*
			(0.034)			(0.048)
High Exp.			0.441***			0.199**
			(0.033)			(0.089)
Gener. 1.5 × Medium Exp.			-0.224*			
			(0.129)			
Gener. 1.5 × High Exp.			-0.438***			
			(0.121)			
Gener. 2 × Medium Exp.			-0.062			
			(0.113)			
Gener. 2 × High Exp.			-0.029			
			(0.108)			
Asp.< Exp.				-0.072*	-0.056	0.082
				(0.038)	(0.042)	(0.063)
Asp.> Exp.				-0.149***	-0.161***	-0.120*
				(0.028)	(0.032)	(0.064)
Gener. 1.5 × Asp.< Exp.					-0.067	-0.019
					(0.144)	(0.132)
Gener. 1.5 × Asp.> Exp.					0.253***	0.263***
					(0.095)	(0.096)
Gener. 2 × Asp.< Exp.					-0.160	-0.158
					(0.103)	(0.102)
Gener. 2 × Asp.> Exp.					-0.056	-0.050
					(0.090)	(0.086)
Constant	2.959***	2.857***	2.801***	2.949***	2.988***	2.813***
	(0.429)	(0.429)	(0.413)	(0.425)	(0.420)	(0.409)
Observations	9153	9153	9153	9153	9153	9153
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
Household controls	Yes	Yes	Yes	Yes	Yes	Yes
Grade FE	Yes	Yes	Yes	Yes	Yes	Yes
School FE	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Control variables include age, gender, BMI, PPVT, self-esteem index, internal locus of control, ethnicity, English at home, number of siblings, parent education, parental contextual attainment, family structure, parental expectations for higher education, parent involvement index, household income. The goodness of fit measures cannot be displayed after using SVY command in Stata.Standard errors clustered by school are displayed in parentheses. Significance levels * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. The results in this table were estimated using Wave III Education Sample weights.

has one native parent and one migrant parent might have an advantage over the other teens. Children of inter-ethnic parents might differ from children of intra-ethnic couples. For instance, Emonds and van Tubergen (2015) show that the higher human capital and language skills of inter-ethnic couples translate into a better performance of their children. To test if our results are not a product of this characteristic among the children of migrants, we reproduce equation (1) excluding teens who have one native and one migrant parent. The total number of students excluded is 470. The results are presented in column 3 from Table 9. Once again, the results are in line with our previous findings. Since the size of the migrant sample decreases, our standard errors are somewhat more prominent when compared to Table 4. Nevertheless, the results point to the conclusion that 1.5 generation migrants who outperform at school correspond to those who report high ambitions but pessimistic expectations.

Timing of measures. Another concern is the temporal order of the measure of educational outcomes relative to the measurement of aspirations and expectations. It is a concern when the dependent variable is the average of all four years of high school transcript data, but aspirations and expectations questions were asked during Wave I. For students in later high school grades during Wave I (for 12th graders), the aspirations and expectations were measured after the GPA had been partially or almost wholly determined. The above could question the causal order of the results presented in previous sections. We test whether our results are sensitive to keeping a strict temporal order between the dependent and independent variables by eliminating the students attending 12th grade during Wave I. The results for the overall transcript GPA are presented in Column 4 from Table 9. We find, once again, a significant and positive interaction coefficient between being a 1.5-generation migrant and having higher aspirations than expectations. When comparing with Table 4, it is noted that the size of the coefficient of this interaction is larger, moving from 0.26 in Table 4 to 0.29 in Table 9 (Column 4). Nevertheless, the results do not dissent in qualitative terms from the results reported previously using the full sample.

6. Conclusion

Understanding the educational outcomes of the children of migrants is deemed to be critical for the eventual integration of migrants in Western countries. An extensive literature has uncovered an apparent educational advantage of immigrant children in the USA after controlling for different socio-economic characteristics such as family income and parental education. This has led to the identification of the so-called immigrant paradox. What explains the over-achievement or super-achievement of the children of migrants in the USA? This paper aims to answer this question by studying the gap between educational aspirations and expectations as a potential driving force behind the academic performance of immigrant children. The data used is the National Longitudinal Study of Adolescent to Adult Health (AddHealth) collected by the Carolina Population Center. The Add Health study contains detailed information on academic performance, parental information of native and immigrant children in the USA, and school

Table 9: OLS regression results for Overall GPA for different sub-samples

	(1)	(2)	(3)	(4)
	Early arrival	Late arrival	Two migrant parents	Grades 9 to 11
Gener. 1.5	0.090	0.077	0.113	0.070
	(0.083)	(0.078)	(0.093)	(0.089)
Gener. 2	0.011	0.007	0.019	0.017
	(0.055)	(0.053)	(0.071)	(0.059)
Medium aspi.	0.125**	0.132**	0.128**	0.143**
	(0.056)	(0.055)	(0.058)	(0.059)
High aspi.	0.287***	0.287**	0.272***	0.305***
	(0.086)	(0.084)	(0.089)	(0.092)
Medium Exp.	0.089*	0.096**	0.095*	0.109**
	(0.049)	(0.047)	(0.049)	(0.050)
High Exp.	0.198**	0.202**	0.218**	0.207**
	(0.090)	(0.087)	(0.092)	(0.095)
Asp.< Exp.	0.085	0.078	0.066	0.064
	(0.063)	(0.062)	(0.064)	(0.072)
Asp.> Exp.	-0.118*	-0.118*	-0.102	-0.118*
	(0.065)	(0.064)	(0.067)	(0.069)
Gener. 1.5 × Asp.< Exp.	-0.041	-0.056	-0.023	-0.066
	(0.184)	(0.160)	(0.138)	(0.200)
Gener. 1.5 × Asp.> Exp.	0.259***	0.248**	0.242**	0.290***
	(0.098)	(0.108)	(0.098)	(0.099)
Gener. 2 × Asp.< Exp.	-0.150	-0.153	0.060	-0.211
	(0.102)	(0.103)	(0.149)	(0.144)
Gener. 2 × Asp.> Exp.	-0.045	-0.043	-0.026	-0.048
	(0.084)	(0.086)	(0.099)	(0.096)
Constant	2.800***	2.837***	2.907***	2.743***
	(0.404)	(0.403)	(0.401)	(0.415)
Observations	8915	9056	8683	7707
R^2	0.432	0.431	0.435	0.432
Individual controls	Yes	Yes	Yes	Yes
Household controls	Yes	Yes	Yes	Yes
Grade FE	Yes	Yes	Yes	Yes
School FE	Yes	Yes	Yes	Yes

