The solution of the immigrant paradox: aspirations and expectations of children of migrants.

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Abstract

In this paper, we push forward the hypothesis that misalignment between expectations and aspirations crucially affects the educational outcomes of immigrant young adults. Using AddHealth, a dataset that surveys adolescents between the grades 7-12, we show that the difference in school performance between migrant children and natives lies within the aspirations and expectations that migrant children form. A positive misalignment between aspirations and expectations is a driving force for higher effort and better education outcomes of immigrant teenagers. This force resolves the well-known immigrant paradox. This result is specific to migrant children and does not hold for second-generation migrant pupils who appear quite acculturated to the US context.

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

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

1 Introduction

This paper aims to determine the effect of educational aspiration and expectations and their misalignment on the school performance of children of migrants compared to children of natives parents in the United States. *Aspirations* describe personal goals such as the desired education level, the desired occupation, or career. Early studies (Bandura, 2001) indicate that the educational aspirations are key determinants of educational and professional life choices and outcomes. Aspirations are critical not only to explain individual performance but also the success of organizations. For instance, employees' career aspirations benefit enterprises by contributing to organizational capabilities and connections (Jung and Lee, 2019).

The process of setting educational goals depends on motivational components (e.g. desires), and also on contextual ingredients formed by family, school, and neighborhood characteristics (Sewell et al., 1969). Contextual components heavily influence the *expectations* of the educational goal. Unlike aspirations which are confined to desires, expectations embody the constraints that could influence aspects of the future. Both expectations and aspirations are as important as the ability to shape education outcomes (Lent et al., 1994).

Interestingly, aspiration and expectation may be aligned or misaligned. Alignment occurs when restrictions are perceived as possible to overcome. However, desires and expectations may be misaligned. For instance, a young individual can be highly

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inspirational by nature (e.g. dream to go to an Ivy League university), but she or he can confront various constraints (e.g, financial) that downgrade her expectations. The consequences of the misalignment between aspirations and expectations are not clear. On the one hand, very high aspirations with low expectations can lead to frustration and underachievement. On the other hand, reachable aspirations can inspire individuals (Genicot and Ray, 2017), regardless of their level of expectations. Experimental evidence from cognitive psychology and sports science show that goals that lie ahead but not too far ahead can be the best motivators (Berger and Pope, 2011; Latham and Locke, 1991). Which effect dominates on average is nevertheless not known and calls for some empirical analysis aiming at shedding light on the net impact on educational attainment.

Is there any systematic difference across migrant and native teenagers in the misalignment and its corresponding effects? In this paper, we push forward the hypothesis that expectations and aspirations crucially affects the educational outcomes of young adults. Importantly, these effects are heterogeneous for natives and migrants. We hypothesize that the difference in performance between migrant children and natives lies within the misalignment between aspirations and expectations that migrant children form. We assess such a hypothesis using individual data of American pupils and show how the distance between the aspirations and expectations of the student affects their school performance. More specifically, this misalignment between aspirations and expectations is a driving force for better education outcomes of immigrant teenagers in the US. This force can be so large that it fully explains the difference in educational outcomes between migrant and native children.

Our paper is directly related to an extensive large literature on the educational outcomes of immigrant children. The most accepted result is that in the USA, immigrant teenagers over-perform their corresponding native peers. This is known as the immigrant paradox (Palacios et al., 2008). Prior literature brings forward several mechanisms that could potentially explain this paradox, but none of these studies show which force explains completely such a paradox. We document the immigrant paradox and we show that only considering family and school characteristics is not enough. Both aspirations and expectations matter but they do so in a similar fashion for the natives as well as for the migrants. However, teenagers with an immigrant background express higher aspirations than expectations (they dream more than what they expect) when compared with their native peers. This misalignment is the key factor that motivates students to increase their efforts to study, leading to the paradox. Notwithstanding, when aspirations and expectations are aligned, the over-performance of migrant youngsters vanishes. Importantly, it is only the migrant children, i.e. pupils not born in the USA, that hold a strong misalignment and lead the immigrant paradox.

To uncover the above effects of aspirations, expectations, and misalignment, we use the restricted-use version of the National Longitudinal Study of Adolescent to Adult Health (AddHealth) with a sample of 20,774 adolescents between the grades 7-12 drawn from a representative sample of schools in the United States. Aspirations and expectations are constructed using two questions asked in Wave I. The first question pertains to their wish to go to college, measuring their educational aspirations, while the second one captures specifically to what extent they expect to go to college[1]. Using these questions, we measure misalignment between aspirations and expectations as the gap between the two measures. There exist two types of misalignment. Individuals may have high expectations but low desires, or on the contrary, they may exhibit low expectations but high aspirations. Our measure of educational performance is the overall final Grade-Point-Average (GPA). We also explore the final grade for Mathematics, English Literature, and Science. These grades are a strong predictor of the final test score (Scholastic Assessment Test-SAT) and posterior educational attainment.

Our results document the size of the effect of aspirations and expectations on educational outcomes of teenagers controlling for a very extensive list of contextual factors (family, cohort, school, neighborhood) and individual characteristics (personality traits, cognitive skill, BMI, among others). We show that greater aspirations are associated with a higher grade point average

[1]More precisely, students were asked: "rate on a scale of 1 to 5, where 1 is low and 5 is high, how much do you want to go to college? this question measures desires or aspirations. The second question is "how likely it is that you will go to college?"

(GPA) for any subject at the end of high school. There is no differentiated effect of aspirations on the final GPA between children of migrants and natives. The results show that immigrant teenagers (the so-called 1.5 generation children) with low expectations but high aspirations, are the ones driving the immigrant paradox. Clearly, the misalignment between what a teenager dreams and what she or he expects to be possible, are key factors in explaining the performance at school. Our results show that the immigrant over-performance vanishes and it is fully explained by the fact that these students have misaligned aspirations and expectations. The results are robust to the exclusion students who migrated before the age of six or students who migrated after the age of 14. Moreover, the results are robust to the exclusion of students with one migrant parent and native parent that captures the potential advantages and disadvantages of inter-ethnic unions. Also, the results hold consistent to the removal of teens who attended 12 grade during Wave 1 in order to ensure a strict temporal order between the dependent and independent variables. Furthermore, 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 render our results statistically invalid.

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 Related Literature

This paper contributes to the existing literature investigating the degree of integration of migrants by exploring the difference in academic performance between children in immigrant families and their non-migrant peers.[2] First generation immigrants tend to exhibit lower educational attainment when compared to the native's counterparts (Dustmann and Glitz, 2011). Yet, the successive generation of migrants in the US are rapidly reverting this trend. In fact, children of migrants in the US outperform children of natives from a similar socio-economic background in many educational indicators (Feliciano and Lanuza, 2017)[3]. The immigrant paradox has been documented in previous academic work. To mention a few, Card (2005) and Chiswick and DebBurman (2004) show that the offspring of migrants born in the US have achieved more years of education when compared to native individuals. These results are similar to those reported by Figlio et al. (2019) when analyzing test scores as a measure of academic performance. Figlio et al. (2019) found that on average children of migrants in Florida out-perform 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 values long-term orientation (Figlio et al., 2019).