Notes: Column (1) excludes children who migrated to the USA between 0 and 5 years old. Column (2) excludes children who migrated to the USA when they were older than 14 years. Column (3) excludes children with one migrant and one native parent. Column (4) excludes students in 12 grade. Control variables include age, gender, BMI, PPVT, self-esteem index, internal locus of control, ethnicity, English at home, number of siblings, parent education, parental contextual attainment, family structure, parental aspirations for higher education, parent involvement index, household income. Standard errors clustered by school are displayed in parentheses. Significance levels * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. The results in this table were estimated using Wave III Education Sample weights.

characteristics. This database follows a group of students born between 1974 and 1983 who studied within the USA's school system between 1994 and 2002. On the one hand, the data confirms that 1.5 migrant generation teens exhibit greater aspirations to achieve higher education than their peers do. The results are similar to the previous literature that confirms the optimism among children of migrants. For example, Tjaden and Hunkler (2017) and Tjaden and Scharenberg (2017) found that migrant students in Germany and Switzerland express high aspirations to achieve a university degree by choosing the academic track instead of vocational education. On the other hand, migrant teens surveyed in the Add Health study are less optimistic about their chances to achieve those dreams since they report lower expectations to obtain high educational degrees. After controlling for an extensive list of individual, family, and context variables, we document that aspirations, by themselves, are not sufficient to explain the over-performance of migrant children. In contrast, our paper suggests that misalignment between their aspirations and expectations motivates migrant children to increase their efforts to compensate for their perceived disadvantage.

In addition, our paper documents that once various socio-economic and school variables are accounted for, we find no difference between the school performance of second-generation migrants and natives. To dig deeper into why children of immigrants in the USA perform surprisingly well in school, we explore effort as an underlying mechanism that links motivation with future outcomes. We make use of leisure time as a substitute for studying time. We study whether migrant children spend more or less time watching television compared to their peers. The results show that 1.5 generation migrant teens with misaligned aspirations watch less TV in the subsequent year, suggesting that migrant students who report lower expectations than aspirations might dedicate more time to study to compensate for their perceived disadvantages. This paper suggests that misalignment between expectations and aspirations acts as a driving force for migrant children and is associated with a higher average GPA than their peers.

Needless to say, given the particularities of American society and its schooling system, the reported positive response of the immigrant children in this study cannot be generalized to every context. We nevertheless think that these results are informative about how immigrant children can display different adjustments in comparison to native pupils. Future research could replicate these results in other contexts or using other surveys.

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References

Abramitzky, R., Boustan, L. P., Jacome, E., and Pérez, S. (2021). Intergenerational mobility of immigrants in the us over two centuries. *American Economic Review*, 111(2):580–608.

Algan, Y., Dustmann, C., Glitz, A., and Manning, A. (2010). The economic situation of first and second-generation immigrants in france, germany and the united kingdom. *The Economic Journal*, 120(542).

Altonji, J. G., Elder, T. E., and Taber, C. R. (2005). Selection on observed and unobserved variables: Assessing the effectiveness of catholic schools. *Journal of Political Economy*, 113(1):151–184.

Barro, R. J. and Lee, J. W. (2013). A new data set of educational attainment in the world, 1950–2010. *Journal of Development Economics*, 104:184–198.

Berger, J. and Pope, D. (2011). Can losing lead to winning? *Management Science*, 57(5):817–827.

Bohon, S. A., Johnson, M. K., and Gorman, B. K. (06). College aspirations and expectations among latino adolescents in the united states. *Social Problems*, 53(2):207–225.

Borjas, G. J. (1992). Ethnic capital and intergenerational mobility. *The Quarterly Journal of Economics*, 107(1):123–150.

Böhme, M. (2015). Migration and educational aspirations – Another channel of brain gain? *IZA Journal of Migration and Development*, 4(1):1–24.

Card, D. (2005). Is the new immigration really so bad?*. *The Economic Journal*, 115(507):F300–F323.

Card, D., DiNardo, J., and Estes, E. (2000). The more things change: Immigrants and the children of immigrants in the 1940s, the 1970s, and the 1990s. In *Issues in the Economics of Immigration*, NBER Chapters, pages 227–270. National Bureau of Economic Research, Inc.

Carlana, M., Ferrara, E. L. F. L., and Pinotti, P. (2022). Goals and gaps: Educational careers of immigrant children. *Econometrica*, 90(1):1–29.

Chiswick, B. R. and DebBurman, N. (2004). Educational attainment: analysis by immigrant generation. *Economics of Education Review*, 23(4):361 – 379. Special Issue In Honor of Lewis C. Solman.

Coleman, M. and DeLeire, T. (2003). An economic model of locus of control and the human capital investment decision. *The Journal of Human Resources*, 38(3):701–721.

Cortes, K. E. (2006). The effects of age at arrival and enclave schools on the academic performance of immigrant children. *Economics of Education Review*, 25(2):121 – 132.

Dalton, P. S., Ghosal, S., and Mani, A. (2016). Poverty and aspirations failure. *The Economic Journal*, 126(590):165–188.

DeMoss, K. (2013). Educational aspirations/expectations. In *Sociology of education: An a-to-z guide*, volume 1, pages 222–224. Thousand Oaks, CA: SAGE Publications, Inc.

Dustmann, C. and Glitz, A. (2011). Migration and education. In Hanushek, E. A., Machin, S., and Woessmann, L., editors, *Handbook of the Economics of Education*, volume 4, chapter 4, pages 327–204. North Holland.

Dustmann, C., Lanzara, G., and Frattini, T. (2012). Educational achievement of second-generation immigrants: an international comparison. *Economic Policy*, 27.

Dustmann, C. and Theodoropoulos, N. (2010). Ethnic minority immigrants and their children in britain. *Oxford Economic Papers*, 62(2):209–233.

Emonds, V. and van Tubergen, F. (2015). Mixed parents, mixed results: Testing the effects of cross-nativity partnership on children's educational attainment. *Sociological Perspectives*, 58(2):145–167.

Entorf, H. and Minoiu, N. (2005). What a difference immigration policy makes: A comparison of pisa scores in europe and traditional countries of immigration. *German Economic Review*, 6(3):355–376.

Feliciano, C. (2005). Does selective migration matter? explaining ethnic disparities in educational attainment among immigrants' children. *The International Migration Review*, 39(4):841–871.

Feliciano, C. and Lanuza, Y. R. (2017). An immigrant paradox? contextual attainment and intergenerational educational mobility. *American Sociological Review*, 82(1):211–241.

Figlio, D., Giuliano, P., Özek, U., and Sapienza, P. (2019). Long-term orientation and educational performance. *American Economic Journal: Economic Policy*, 11(4):272–309.

Gang, I. N. and Zimmermann, K. F. (2000). Is child like parent? educational attainment and ethnic origin. *The Journal of Human Resources*, 35(3):550–569.

Genicot, G. and Ray, D. (2017). Aspirations and inequality. *Econometrica*, 85(2):489–519.

Goux, D., Gurgand, M., and Maurin, E. (2017). Adjusting your dreams? high school plans and dropout behaviour. *The Economic Journal*, 127(602):1025–1046.

Huang, W., Liu, E. M., and Zuppann, C. A. (2022). Relative obesity and the formation of noncognitive abilities during adolescence. *Journal of Human Resources*, 57(6):2086–2112.

Jacob, B. A. and Wilder, T. (2010). Educational expectations and attainment. Working Paper 15683, National Bureau of Economic Research.

Jung, J. and Lee, Y. (2019). Aspirations versus expectations: Performance feedback, analyst forecasts, and corporate downsizing. *Academy of Management Proceedings*, 2019(1):15009.

Kao, G. and Tienda, M. (1995). Optimism and achievement: The educational performance of immigrant youth. *Social Science Quarterly*, 76(5):1–19.

La Ferrara, E. (2019). Presidential Address: Aspirations, Social Norms, and Development. *Journal of the European Economic Association*, 17(6):1687–1722.

Latham, G. P. and Locke, E. A. (1991). Self-regulation through goal setting. *Organizational Behavior and Human Decision Processes*, 50(2):212 – 247. Theories of Cognitive Self-Regulation.

Lekfuangfu, W. N. and Odermatt, R. (2022). All i have to do is dream? the role of aspirations in intergenerational mobility and well-being. *European Economic Review*, 148:104193.

Lent, R. W., Brown, S. D., and Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, 45(1):79 – 122.

Levels, M., Dronkers, J., and Kraaykamp, G. (2008). Immigrant children's educational achievement in western countries: Origin, destination, and community effects on mathematical performance. *American Sociological Review*, 73(5):835–853.

Mocan, N. and Tekin, E. (2011). Obesity, self-esteem and wages. In *Economic Aspects of Obesity*, NBER Chapters, pages 349–380. National Bureau of Economic Research, Inc.

Mocan, N. and Yu, H. (2020). Can superstition create a self-fulfilling prophecy? school outcomes of dragon children in china. *Journal of Human Capital*, 14(4):485–534.

Morgenstern, O. (1935). Volkommene voraussicht und wirtschaftliches gleichgewicht. *Zeitschrift für Nationalökonomie*, 6:337–57. Translated in English as "Perfect foresight and economic equilibrium", in Schotter 1976, 169-83.

Oster, E. (2019). Unobservable selection and coefficient stability: Theory and evidence. *Journal of Business & Economic Statistics*, 37(2):187–204.

Ours, J. C. and Veenman, J. (2003). The educational attainment of second-generation immigrants in the netherland. *Journal of Population Economics*, 16:739–753.

584 Palacios, N., Guttmannova, K., and Chase-Lansdale, P. L. (2008). Early reading achievement of children in immigrant
585 families: Is there an immigrant paradox? *Developmental Psychology*, 44(5):1381–1395.

586 Perreira, K. M., Harris, K. M., and Lee, D. (2006). Making it in america: High school completion by immigrant and
587 native youth. *Demography*, 43(3):511–536.