The immigrant paradox does not manifest only in the USA (Schnepf, 2007; Dustmann et al., 2012) but more broadly in English-speaking countries, whereas children of migrants perform better in reading and math test score when it was measured

[2] A different approach analyses the inter-generational transmission of human capital, comparing the educational attainment of the children compared to the education level of their parents. This strand of literature argues that the educational achievements of the children of migrants are strongly correlated with the educational achievement 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. This correlation, however, does not differ when compared to non-migrant populations (Smith, 2003).

[3] Moreover, a recent study by Abramitzky et al. (2019) show also an Immigrants' advantage in inter-generational mobility using data on millions of father-son pairs over a 100 years. According to their findings, children of migrants are more upwardly mobile than the children of US-born parents. This result shows that the children of migrants in the USA over-perform in terms of income mobility.

in the Program for the International Assessment of Student Achievements - PISA (Schnepf, 2007).[4] Dustmann and Theodoropoulos (2010) finds that the educational attainment of British born minorities is higher than native British. Moreover, using the PISA database, Dustman et al. (2012) 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 show 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 (Feliciano, 2005), the social context at destination (Portes and Rumbaut, 1996; Portes and MacLeod, 1999), ethnic advantage (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) and higher expectations for university education (Boguslaw, 2017) when compared to native youth. To our knowledge, little attention has been paid to study teenager's attitudes such as aspirations and expectations as a potential explanation of the differences in school performance between migrants and natives. We fill precisely this gap. We contend that the individual attitudes and beliefs of youngsters are a crucial ingredient that must enrich the knowledge of this phenomenon. Once controlling for a long list of individual, family, school, and neighborhood characteristics, we explore the effect of several and various individual characteristics and proxies of attitudes of US immigrant and native teenagers.

This paper also contributes to the economic literature on the role of individual aspirations and goals on performance. Aspirations summarize preferences, a hope, or a wish 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 the poverty trap and its 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 hand, expectations, widely used in many fields of economics, 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 the possible future scenarios. The terms aspirations and expectations are often used interchangeably and without precision. Notwithstanding, 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 the future income is equal to the future

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

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). In a recent paper using data from India, Ross (2019) shows that the difference between the children's occupational aspiration and the current family status has an inverted U-shape relationship with human capital accumulation. Moreover, experimental evidence from cognitive psychology and sports science show 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 education outcomes and then explore the effects of their misalignment. This exploration is missing in previous studies documenting the immigrant paradox.

3 Data and descriptive statistics

3.1 The AddHealth data set

We use the restricted-use version of the National Longitudinal Study of Adolescent to Adult Health (AddHealth) collected by the Carolina Population Center. AddHealth was designed to investigate health, social conditions, education, environment, family situation, and friendships of adolescents in the United States through out their transition into adulthood. While the study is not specifically devoted to migration questions, the sample size and the oversampling of particular migrant groups, allows researchers to have a bigger sample size compared to other studies. The sample includes 20,774 adolescents between the grades 7-12 drawn from a representative sample of schools in the United States.[5] An extensive questionnaire was filled by the students at home. In addition, the parents of the students filled out a questionnaire that included questions about themselves, their partners, and the child.

The students were followed from 1994 until 2018 using five interviews. In Wave IV, subjects were aged between 24 and 32 years when 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 obs) 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 6000 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.[6]

3.2 Main variables

3.2.1 Outcome variables: educational outcomes

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

[5] To select the sample, all the students from each school filled 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 AddHealth researchers selected a random sample of students from strata defined by gender and grade (17 boys and 17 girls per grade per school).

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

The GPA measures came from the Adolescent Health and Academic Achievement (AHAA) study. The AHAA data corresponds to a collection of the school transcripts for 12,241 AddHealth respondents from Wave I. The data allowed us 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 used two questions asked in Wave I, well before the measurement of the school performance. More specifically, questions about aspirations and expectations were asked in Wave I (1994-95), whereas the records of the school performance are taken from the school transcripts at the end of high school. Students were asked: "rate on a scale of 1 to 5, where 1 is low and 5 is high, how much do you want to go to college? And how likely it is that you will go to college?". We define three categories for each variable. Students with Low aspirations-expectations corresponds to those who answered from a scale of 1 to 3, Medium corresponds to answering 4, and High corresponds to the maximum level.

We define misalignment as the difference between the level of aspiration and expectations shown by the students. We define three dummy variables: Asp $<$ Exp, equal to 1 is 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 expectations and zero otherwise. When Asp$<$ Exp is equal to one the adolescent is calculative, and she expects to go to college more than she desires it. By contrast, when Asp$>$ Exp is equal to one, the adolescent is inspirational but she expects it to be difficult to attend college thus she downgrades her expectations. This second type of misalignment is prone to feelings of frustration that harm educational performance or, on the contrary, can be the driving force to better performance. We investigate which effect dominates in the determination of school performance and whether there is a heterogeneous effect for native and immigrant children.

3.2.3 Migration generation

We define 1.5 generation as those children who were not born in the U.S and whose biological parents were born outside the U.S. We use this definition following the work of Rumbaut (2004). Since the students in the Add Health sample were still in high school, many of them spent most of their school years in the US.[7] 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.

Table 1: Migration generation Description

	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

The second or 2.0 generation corresponds to children who were born in the US but for which at least one of the biological parents was born outside the US. Lastly, we considered native children such as those who were born in the US and both of

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

their biological parents as well. Children born abroad whose parents born in the US are also assimilated to native children.[8] Table 1 summarizes the different cases and their corresponding types of children.

To determinate 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 response 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 and answers from the questionnaire collected at the school when information about the biological parents was missing. 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 1 and 2. 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, 2017). We included a self-esteem index constructed using different questions asked to the student in Wave I (see Table 1 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; Zuppann and Liu, 2016). 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.

In line with the broad literature on education, we include other household controls such as family structure, number of siblings, parental expectations for higher education, parental involvement, income,[9] 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 highest educated parent. When the father is not present in the household, we use the education of the mother or the adult in charge.[10]

3.3 Descriptive Statistics

Tables 3 and 4 report the means and standard deviations for all control variables by type of pupils. Children of immigrants represent 21 percent of the sample. 2.0 generation and 1.5 generation migrants 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 children report the highest level of aspiration, nearly 79 percent belonging to the 1.5 generation express the same wish. High aspirations and middle expectations are predominant among the 1.5 generation children. Only 56 percent of them report having the same level of aspirations and expectations, while 38 percent report having larger aspirations than expectations. In contrast, approximately 22 percent of native children reported larger aspirations than expectations. Immigrant children might understand the benefits of higher education, however, they might perceive lower returns 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 in the vocabulary test (PPVT), lower self-confidence score, and lower body mass index when compared to the native students. Moreover, they were raised in families with lower income, more siblings, they are less likely to speak English at

[8] 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 US before the first year.