588 Portes, A. and MacLeod, D. (1999). Educating the second generation: Determinants of academic achievement among
589 children of immigrants in the united states. *Journal of Ethnic and Migration Studies*, 25(3):373–396.

590 Portes, A. and Rumbaut, R. G. (1996). *Immigrant America : A Portrait*. A centennial book. University of California
591 Press.

592 Quaglia, R. J. and Cobb, C. D. (1996). Toward a theory of student aspirations. *Journal of Research in Rural*
593 *Education*, 12:127–132.

594 Riphahn, R. T. (2003). Cohort effects in the educational attainment of second generation immigrants in germany:
595 An analysis of census data. *Journal of Population Economics*, 16(4):711–737.

596 Ross, P. H. (2019). Occupation aspirations, education investment, and cognitive outcomes: Evidence from indian
597 adolescents. *World Development*, 123:104613.

598 Rumbaut, R. G. (2004). Ages, life stages, and generational cohorts: Decomposing the immigrant first and second
599 generations in the united states. *International Migration Review*, 38(3):1160–1205. An optional note.

600 Schnepf, S. V. (2007). Immigrants' educational disadvantage: an examination across ten countries and three surveys.
601 *Journal of Population Economics*, 20(3):527–545.

602 Sewell, W. H., Haller, A. O., and Portes, A. (1969). The educational and early occupational attainment process.
603 *American Sociological Review*, 34(1):82–92.

604 Smith, J. P. (2003). Assimilation across the latino generations. *American Economic Review*, 93(2):315–319.

605 Tjaden, J. D. and Hunkler, C. (2017). The optimism trap: Migrants' educational choices in stratified education
606 systems. *Social Science Research*, 67:213–228.

607 Tjaden, J. D. and Scharenberg, K. (2017). Ethnic choice effects at the transition into upper-secondary education in
608 switzerland. *Acta Sociologica*, 60(4):309–324.

609 Von Neumann, J. and Morgenstern, O. (1944). *Theory of games and economic behavior*. Princeton University Press.

610 Zwick, R. and Sklar, J. C. (2005). Predicting college grades and degree completion using high school grades and sat
611 scores: The role of student ethnicity and first language. *American Educational Research Journal*, 42(3):439–464.

Appendix A. Appendix

Appendix A.1. Detailed description of the control variables

Table A.10: Description of the variables in Addhealth - Part 1

Variable	Description
College Aspirations	Categories: Low (1 to 3), Medium (4) and High (5). Students were asked to select from a scale of 1 (low) to 5 (high), how much do they want to go to college.
College Expectations	Categories: Low (1 to 3), Medium (4) and High (5). Students were asked to select from a scale of 1 (low) to 5 (high), how likely is it that they will attend college.
Age	Age of the student during in Wave I.
Male	Dummy variable equal to one if the student is male and zero otherwise.
Body-Mass-Index	Body weight in kg / (height in meters)^2.
PPVT	Corresponds to the score of the Peabody Picture Vocabulary Test. It is a standardized test to assess the verbal intelligence of an individual.
Self-esteem index	An index constructed using seven questions. The students were asked to agree or disagree with the following questions: 1) Do you have a lot of good qualities? 2) Are you physically fit? 3) Do you have a lot to be proud of? 4) Do you like yourself just the way you are? 5) Do you feel like you are doing everything just about right? 6) Do you feel socially accepted? 7) Do you feel loved and wanted?
Internal Locus	Dichotomous variable equal to one if the student agreed to the following statement: "When you get what you want, it's usually because you worked hard for it".

(continues)

Table A.11: Description of the variables in Addhealth - Part 2

Variable	Description
Ethnicity	Categories: Hispanic, White non-hispanic, asian, black non-hispanic and others.
English at Home	Dummy variable equal to one if the family speaks English at home and zero otherwise.
N siblings	Number of siblings living in the household in Wave I.
Parental education	Education level of the most highly educated parent.. Categories: college graduate, high school graduate, less than high school, missing information. We used the answers from the child's and parent's questionnaires to reduce missing values.
Contextual attainment	The share of individuals of the same age category as the parent's origin country who have lower or the same level of education (Feliciano and Lanuza, 2017) as the parent. For the case of native born parents, we used the mother education. Data for the educational distribution in the origin country comes form Barro-Lee Educational Attaintment Data.
Family structure	Categories: Both biological parents, at least one step-parent, single parent or other.
High Parental aspirations	Parents were asked in Wave 1, "how disappointed would you be if [your child] did not graduate from college?" Answers were enclosed in three categories: very disappointed, somewhat disappointed, not disappointed; we use collapsed the first two categories and use "not disappointed" as the reference category.
Parental involvement	An index created using the following question: "Which of the things listed on this card have you done with [your mother/adoptive mother/stepmother/foster mother/etc] in the past 4 weeks": 1) Talked about your school grades or work 2) Worked on a school project 3) Talked about other things you have done in school.
Income	Parents were asked the total income before taxes received by the family in 1994. In our descriptive tables, we report total income however, we use the log of income for all regressions.

Appendix A.2. Stability of the coefficients for each subject

Table A.12: Coefficients' stability - OLS results for Overall GPA (4 year average) including fixed effects at the school level

	(1) gpal	(2) gpal	(3) gpal	(4) gpal	(5) gpal	(6) gpal	(7) gpal
Gener. 1.5	-0.047	-0.110	0.145	0.083	0.022	0.033	0.078
	(0.097)	(0.097)	(0.092)	(0.105)	(0.095)	(0.090)	(0.075)
Gener. 2	0.088*	-0.036	0.089**	0.109*	-0.025	-0.034	0.003
	(0.052)	(0.058)	(0.039)	(0.056)	(0.046)	(0.047)	(0.054)
Asp.< Exp.	-0.104**	-0.049	0.058	-0.110**	0.076	0.080	0.080
	(0.048)	(0.048)	(0.070)	(0.045)	(0.069)	(0.066)	(0.063)
Asp.> Exp.	-0.396***	-0.258***	-0.121*	-0.340***	-0.101	-0.094	-0.119*
	(0.037)	(0.035)	(0.072)	(0.035)	(0.070)	(0.068)	(0.064)
Gener. 1.5 × Asp.< Exp.	-0.031	-0.023	-0.056	0.041	-0.056	-0.121	-0.016
	(0.193)	(0.167)	(0.166)	(0.166)	(0.149)	(0.150)	(0.131)
Gener. 1.5 × Asp.> Exp.	0.323***	0.318***	0.299***	0.330***	0.277***	0.265**	0.264***
	(0.123)	(0.106)	(0.110)	(0.113)	(0.103)	(0.103)	(0.095)
Gener. 2 × Asp.< Exp.	-0.218	-0.193	-0.192**	-0.144	-0.175*	-0.180*	-0.151
	(0.133)	(0.120)	(0.093)	(0.130)	(0.095)	(0.096)	(0.102)
Gener. 2 × Asp.> Exp.	-0.039	-0.018	-0.038	-0.014	-0.032	-0.037	-0.043
	(0.089)	(0.086)	(0.083)	(0.089)	(0.082)	(0.081)	(0.085)
Observations	9153	9153	9153	9153	9153	9153	9153
R^2	0.038	0.176	0.317	0.194	0.347	0.359	0.430
Individual	No	No	Yes	No	Yes	Yes	Yes
Household	No	Yes	No	No	Yes	Yes	Yes
Grade fixed effects	No	No	No	No	No	Yes	Yes
School fixed effects	No	No	No	Yes	No	No	Yes

Notes: Control variables: age, gender, BMI, PPVT, self-esteem index, internal locus of control, ethnicity, English at home, number of siblings, parent education, parental contextual attainment, family structure, parental expectations for higher education, parent involvement index, household income. Standard errors clustered by school in parentheses. The results were estimated using Wave III Education Sample weights. Significance levels * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Appendix A.3. Results using neighborhood fixed effects

Table A.13: Coefficients' stability - OLS results for Math (4 year average) including fixed effects at the school level

	(1) math	(2) math	(3) math	(4) math	(5) math	(6) math	(7) math
Gener. 1.5	-0.078	-0.157	0.118	0.124	-0.013	-0.002	0.062
	(0.114)	(0.118)	(0.101)	(0.122)	(0.111)	(0.106)	(0.097)
Gener. 2	0.105*	-0.024	0.139***	0.151**	0.013	0.005	0.035
	(0.061)	(0.067)	(0.046)	(0.062)	(0.058)	(0.058)	(0.064)
Asp.< Exp.	-0.047	0.004	0.122	-0.052	0.137	0.143*	0.126
	(0.059)	(0.056)	(0.088)	(0.058)	(0.085)	(0.084)	(0.082)
Asp.> Exp.	-0.363***	-0.234***	-0.128	-0.305***	-0.106	-0.102	-0.0994
	(0.047)	(0.044)	(0.096)	(0.043)	(0.095)	(0.095)	(0.087)
Gener. 1.5 × Asp.< Exp.	-0.085	-0.096	-0.095	0.0178	-0.111	-0.176	-0.056
	(0.228)	(0.228)	(0.179)	(0.165)	(0.182)	(0.176)	(0.137)
Gener. 1.5 × Asp.> Exp.	0.376***	0.356***	0.377***	0.385***	0.343***	0.332***	0.328***
	(0.133)	(0.118)	(0.127)	(0.127)	(0.120)	(0.119)	(0.118)
Gener. 2 × Asp.< Exp.	-0.229	-0.201	-0.216*	-0.158	-0.194*	-0.202*	-0.175
	(0.142)	(0.130)	(0.116)	(0.139)	(0.113)	(0.113)	(0.117)
Gener. 2 × Asp.> Exp.	-0.110	-0.097	-0.100	-0.034	-0.096	-0.099	-0.067
	(0.109)	(0.109)	(0.106)	(0.109)	(0.106)	(0.105)	(0.104)
Observations	9124	9124	9124	9124	9124	9124	9124
R^2	0.026	0.114	0.203	0.158	0.224	0.232	0.300
Individual	No	No	Yes	No	Yes	Yes	Yes
Household	No	Yes	No	No	Yes	Yes	Yes
Grade fixed effects	No	No	No	No	No	Yes	Yes
School fixed effects	No	No	No	Yes	No	No	Yes

Notes: Control variables: age, gender, BMI, PPVT, self-esteem index, internal locus of control, ethnicity, English at home, number of siblings, parent education, parental contextual attainment, family structure, parental expectations for higher education, parent involvement index, household income. Standard errors clustered by school in parentheses. The results were estimated using Wave III Education Sample weights. Significance levels * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.14: Coefficients' stability - OLS results for English Literature (4 year average) including fixed effects at the school level