[9] 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 imputation some values using the mean of income.

[10] 27 percent of children does not report a father living in the household nor their education level. For a more detailed description of the control variables see Table 1 and 2.

home and the mothers have a lower education level when compared to natives. The proportion of 1.5 generation immigrant students whose mother did not finish high school is more than 36 percent, as opposed to only 10 percent of the native students.

The children corresponding to the 2.0 generation immigrants show similar aspiration levels when compared to natives. However, over 27 percent of them show larger aspirations than expectations. Second-generation migrants do not seem to differ when compared to natives in aspects such as BMI, age, gender, internal locus of control, family income, or the number of siblings in the household. In contrast, they show significantly lower average scores in the vocabulary test. This could be explained by the fact that 29% live in families that do not speak English at home and the mothers are less educated than the mothers of native students.

Despite these socioeconomic differences, the parents of both 1.5 and 2.0 generation migrants 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 1.5 and 2.0 generation students respectively.

4 Empirical Strategy

We bring the data to econometric specifications using variation across individuals i, schools s and education grades g. We estimate three specifications. The first capturing the role of aspirations and expectations and their interaction with migration generation. The second estimates the effect of misalignment and it's interaction with migration generation and the third includes aspirations and expectations as additional control variables:

$$\begin{aligned} Y_{isg,t+4} &= \alpha_0 + \alpha_1 Gen_{isg} + \alpha_2 High_{isg,t} + \alpha_3 Med_{isg,t} + \alpha_4 Gen_{isg} \times High_{isg,t} + \\ &+ \alpha_5 Gen_{isg} \times Med_{isg,t} + \alpha_6 X_{isg,t} + \mu_s + \mu_g + \epsilon_{isg,t+4} \end{aligned} \tag{1}$$

$$\begin{aligned} Y_{isg,t+4} &= \beta_0 + \beta_1 Gen_{isg,t} + \beta_2 W_{isg,t} + \beta_3 D_{isg,t} + \beta_4 Gen_{isg} \times W_{isg,t} \\ &+ \beta_5 Gen_{isg} \times D_{isg,t} + \beta_6 X_{isg,t} + \mu_s + \mu_g + \epsilon_{isg,t+4} \end{aligned} \tag{2}$$

$$\begin{aligned} Y_{isg,t+4} &= \gamma_0 + \gamma_1 Gen_{isg} + \gamma_2 High_{isg,t} + \gamma_3 Med_{isg,t} + \gamma_4 W_{isg,t} + \\ &\gamma_5 D_{isg,t} + \gamma_6 Gen_{isg} \times W_{isg,t} + \gamma_8 Gen_{isg} \times D_{isg,t} + \gamma_9 X_{isg,t} + \mu_s + \mu_g + \epsilon_{isg,t+4} \end{aligned} \tag{3}$$

where $Y_{isg,t+4}$ is either the total average GPA and the GPA in Math, Science, or English literature at the end of high school. Gen_{isg} is a vector of binary variables indicating whether the teenager is a 1.5 generation migrant, a second-generation migrant, or a native. The dummy variables $High_{isg,t}$ correspond to the cases where aspirations or expectation are high. $Med_{isg,t}$ correspond to the cases where aspirations or expectations have a medium level. The variable $W_{isg,t}$ is equal to 1 for the cases where Asp< Exp and zero otherwise. The variable $D_{isg,t}$ is equal to 1 for the cases where Asp> Exp, and zero otherwise. The baseline category is when there is no difference between the level of aspiration and expectations chosen by the students. We include school and grade fixed effects (μ_s and μ_g respectively). We also substitute as an alternative school fixed effects

with neighborhood fixed effects since not all schools are nested within the same neighborhood or vice versa. [11] Moreover, the sample size within each school limits the use of a cross-classified multilevel model.

4.1 Endogeneity issues

Endogeneity constitutes a threat to the identification of the causal effect of aspirations and expectations on academic attainment. First, individuals may form their aspirations based on their performance and vice-versa. Similarly, children can update their expectations as a response to their performance. This would create a case for reverse causality, inducing a bias in the estimates of the effect of these variables on education attainment. Nevertheless, the design of the survey mitigates this concern as the expectations, and aspirations of the children are measured well before the measurement of their academic performances. In this sense, aspirations, expectations and possible misalignment are predetermined with respect to performance.[12]

The second source of endogeneity is related to the omission of unobserved factors that determine both aspirations and expectations on the one hand, and academic performance on the other hand. While the inclusion of school and grade fixed effects mitigates the role of these unobserved common determinats, the fact that not all relevant questions were asked throughout the different waves of the survey, prevents us to include individual fixed effects.[13] In the literature, additional solutions to deal with the remaining concern of endogeneity have been used ranging from experimental designs to "peer-effects" instrumental variables.[14] In our context, given the richness of the included covariates, we did not find "peer-effects" type of instruments that comply with the conditions of validity of instrumental variables.

As an alternative to experimental approaches or instrumental variable solutions, 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 size of the omitted variables to invalidate the obtained estimates, making assumptions about the relationship between selection along observables and unobservables. Based on Altonji et al. (2005), Oster (2019) presents theoretically the connection between omitted bias and coefficient stability, by exploiting the coefficient stability and R-squared movements. Formally, Oster (2019) proposes the following adjusted coefficient of interest:

$$\gamma_{adjusted} = \tilde{\gamma} - \delta[\gamma^* - \tilde{\gamma}]\frac{R_{max} - \tilde{R}}{\tilde{R} - R^*} \tag{4}$$

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} is the maximum possible R^2 if both unobserved and observed variables where included in the specification. A maximum value of R_{max} would be 1, while a minimum value

[11] The Add Health sample includes charter, choice and magnet schools that offer open enrollment programs allowing students to attend schools outside their residence districts.

[12] We also observe that expectations and aspirations does not vary for most students when we compare the responses to the survey in Wave I and II

[13] We control for a large set of individual-specific variables such as 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, and household income.

[14] Prior empirical literature has relied predominantly on randomized control trials (Goux et al., 2017; Carlana et al., 2018; Bernard et al., 2014, 2019) Researchers have conducted different experimental interventions to influence the individual's level of aspirations such as videos, meetings with school principals, or counseling programs for either parents or teenagers. Christofides et al (2015), alternatively, use an instrumental variable approach to determine the impact of aspirations on educational outcomes such as going to university and graduating. The authors use as an instrumental variable the change in the student's belief about whether a university degree is required to work in the future job at age 30. Moreover, recent studies have made use of "peer-effects" instrumental variables. For example, Kosec et al. (2018) employ as an instrumental variable a predicted aspiration index using five dimensions of aspirations and the average weights of the community instead of the individual's weight in the construction of the index. To our knowledge, no studies have used these two methodologies to estimate the effect of the gap between educational aspirations and expectations.

would be $\tilde{R}$. The parameter δ correspond to the degree of selection on unobserved factors, relative to the observables that would be needed 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 calculate the relative degree of selection on unobservables to observables (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 5.2.1, reassuringly, the problem of omitted variable bias seems negligible in our estimations.

5 Results

The regression results for the overall GPA are presented in Table 6. Tables 7, 8 and 9 report the results when the dependent variable is the GPA in mathematics, science, or English literature, respectively. These tables include all the control variables reported in Tables 4 and 5 as well as grade and school fixed effects.[15] Since we study three variables, aspiration, expectations, and the misalignment between aspirations and expectations, the tables report three different specifications. Column (1) reports the results where we regress GPA on migration generation including all control variables. Columns (2), (3), and (5) display the interaction between migration generation and the student's aspirations, expectations, and misalignment, respectively. Finally, Column (6) includes the interaction between migration generation and the student's 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 between 1.5 immigrant teenager and native teen is only 0.16 points as depicted in row one in column (1) of Table 6. 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 US-born teens of US-born parents.

Many 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' session shows that 1.5 migrant children do express higher aspirations to attend college when compared to native teens, we found no differentiated effect of aspirations on the final GPA between the children of migrants and the children of natives (see Table 5 column 3) when we control for different covariates. A similar pattern was found when analyzing specific subjects as shown in column 3 from Tables 7, 8 and 9. Results show 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.

Meanwhile, for the case of expectations, we found also a positive association between higher expectations to attend college and high school final GPA. Nevertheless, we also found a negative and significant interaction effect between high-level expectation and being for 1.5 migrant children 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 the students have a low expectation level, the difference in the

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

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 (see column 3 in Tables 7, 8 and 9). These results lead 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 result, we estimate the effect of misalignment between aspirations and expectations on the difference in GPA between 1.5 migrant children and natives. 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 are statistically insignificant. 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 expectation, the difference in the average overall GPA between native and 1.5 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 reflects in their final high school grades. We find similar results using neighborhood fixed effects (See Appendix A). Interestingly, it appears that 1.5 migrants who are endowed with educational aspirations but are pessimistic about their future educational career, do not give up their dreams. The results point to conclude 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 5.1 this frustration makes 1.5 generation migrant children spend less time in leisure activities and possibly to study more.

5.1 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.[16] The Column (2) in Table 10 reports estimates of the relationship between migrant generation 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 1 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 1. 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 for leisure activities and more time to study.

5.2 Robustness checks

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 children. The misalignment is associated with fewer leisure activities for this group

[16] Other potential activities could have been also considered as leisure activities such as playing video games. However, not all children likely possess a video console in 1994 and it 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 to study time since sport can improve the health of children and make them more able to performs other tasks, including school activities.

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 zero and four, meaning that students cannot obtain a grade greater than four or smaller than zero. Therefore, to take into account for left- and right-censoring in the dependent variable, we estimate Tobit regressions for our measures of GPA. Tables 11 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 are slightly altered by the use of a Tobit model, nevertheless, the results presented in the tables do not differ qualitatively from the results reported previously that used OLS estimations.

Moreover, we test whether the results are driven by those students who migrated at younger ages. These students have spent more time in the host country, therefore are better assimilated and able to achieve similar academic grades when compared to their native counterparts. Cortes (2006) shows that the longer first-generation migrant children reside in the US, the score gap between first- and second-generation immigrant children decrease. To ensure that our results are not driven by teenagers who migrated at younger ages, we estimate equations (1) and (2) excluding the adolescents who migrated before the age of six. Table 12 contains the OLS regression results for overall GPA excluding this sub-sample of children. When comparing the results from Tables 6 and 12, we obtain similar estimates. At first glance, 1.5 migrant teens seem to outperform native teens (Column 1). However, once we interact with migration generation and misalignment between aspirations and expectations, we find that 1.5 migrants who show higher aspirations than expectations are the ones that score a higher GPA. In Table 13, we show the results 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 when comparing with Table 6. When we eliminate the students that migrated at older ages, the difference in the coefficient between 1.5 migrant children and native children diminishes.

It is also possible that migrant children who have one native parent and one migrant parent have an advantage over the other children. Children of inter-ethnic parents might differ from children of intra-ethnic couples. For instance, Emonds and van Tubergen (2015) work show that the higher human capital and language skills of inter-ethnic couples translate into a better performance of their children. In order to test if our results are not a product of this characteristic among migrant children, we reproduce equations (1) and (2) excluding children who have one native and one migrant parent. The total number of students excluded is 470. The results are presented in Table 13. Once again the results are in line with our previous findings. Since the size of the migrant sample decreases, our standard errors are somewhat larger when compared to Table 5. Nevertheless, the results point to conclude that 1.5 generation migrants who outperform at school correspond to those who report high ambitions but pessimistic expectations.

Another concern is the temporal order of the measurement of educational outcomes relative to the measurement of aspirations and expectations. It is a concern when using a dependent variable based on all 4 years of high school transcript data, while aspirations and expectations are measured at Wave 1. For students in later high school grades during Wave 1 (for 12th graders), the aspirations and expectations were measured after the GPA have been partially or almost completely determined. The above could question the casual 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 Table 15. We find once again a significant and positive interaction between being a 1.5 generation migrant and having higher aspirations than expectations. When comparing with Table 6, it is noted that the size of the coefficient of this interaction is larger moving from 0.26 in Table 6 to 0.29 in Table 15 (Columns 6 or 7). Nevertheless, the results do not differ qualitatively from the

results reported previously using the full sample.

5.3 Omitted variable bias and coefficient stability

We employ Oster (2019) approach to test for the stability of the coefficients of interest that considers the variance explained by the controls. The underlying idea is that if a coefficient is stable after the inclusion of the observed controls, then the omitted variable bias is limited. Tables 16 to 19 show the stability of the results 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 20 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 20 also presents the different calculated δ. These deltas show the degree of importance that the unobservable determinants relative to the observables would need to have for the treatment effect to be zero. The Oster δ values are calculated for a maximum R^2 equal to 1.3 times that of the R^2 with the full set of controls. The results indicate that the degree of selection on unobservables would need to be between 11.1 to 20 times that of the degree of selection on observables for omitted variable bias to move the value of the coefficient associated with the interaction between 1.5 generation migrants and misalignment to zero. In the estimations, we observe that the degree of selection on unobservables would need to be in the opposite 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, falls outside the range of 0 to 1, the cutoff suggested by Oster (2019). This suggests that the omitted variable bias does not render our results statistically invalid.