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	engl	engl	engl	engl	engl	engl	engl
Gener. 1.5	0.060	-0.002	0.215**	0.138	0.109	0.119	0.170*
	(0.102)	(0.103)	(0.108)	(0.112)	(0.109)	(0.104)	(0.088)
Gener. 2	0.092	-0.018	0.072	0.086	-0.024	-0.031	0.010
	(0.061)	(0.061)	(0.051)	(0.061)	(0.051)	(0.051)	(0.057)
Asp.< Exp.	-0.113**	-0.057	0.073	-0.124***	0.089	0.091	0.097
	(0.050)	(0.049)	(0.082)	(0.044)	(0.081)	(0.080)	(0.076)
Asp.> Exp.	-0.401***	-0.265***	-0.084	-0.358***	-0.065	-0.058	-0.094
	(0.042)	(0.042)	(0.080)	(0.040)	(0.079)	(0.078)	(0.074)
Gener. 1.5 × Asp.< Exp.	-0.130	-0.116	-0.148	-0.0638	-0.147	-0.211	-0.0942
	(0.227)	(0.208)	(0.204)	(0.225)	(0.192)	(0.197)	(0.187)
Gener. 1.5 × Asp.> Exp.	0.244*	0.249**	0.233*	0.268**	0.219*	0.211*	0.224**
	(0.131)	(0.120)	(0.122)	(0.125)	(0.119)	(0.116)	(0.106)
Gener. 2 × Asp.< Exp.	-0.206	-0.175	-0.175	-0.148	-0.150	-0.158	-0.141
	(0.146)	(0.138)	(0.113)	(0.155)	(0.115)	(0.118)	(0.129)
Gener. 2 × Asp.> Exp.	-0.064	-0.045	-0.075	-0.0440	-0.068	-0.073	-0.079
	(0.094)	(0.092)	(0.092)	(0.0962)	(0.091)	(0.091)	(0.098)
Observations	9119	9119	9119	9119	9119	9119	9119
R^2	0.032	0.140	0.278	0.157	0.302	0.311	0.384
Individual	No	No	Yes	No	Yes	Yes	Yes
Household	No	Yes	No	No	Yes	Yes	Yes
Grade fixed effects	No	No	No	No	No	Yes	Yes
School fixed effects	No	No	No	Yes	No	No	Yes

Notes: Control variables: age, gender, BMI, PPVT, self-esteem index, internal locus of control, ethnicity, English at home, number of siblings, parent education, parental contextual attainment, family structure, parental expectations for higher education, parent involvement index, household income. Standard errors clustered by school in parentheses. The results were estimated using Wave III Education Sample weights. Significance levels * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.15: Coefficients' stability - OLS results for Science (4 year average) including fixed effects at the school level

	(1) scie	(2) scie	(3) scie	(4) scie	(5) scie	(6) scie	(7) scie
Gener. 1.5	-0.039	-0.095	0.153*	0.078	0.030	0.041	0.109
	(0.110)	(0.115)	(0.090)	(0.129)	(0.096)	(0.092)	(0.088)
Gener. 2	0.104	-0.021	0.108**	0.087	-0.011	-0.020	0.004
	(0.063)	(0.074)	(0.052)	(0.063)	(0.059)	(0.059)	(0.065)
Asp.< Exp.	-0.107*	-0.0510	0.107	-0.116**	0.122	0.126	0.110
	(0.061)	(0.059)	(0.100)	(0.057)	(0.099)	(0.097)	(0.094)
Asp.> Exp.	-0.412***	-0.269***	-0.187**	-0.355***	-0.167**	-0.160**	-0.181**
	(0.040)	(0.038)	(0.082)	(0.038)	(0.081)	(0.079)	(0.075)
Gener. 1.5 × Asp.< Exp.	0.052	0.056	0.028	0.110	0.021	-0.038	0.049
	(0.193)	(0.189)	(0.155)	(0.163)	(0.149)	(0.146)	(0.123)
Gener. 1.5 × Asp.> Exp.	0.256*	0.245**	0.240*	0.267**	0.212*	0.201*	0.200*
	(0.130)	(0.117)	(0.122)	(0.124)	(0.117)	(0.116)	(0.113)
Gener. 2 × Asp.< Exp.	-0.249	-0.203	-0.222*	-0.150	-0.191	-0.192	-0.143
	(0.158)	(0.140)	(0.127)	(0.162)	(0.122)	(0.124)	(0.133)
Gener. 2 × Asp.> Exp.	-0.085	-0.060	-0.084	-0.053	-0.073	-0.078	-0.079
	(0.095)	(0.091)	(0.092)	(0.091)	(0.089)	(0.088)	(0.090)
Observations	9091	9091	9091	9091	9091	9091	9091
R^2	0.031	0.137	0.249	0.162	0.272	0.280	0.348
Individual	No	No	Yes	No	Yes	Yes	Yes
Household	No	Yes	No	No	Yes	Yes	Yes
Grade fixed effects	No	No	No	No	No	Yes	Yes
School fixed effects	No	No	No	Yes	No	No	Yes

Notes: Control variables: age, gender, BMI, PPVT, self-esteem index, internal locus of control, ethnicity, English at home, number of siblings, parent education, parental contextual attainment, family structure, parental expectations for higher education, parent involvement index, household income. Standard errors clustered by school in parentheses. The results were estimated using Wave III Education Sample weights. Significance levels * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.16: OLS results for overall GPA (4 year average) with neighborhood fixed effects