6 Conclusion

Understanding the educational outcomes of the children of migrants deemed to be critical for the eventual integration of migrants in western countries. An extensive literature has uncovered an apparent educational advantage of immigrants' children in the US after controlling for different socioeconomic characteristics such as family income and parental education. What explains the over-achievement or super-achievement of the children of migrants in the US? 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 come from the National Longitudinal Study of Adolescent to Adult Health (AddHealth) collected by the Carolina Population Center. The AddHealth study contains detailed information on academic performance, school characteristics, and parental information of native and immigrant children in the US. This database follows a group of students born between 1974 and 1983 who studied within the US school system between 1994 and 2002. On the one hand, the data confirms that 1.5 migrant generation exhibit greater aspirations to achieve high education than their peers do. The results are similar to 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 are expressing high aspirations to achieve an university degree by choosing the academic track instead of vocational education. On the other hand, migrant teens surveyed in the AddHealth 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 be 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 US perform surprisingly well in school, we explore effort as an underlining 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 the 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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7 Tables and Figures

Table 2: Variables Description

Variable	Description
College Aspirations	Categories: Low (1 to 3), Medium (4) and High (5). Question asked: On a scale of 1 to 5, where 1 is low and 5 is high, how much do you want to go to college
College Expectations	Categories: Low (1 to 3), Medium (4) and High (5). Question asked: On a scale of 1 to 5, where 1 is low and 5 is high, how likely is it that you will go to college
Age	Age of the respondent in years in Wave I
Male	Dummy variable equal to one if the respondent 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 statements: 1) You have a lot of good qualities, 2) You are physically fit, 3) You have a lot to be proud of, 4) You like yourself just the way you are, 5) You feel like you are doing everything just about right, 6) You feel socially accepted, 7) You feel loved and wanted.
Internal Locus	Dummy variable equal to one if the respondent answered positively to the following question: "Do you agree or disagree with the following statement? When you get what you want, it's usually because you worked hard for it".

(continues)

Table 3: Variables Description

Variable	Description
Ethnicity	Categories: White non-hispanic, hispanic , black non-Hispanic, asian, 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
Parent education	Categories: Less than high school, High school graduate, College graduate, missing information. We used both the child answers and the mother's reply in order to reduce the number of missing values.
Parental contextual attainment	The percentage of individuals of the same age group in the parent's origin country who have the same or lower 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 dataset.
Family structure	Categories: Both biological parents, at least one step-parent, single parent or other.
Parental expectations	Parents were asked in Wave 1, how disappointed would you be if [your child] did not graduate from college? Answers included three categories: very disappointed, somewhat disappointed, not disappointed; we use not disappointed as the reference category.
Parent involvement index	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. Have you talked about your school work or grades? 2) Have you worked on a project for school? 3) Have you talked about other things you're doing 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.

Table 4: Descriptive statistics

	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]
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 5: Descriptive statistics (continues)

	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]
Mother 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]
Missing information		0.118	0.066	-0.118+	-0.066+
		(0.384)	(0.295)	[0.031]	[0.014]
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 Parents expectations	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	36.9653	79.935	72.575	-42.970	-35.609
attainment	(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 * $p < 0.10$, ** $p < 0.05$, $^{+}$ $p < 0.01$.

Table 6: OLS regression results for Overall GPA (4 year average) with school fixed effects

	(1) gpal	(2) gpal	(3) gpal	(4) gpal	(5) gpal	(6) gpal
Gener. 1.5	0.168**	0.314*	0.476+	0.188+	0.0981	0.0789
	(0.0662)	(0.185)	(0.117)	(0.0672)	(0.0751)	(0.0756)
Gener. 2	-0.0408	-0.0161	0.0181	-0.0279	0.000155	0.00304
	(0.0523)	(0.135)	(0.104)	(0.0525)	(0.0571)	(0.0543)
Medium aspi.		0.151+				0.128**
		(0.0425)				(0.0560)
High aspi.		0.349+				0.288+
		(0.0346)				(0.0852)
Gener. 1.5 × Medium aspi.		-0.0630				
		(0.228)				
Gener. 1.5 × High aspi.		-0.205				
		(0.188)				
Gener. 2 × Medium aspi.		-0.0744				
		(0.136)				
Gener. 2 × High aspi.		-0.0193				
		(0.130)				
Medium Exp.			0.208+			0.0933*
			(0.0343)			(0.0482)
High Exp.			0.439+			0.200**
			(0.0335)			(0.0887)
Gener. 1.5 × Medium Exp.			-0.224*			
			(0.127)			
Gener. 1.5 × High Exp.			-0.438+			
			(0.119)			
Gener. 2 × Medium Exp.			-0.0609			
			(0.113)			
Gener. 2 × High Exp.			-0.0329			
			(0.108)			
Asp.< Exp.				-0.0719*	-0.0568	0.0800
				(0.0382)	(0.0419)	(0.0630)
Asp.> Exp.				-0.148+	-0.160+	-0.119*
				(0.0286)	(0.0320)	(0.0645)
Gener. 1.5 × Asp.< Exp.					-0.0630	-0.0160
					(0.143)	(0.131)
Gener. 1.5 × Asp.> Exp.					0.254+	0.264+
					(0.0951)	(0.0957)
Gener. 2 × Asp.< Exp.					-0.151	-0.151
					(0.103)	(0.102)
Gener. 2 × Asp.> Exp.					-0.0494	-0.0437
					(0.0892)	(0.0859)
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	Y	Y	Y	Y	Y	Y
Household controls	Y	Y	Y	Y	Y	Y
Grade FE	Y	Y	Y	Y	Y	Y
School FE	Y	Y	Y	Y	Y	Y

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. 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.

Table 7: OLS regression results for Math GPA (4 year average) with school fixed effects

	(1)	(2)	(3)	(4)	(5)	(6)
Gener. 1.5	0.172*	0.291	0.470+	0.191**	0.0779	0.0625
	(0.0900)	(0.216)	(0.145)	(0.0906)	(0.0958)	(0.0971)
Gener. 2	-0.0157	0.0714	-0.00673	-0.00485	0.0323	0.0351
	(0.0620)	(0.136)	(0.107)	(0.0618)	(0.0663)	(0.0642)
Medium aspi.		0.112**				0.0888
		(0.0464)				(0.0665)
High aspi.		0.289+				0.245**
		(0.0422)				(0.107)
Gener. 1.5 × Medium aspi.		0.0332				
		(0.262)				
Gener. 1.5 × High aspi.		-0.181				
		(0.210)				
Gener. 2 × Medium aspi.		-0.188				
		(0.149)				
Gener. 2 × High aspi.		-0.0806				
		(0.139)				
Medium Exp.			0.148+			0.0594
			(0.0439)			(0.0599)
High Exp.			0.381+			0.169
			(0.0397)			(0.112)
Gener. 1.5 × Medium Exp.			-0.102			
			(0.156)			
Gener. 1.5 × High Exp.			-0.491+			
			(0.139)			
Gener. 2 × Medium Exp.			0.0398			
			(0.131)			
Gener. 2 × High Exp.			0.0103			
			(0.115)			
Asp.< Exp.				-0.0219	-0.00350	0.126
				(0.0508)	(0.0565)	(0.0824)
Asp.> Exp.				-0.131+	-0.146+	-0.0994
				(0.0380)	(0.0423)	(0.0876)
Gener. 1.5 × Asp.< Exp.					-0.0954	-0.0567
					(0.142)	(0.137)
Gener. 1.5 × Asp.> Exp.					0.320+	0.328+
					(0.116)	(0.118)
Gener. 2 × Asp.< Exp.					-0.178	-0.175
					(0.116)	(0.117)
Gener. 2 × Asp.> Exp.					-0.0734	-0.0676
					(0.106)	(0.104)
Constant	2.869+	2.795+	2.752+	2.853+	2.902+	2.766+
	(0.485)	(0.489)	(0.471)	(0.480)	(0.473)	(0.466)
Observations	9124	9124	9124	9124	9124	9124
R^2	0.280	0.290	0.299	0.283	0.284	0.300
Individual controls	Y	Y	Y	Y	Y	Y
Household controls	Y	Y	Y	Y	Y	Y
Grade FE	Y	Y	Y	Y	Y	Y
School FE	Y	Y	Y	Y	Y	Y

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. 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.

Table 8: OLS regression results for English GPA (4 year average) with school fixed effects

	(1)	(2)	(3)	(4)	(5)	(6)
Gener. 1.5	0.238^{+}	0.418*	0.521^{+}	0.261^{+}	0.187**	0.170*
	(0.0755)	(0.219)	(0.140)	(0.0757)	(0.0879)	(0.0889)
Gener. 2	-0.0430	0.0260	0.0265	-0.0297	0.00659	0.0103
	(0.0552)	(0.152)	(0.117)	(0.0555)	(0.0598)	(0.0574)
Medium aspi.		0.126**				0.102
		(0.0504)				(0.0632)
High aspi.		0.372^{+}				0.299^{+}
		(0.0436)				(0.110)
Gener. 1.5 × Medium aspi.		-0.0959				
		(0.250)				
Gener. 1.5 × High aspi.		-0.244				
		(0.222)				
Gener. 2 × Medium aspi.		-0.0849				
		(0.154)				
Gener. 2 × High aspi.		-0.0754				
		(0.152)				
Medium Exp.			0.179^{+}			0.0564
			(0.0426)			(0.0591)
High Exp.			0.451^{+}			0.212**
			(0.0405)			(0.107)
Gener. 1.5 × Medium Exp.			-0.195			
			(0.156)			
Gener. 1.5 × High Exp.			-0.392^{+}			
			(0.130)			
Gener. 2 × Medium Exp.			-0.0896			
			(0.126)			
Gener. 2 × High Exp.			-0.0347			
			(0.129)			
Asp.< Exp.				-0.0846**	-0.0673	0.0973
				(0.0385)	(0.0417)	(0.0765)
Asp.> Exp.				-0.158^{+}	-0.165^{+}	-0.0948
				(0.0325)	(0.0372)	(0.0743)
Gener. 1.5 × Asp.< Exp.					-0.139	-0.0942
					(0.205)	(0.187)
Gener. 1.5 × Asp.> Exp.					0.212**	0.224**
					(0.107)	(0.106)
Gener. 2 × Asp.< Exp.					-0.142	-0.141
					(0.131)	(0.129)
Gener. 2 × Asp.> Exp.					-0.0859	-0.0791
					(0.100)	(0.0980)
Constant	2.639^{+}	2.533^{+}	2.471^{+}	2.627^{+}	2.669^{+}	2.487^{+}
	(0.447)	(0.451)	(0.445)	(0.447)	(0.444)	(0.439)
Observations	9119	9119	9119	9119	9119	9119
R^2	0.353	0.371	0.381	0.358	0.359	0.384
Individual controls	Y	Y	Y	Y	Y	Y
Household controls	Y	Y	Y	Y	Y	Y
Grade FE	Y	Y	Y	Y	Y	Y
School FE	Y	Y	Y	Y	Y	Y

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. 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.

Table 9: OLS regression results for Science GPA (4 year average) with school fixed effects

	(1)	(2)	(3)	(4)	(5)	(6)
Gener. 1.5	0.176**	0.427**	0.516+	0.201**	0.129	0.109
	(0.0806)	(0.193)	(0.129)	(0.0825)	(0.0904)	(0.0881)
Gener. 2	-0.0495	0.0499	0.00928	-0.0338	0.00145	0.00435
	(0.0622)	(0.126)	(0.102)	(0.0631)	(0.0678)	(0.0655)
Medium aspi.		0.120**				0.133*
		(0.0537)				(0.0727)
High aspi.		0.331+				0.335+
		(0.0416)				(0.111)
Gener. 1.5 × Medium aspi.		-0.159				
		(0.268)				
Gener. 1.5 × High aspi.		-0.318				
		(0.222)				
Gener. 2 × Medium aspi.		-0.0930				
		(0.139)				
Gener. 2 × High aspi.		-0.112				
		(0.125)				
Medium Exp.			0.202+			0.0726
			(0.0414)			(0.0581)
High Exp.			0.430+			0.125
			(0.0416)			(0.111)
Gener. 1.5 × Medium Exp.			-0.320**			
			(0.150)			
Gener. 1.5 × High Exp.			-0.433+			
			(0.147)			
Gener. 2 × Medium Exp.			-0.0568			
			(0.119)			
Gener. 2 × High Exp.			-0.0323			
			(0.110)			
Asp.< Exp.				-0.0738	-0.0614	0.110
				(0.0535)	(0.0586)	(0.0941)
Asp.> Exp.				-0.171+	-0.176+	-0.181**
				(0.0335)	(0.0371)	(0.0751)
Gener. 1.5 × Asp.< Exp.					-0.000162	0.0497
					(0.131)	(0.123)
Gener. 1.5 × Asp.> Exp.					0.191*	0.200*
					(0.112)	(0.113)
Gener. 2 × Asp.< Exp.					-0.145	-0.143
					(0.133)	(0.133)
Gener. 2 × Asp.> Exp.					-0.0832	-0.0794
					(0.0916)	(0.0901)
Constant	2.459+	2.350+	2.273+	2.443+	2.474+	2.291+
	(0.475)	(0.482)	(0.466)	(0.470)	(0.468)	(0.464)
Observations	9091	9091	9091	9091	9091	9091
R^2	0.325	0.337	0.346	0.329	0.330	0.348
Individual controls	Y	Y	Y	Y	Y	Y
Household controls	Y	Y	Y	Y	Y	Y
Grade FE	Y	Y	Y	Y	Y	Y
School FE	Y	Y	Y	Y	Y	Y

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. 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.