	(1)	(2)	(3)	(4)	(5)	(6)
Gener. 1.5	0.191***	0.387**	0.516***	0.212***	0.122	0.102
	(0.068)	(0.191)	(0.119)	(0.068)	(0.076)	(0.078)
Gener. 2	-0.029	0.010	0.028	-0.015	0.013	0.013
	(0.052)	(0.132)	(0.101)	(0.052)	(0.056)	(0.053)
Medium aspi.		0.157***				0.124**
		(0.042)				(0.056)
High aspi.		0.351***				0.275***
		(0.033)				(0.086)
Gener. 1.5 × Medium aspi.		-0.119				
		(0.232)				
Gener. 1.5 × High aspi.		-0.260				
		(0.191)				
Gener. 2 × Medium aspi.		-0.095				
		(0.133)				
Gener. 2 × High aspi.		-0.035				
		(0.128)				
Medium Exp.			0.214***			0.101**
			(0.034)			(0.048)
High Exp.			0.440***			0.212**
			(0.032)			(0.089)
Gener. 1.5 × Medium Exp.			-0.251*			
			(0.128)			
Gener. 1.5 × High Exp.			-0.463***			
			(0.118)			
Gener. 2 × Medium Exp.			-0.069			
			(0.111)			
Gener. 2 × High Exp.			-0.028			
			(0.107)			
Asp.< Exp.				-0.065*	-0.052	0.076
				(0.038)	(0.042)	(0.063)
Asp.> Exp.				-0.147***	-0.158***	-0.109*
				(0.028)	(0.032)	(0.065)
Gener. 1.5 × Asp.< Exp.					-0.055	-0.014
					(0.142)	(0.131)
Gener. 1.5 × Asp.> Exp.					0.247***	0.257***
					(0.093)	(0.093)
Gener. 2 × Asp.< Exp.					-0.129	-0.129
					(0.101)	(0.099)
Gener. 2 × Asp.> Exp.					-0.057	-0.050
					(0.085)	(0.082)
Constant	3.032***	2.901***	2.826***	3.038***	3.065***	2.857***
	(0.408)	(0.411)	(0.395)	(0.404)	(0.400)	(0.391)
Observations	9153	9153	9153	9153	9153	9153
R^2	0.385	0.404	0.417	0.390	0.391	0.419
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
Household controls	Yes	Yes	Yes	Yes	Yes	Yes
Grade FE	Yes	Yes	Yes	Yes	Yes	Yes
School FE	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Control variables: age, gender, BMI, PPVT, self-esteem index, internal locus of control, ethnicity, English at home, number of siblings, parent education, parental contextual attainment, family structure, parental expectations for higher education, parent involvement index, household income. Standard errors clustered by school in parentheses. The results were estimated using Wave III Education Sample weights.. Significance levels * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.17: OLS results for math GPA (4 year average) with neighborhood fixed effects

	(1) math	(2) math	(3) math	(4) math	(5) math	(6) math
Gener. 1.5	0.205**	0.367	0.511***	0.225**	0.110	0.094
	(0.091)	(0.223)	(0.147)	(0.092)	(0.099)	(0.101)
Gener. 2	-0.009	0.091	-0.013	0.002	0.047	0.048
	(0.062)	(0.133)	(0.105)	(0.061)	(0.065)	(0.063)
Medium aspi.		0.124***				0.099
		(0.045)				(0.067)
High aspi.		0.290***				0.249**
		(0.041)				(0.109)
Gener. 1.5 × Medium aspi.		-0.024				
		(0.266)				
Gener. 1.5 × High aspi.		-0.226				
		(0.214)				
Gener. 2 × Medium aspi.		-0.212				
		(0.148)				
Gener. 2 × High aspi.		-0.095				
		(0.136)				
Medium Exp.			0.147***			0.054
			(0.043)			(0.060)
High Exp.			0.377***			0.163
			(0.039)			(0.114)
Gener. 1.5 × Medium Exp.			-0.117			
			(0.157)			
Gener. 1.5 × High Exp.			-0.509***			
			(0.138)			
Gener. 2 × Medium Exp.			0.025			
			(0.129)			
Gener. 2 × High Exp.			0.037			
			(0.114)			
Asp.< Exp.				-0.017	-0.0005	0.129
				(0.050)	(0.056)	(0.083)
Asp.> Exp.				-0.133***	-0.144***	-0.100
				(0.037)	(0.042)	(0.088)
Gener. 1.5 × Asp.< Exp.					-0.098	-0.064
					(0.145)	(0.141)
Gener. 1.5 × Asp.> Exp.					0.315***	0.324***
					(0.113)	(0.115)
Gener. 2 × Asp.< Exp.					-0.158	-0.158
					(0.113)	(0.114)
Gener. 2 × Asp.> Exp.					-0.110	-0.102
					(0.104)	(0.101)
Constant	3.016***	2.909***	2.857***	3.012***	3.047***	2.881***
	(0.484)	(0.487)	(0.471)	(0.477)	(0.472)	(0.467)
Observations	9124	9124	9124	9124	9124	9124
R^2	0.267	0.277	0.286	0.270	0.271	0.287
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
Household controls	Yes	Yes	Yes	Yes	Yes	Yes
Grade FE	Yes	Yes	Yes	Yes	Yes	Yes
School FE	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Control variables: age, gender, BMI, PPVT, self-esteem index, internal locus of control, ethnicity, English at home, number of siblings, parent education, parental contextual attainment, family structure, parental expectations for higher education, parent involvement index, household income. Standard errors clustered by school in parentheses. The results were estimated using Wave III Education Sample weights. Significance levels * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.18: OLS results for english GPA (4 year average) with neighborhood fixed effects