Table 10: Number of hours watching tv per week in wave 2

	(1) hours tvW2	(2) hours tvW2	(3) hours tvW2
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)
Hours tv in t-1			0.354^{+}
			(0.0200)
Observations	8420	8420	8402
R^2	0.130	0.133	0.242
Individual controls	Y	Y	Y
Household controls	Y	Y	Y
Grade	Y	Y	Y
School FE	Y	Y	Y

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. 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.

Table 11: 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+	0.0965	0.0773
	(0.0667)	(0.189)	(0.118)	(0.0677)	(0.0756)	(0.0761)
Gener. 2	-0.0416	-0.0155	0.0162	-0.0285	0.00207	0.00492
	(0.0537)	(0.135)	(0.104)	(0.0538)	(0.0588)	(0.0560)
Medium aspi.		0.153+				0.131**
		(0.0424)				(0.0560)
High aspi.		0.352+				0.292+
		(0.0347)				(0.0856)
Gener. 1.5 × Medium aspi.		-0.0580				
		(0.232)				
Gener. 1.5 × High aspi.		-0.202				
		(0.192)				
Gener. 2 × Medium aspi.		-0.0809				
		(0.135)				
Gener. 2 × High aspi.		-0.0196				
		(0.130)				
Medium Exp.			0.208+			0.0912*
			(0.0342)			(0.0486)
High Exp.			0.441+			0.199**
			(0.0338)			(0.0893)
Gener. 1.5 × Medium Exp.			-0.224*			
			(0.129)			
Gener. 1.5 × High Exp.			-0.438+			
			(0.121)			
Gener. 2 × Medium Exp.			-0.0628			
			(0.113)			
Gener. 2 × High Exp.			-0.0298			
			(0.108)			
Asp.< Exp.				-0.0725*	-0.0565	0.0821
				(0.0386)	(0.0423)	(0.0637)
Asp.> Exp.				-0.149+	-0.161+	-0.120*
				(0.0288)	(0.0322)	(0.0646)
Gener. 1.5 × Asp.< Exp.					-0.0673	-0.0194
					(0.144)	(0.132)
Gener. 1.5 × Asp.> Exp.					0.253+	0.263+
					(0.0959)	(0.0964)
Gener. 2 × Asp.< Exp.					-0.160	-0.158
					(0.103)	(0.102)
Gener. 2 × Asp.> Exp.					-0.0564	-0.0502
					(0.0902)	(0.0869)
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	Y	Y	Y	Y	Y	Y
Household controls	Y	Y	Y	Y	Y	Y
Grade	Y	Y	Y	Y	Y	Y
School FE	Y	Y	Y	Y	Y	Y

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.

Table 12: OLS regression results for Overall GPA excluding the children who migrated to the US between 0 and 5 years old

	(1)	(2)	(3)	(4)	(5)	(6)
Gener. 1.5	0.182**	0.421*	0.602+	0.205+	0.113	0.0908
	(0.0760)	(0.224)	(0.139)	(0.0758)	(0.0817)	(0.0839)
Gener. 2	-0.0323	-0.00593	0.0223	-0.0187	0.00849	0.0110
	(0.0533)	(0.135)	(0.105)	(0.0531)	(0.0579)	(0.0551)
Medium aspi.		0.154+				0.125**
		(0.0425)				(0.0566)
High aspi.		0.346+				0.287+
		(0.0347)				(0.0869)
Gener. 1.5 × Medium aspi.		-0.300				
		(0.275)				
Gener. 1.5 × High aspi.		-0.300				
		(0.219)				
Gener. 2 × Medium aspi.		-0.0783				
		(0.135)				
Gener. 2 × High aspi.		-0.0209				
		(0.130)				
Medium Exp.			0.209+			0.0892*
			(0.0346)			(0.0491)
High Exp.			0.438+			0.198**
			(0.0337)			(0.0905)
Gener. 1.5 × Medium Exp.			-0.428+			
			(0.151)			
Gener. 1.5 × High Exp.			-0.551+			
			(0.132)			
Gener. 2 × Medium Exp.			-0.0569			
			(0.114)			
Gener. 2 × High Exp.			-0.0289			
			(0.108)			
Asp.< Exp.				-0.0680*	-0.0532	0.0853
				(0.0388)	(0.0418)	(0.0639)
Asp.> Exp.				-0.154+	-0.161+	-0.118*
				(0.0283)	(0.0317)	(0.0656)
Gener. 1.5 × Asp.< Exp.					-0.144	-0.0413
					(0.193)	(0.184)
Gener. 1.5 × Asp.> Exp.					0.246**	0.259+
					(0.0947)	(0.0987)
Gener. 2 × Asp.< Exp.					-0.152	-0.150
					(0.104)	(0.102)
Gener. 2 × Asp.> Exp.					-0.0514	-0.0458
					(0.0876)	(0.0845)
Constant	2.948+	2.841+	2.773+	2.932+	2.977+	2.800+
	(0.423)	(0.425)	(0.409)	(0.419)	(0.414)	(0.404)
Observations	8915	8915	8915	8915	8915	8915
R^2	0.398	0.416	0.430	0.403	0.404	0.432
Individual controls	Y	Y	Y	Y	Y	Y
Household controls	Y	Y	Y	Y	Y	Y
Grade	Y	Y	Y	Y	Y	Y
School FE	Y	Y	Y	Y	Y	Y

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. 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.

Table 13: OLS regression results for Overall GPA excluding the children who migrated to the US when they were older than 14 years old