	(1) engl	(2) engl	(3) engl	(4) engl	(5) engl	(6) engl
Gener. 1.5	0.261***	0.491**	0.557***	0.285***	0.211**	0.193**
	(0.076)	(0.220)	(0.142)	(0.076)	(0.088)	(0.090)
Gener. 2	-0.026	0.057	0.035	-0.011	0.023	0.025
	(0.054)	(0.150)	(0.116)	(0.055)	(0.058)	(0.056)
Medium aspi.		0.129**				0.089
		(0.050)				(0.063)
High aspi.		0.372***				0.275**
		(0.043)				(0.111)
Gener. 1.5 × Medium aspi.		-0.134				
		(0.250)				
Gener. 1.5 × High aspi.		-0.301				
		(0.221)				
Gener. 2 × Medium aspi.		-0.111				
		(0.152)				
Gener. 2 × High aspi.		-0.090				
		(0.151)				
Medium Exp.			0.186***			0.070
			(0.042)			(0.059)
High Exp.			0.454***			0.235**
			(0.040)			(0.109)
Gener. 1.5 × Medium Exp.			-0.211			
			(0.156)			
Gener. 1.5 × High Exp.			-0.415***			
			(0.130)			
Gener. 2 × Medium Exp.			-0.083			
			(0.126)			
Gener. 2 × High Exp.			-0.025			
			(0.128)			
Asp.< Exp.				-0.078**	-0.063	0.088
				(0.039)	(0.042)	(0.076)
Asp.> Exp.				-0.159***	-0.165***	-0.081
				(0.032)	(0.037)	(0.075)
Gener. 1.5 × Asp.< Exp.					-0.120	-0.081
					(0.204)	(0.187)
Gener. 1.5 × Asp.> Exp.					0.206*	0.217**
					(0.104)	(0.103)
Gener. 2 × Asp.< Exp.					-0.116	-0.115
					(0.127)	(0.126)
Gener. 2 × Asp.> Exp.					-0.091	-0.082
					(0.096)	(0.094)
Constant	2.898***	2.760***	2.683***	2.903***	2.933***	2.714***
	(0.443)	(0.448)	(0.441)	(0.441)	(0.439)	(0.437)
Observations	9119	9119	9119	9119	9119	9119
R^2	0.340	0.358	0.368	0.345	0.346	0.371
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
Household controls	Yes	Yes	Yes	Yes	Yes	Yes
Grade FE	Yes	Yes	Yes	Yes	Yes	Yes
School FE	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Control variables: age, gender, BMI, PPVT, self-esteem index, internal locus of control, ethnicity, English at home, number of siblings, parent education, parental contextual attainment, family structure, parental expectations for higher education, parent involvement index, household income. Standard errors clustered by school in parentheses. The results were estimated using Wave III Education Sample weights. Significance levels * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.19: OLS results for scie GPA (4 year average) with neighborhood fixed effects

	(1) scie	(2) scie	(3) scie	(4) scie	(5) scie	(6) scie
Gener. 1.5	0.203**	0.495**	0.557***	0.229***	0.161*	0.141
	(0.080)	(0.198)	(0.130)	(0.082)	(0.090)	(0.088)
Gener. 2	-0.031	0.087	0.029	-0.0155	0.018	0.020
	(0.062)	(0.126)	(0.102)	(0.062)	(0.067)	(0.065)
Medium aspi.		0.120**				0.117
		(0.053)				(0.073)
High aspi.		0.326***				0.311***
		(0.041)				(0.113)
Gener. 1.5 × Medium aspi.		-0.208				
		(0.271)				
Gener. 1.5 × High aspi.		-0.363				
		(0.225)				
Gener. 2 × Medium aspi.		-0.126				
		(0.140)				
Gener. 2 × High aspi.		-0.132				
		(0.126)				
Medium Exp.			0.208***			0.082
			(0.040)			(0.058)
High Exp.			0.429***			0.143
			(0.041)			(0.112)
Gener. 1.5 × Medium Exp.			-0.349**			
			(0.150)			
Gener. 1.5 × High Exp.			-0.451***			
			(0.145)			
Gener. 2 × Medium Exp.			-0.069			
			(0.120)			
Gener. 2 × High Exp.			-0.032			
			(0.111)			
Asp.< Exp.				-0.061	-0.051	0.108
				(0.053)	(0.058)	(0.094)
Asp.> Exp.				-0.169***	-0.174***	-0.166**
				(0.033)	(0.037)	(0.076)
Gener. 1.5 × Asp.< Exp.					-0.005	0.038
					(0.130)	(0.123)
Gener. 1.5 × Asp.> Exp.					0.177	0.185*
					(0.109)	(0.110)
Gener. 2 × Asp.< Exp.					-0.122	-0.120
					(0.129)	(0.130)
Gener. 2 × Asp.> Exp.					-0.085	-0.081
					(0.089)	(0.087)
Constant	2.246***	2.114***	2.024***	2.243***	2.262***	2.060***
	(0.467)	(0.477)	(0.462)	(0.463)	(0.461)	(0.461)
Observations	9091	9091	9091	9091	9091	9091
R^2	0.315	0.327	0.337	0.319	0.320	0.338
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
Household controls	Yes	Yes	Yes	Yes	Yes	Yes
Grade FE	Yes	Yes	Yes	Yes	Yes	Yes
School FE	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Control variables: age, gender, BMI, PPVT, self-esteem index, internal locus of control, ethnicity, English at home, number of siblings, parent education, parental contextual attainment, family structure, parental expectations for higher education, parent involvement index, household income. Standard errors clustered by school in parentheses. The results were estimated using Wave III Education Sample weights. Significance levels * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.