	(1)	(2)	(3)	(4)	(5)	(6)
Gener. 1.5	0.161**	0.263	0.437+	0.179**	0.101	0.0774
	(0.0712)	(0.206)	(0.122)	(0.0723)	(0.0787)	(0.0788)
Gener. 2	-0.0352	-0.00523	0.0274	-0.0222	0.00552	0.00787
	(0.0515)	(0.133)	(0.103)	(0.0515)	(0.0561)	(0.0536)
Medium aspi.		0.151+				0.132**
		(0.0425)				(0.0557)
High aspi.		0.348+				0.287+
		(0.0347)				(0.0840)
Gener. 1.5 × Medium aspi.		0.0541				
		(0.245)				
Gener. 1.5 × High aspi.		-0.165				
		(0.212)				
Gener. 2 × Medium aspi.		-0.0789				
		(0.135)				
Gener. 2 × High aspi.		-0.0251				
		(0.129)				
Medium Exp.			0.208+			0.0964**
			(0.0342)			(0.0477)
High Exp.			0.438+			0.202**
			(0.0335)			(0.0878)
Gener. 1.5 × Medium Exp.			-0.180			
			(0.136)			
Gener. 1.5 × High Exp.			-0.404+			
			(0.128)			
Gener. 2 × Medium Exp.			-0.0671			
			(0.112)			
Gener. 2 × High Exp.			-0.0384			
			(0.108)			
Asp.< Exp.				-0.0715*	-0.0554	0.0781
				(0.0384)	(0.0419)	(0.0627)
Asp.> Exp.				-0.150+	-0.160+	-0.118*
				(0.0288)	(0.0320)	(0.0640)
Gener. 1.5 × Asp.< Exp.					-0.104	-0.0563
					(0.172)	(0.160)
Gener. 1.5 × Asp.> Exp.					0.233**	0.248**
					(0.106)	(0.108)
Gener. 2 × Asp.< Exp.					-0.153	-0.153
					(0.104)	(0.103)
Gener. 2 × Asp.> Exp.					-0.0494	-0.0439
					(0.0893)	(0.0861)
Constant	2.992+	2.889+	2.835+	2.984+	3.017+	2.837+
	(0.423)	(0.423)	(0.407)	(0.419)	(0.414)	(0.403)
Observations	9056	9056	9056	9056	9056	9056
R^2	0.397	0.416	0.428	0.402	0.403	0.431
Individual controls	Y	Y	Y	Y	Y	Y
Household controls	Y	Y	Y	Y	Y	Y
Grade	Y	Y	Y	Y	Y	Y
School FE	Y	Y	Y	Y	Y	Y

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. 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.

Table 14: OLS regression results for Overall GPA (4 year average) excluding the children with one migrant and one native parent

	(1)	(2)	(3)	(4)	(5)	(6)
Gener. 1.5	0.175**	0.363*	0.500+	0.204**	0.121	0.113
	(0.0851)	(0.206)	(0.129)	(0.0865)	(0.0925)	(0.0939)
Gener. 2	-0.0284	-0.111	-0.0227	-0.00726	0.00376	0.0190
	(0.0665)	(0.123)	(0.117)	(0.0673)	(0.0735)	(0.0710)
Medium aspi.		0.150+				0.128**
		(0.0422)				(0.0584)
High aspi.		0.348+				0.272+
		(0.0345)				(0.0895)
Gener. 1.5 × Medium aspi.		-0.111				
		(0.237)				
Gener. 1.5 × High aspi.		-0.247				
		(0.205)				
Gener. 2 × Medium aspi.		0.155				
		(0.138)				
Gener. 2 × High aspi.		0.0924				
		(0.131)				
Medium Exp.			0.204+			0.0951*
			(0.0340)			(0.0498)
High Exp.			0.434+			0.218**
			(0.0328)			(0.0920)
Gener. 1.5 × Medium Exp.			-0.249*			
			(0.130)			
Gener. 1.5 × High Exp.			-0.436+			
			(0.128)			
Gener. 2 × Medium Exp.			0.00232			
			(0.134)			
Gener. 2 × High Exp.			0.0715			
			(0.125)			
Asp.< Exp.				-0.0585	-0.0603	0.0665
				(0.0378)	(0.0418)	(0.0646)
Asp.> Exp.				-0.145+	-0.158+	-0.102
				(0.0298)	(0.0319)	(0.0670)
Gener. 1.5 × Asp.< Exp.					-0.0659	-0.0236
					(0.153)	(0.138)
Gener. 1.5 × Asp.> Exp.					0.235**	0.242**
					(0.0983)	(0.0989)
Gener. 2 × Asp.< Exp.					0.0631	0.0602
					(0.159)	(0.149)
Gener. 2 × Asp.> Exp.					-0.0364	-0.0261
					(0.102)	(0.0998)
Constant	3.049+	2.949+	2.897+	3.030+	3.064+	2.907+
	(0.416)	(0.418)	(0.405)	(0.414)	(0.410)	(0.401)
Observations	8683	8683	8683	8683	8683	8683
R^2	0.402	0.421	0.433	0.407	0.408	0.435
Individual controls	Y	Y	Y	Y	Y	Y
Household controls	Y	Y	Y	Y	Y	Y
Grade	Y	Y	Y	Y	Y	Y
School FE	Y	Y	Y	Y	Y	Y

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. 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.

Table 15: OLS regression results for Overall GPA (4 year average) with school fixed effects without students in 12 grade

	(1)	(2)	(3)	(4)	(5)	(6)
Gener. 1.5	0.182**	0.324	0.500+	0.200**	0.0947	0.0707
	(0.0784)	(0.242)	(0.136)	(0.0797)	(0.0884)	(0.0891)
Gener. 2	-0.0347	0.0529	0.0815	-0.0214	0.00814	0.0175
	(0.0557)	(0.142)	(0.104)	(0.0559)	(0.0622)	(0.0591)
Medium aspi.		0.162+				0.143**
		(0.0438)				(0.0594)
High aspi.		0.377+				0.305+
		(0.0369)				(0.0926)
Gener. 1.5 × Medium aspi.		-0.0613				
		(0.276)				
Gener. 1.5 × High aspi.		-0.204				
		(0.234)				
Gener. 2 × Medium aspi.		-0.148				
		(0.145)				
Gener. 2 × High aspi.		-0.0893				
		(0.140)				
Medium Exp.			0.233+			0.109**
			(0.0350)			(0.0505)
High Exp.			0.455+			0.207**
			(0.0379)			(0.0958)
Gener. 1.5 × Medium Exp.			-0.224			
			(0.143)			
Gener. 1.5 × High Exp.			-0.472+			
			(0.132)			
Gener. 2 × Medium Exp.			-0.133			
			(0.116)			
Gener. 2 × High Exp.			-0.0934			
			(0.113)			
Asp.< Exp.				-0.0974**	-0.0808	0.0641
				(0.0472)	(0.0515)	(0.0722)
Asp.> Exp.				-0.142+	-0.156+	-0.118*
				(0.0308)	(0.0340)	(0.0696)
Gener. 1.5 × Asp.< Exp.					-0.109	-0.0661
					(0.199)	(0.200)
Gener. 1.5 × Asp.> Exp.					0.280+	0.290+
					(0.0989)	(0.0996)
Gener. 2 × Asp.< Exp.					-0.194	-0.211
					(0.143)	(0.144)
Gener. 2 × Asp.> Exp.					-0.0445	-0.0482
					(0.0989)	(0.0969)
Constant	2.963+	2.800+	2.763+	2.972+	3.003+	2.743+
	(0.441)	(0.438)	(0.415)	(0.437)	(0.431)	(0.415)
Observations	7707	7707	7707	7707	7707	7707
R^2	0.397	0.417	0.429	0.402	0.403	0.432
Individual controls	Y	Y	Y	Y	Y	Y
Household controls	Y	Y	Y	Y	Y	Y
Grade	Y	Y	Y	Y	Y	Y
School FE	Y	Y	Y	Y	Y	Y

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. 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.

Table 16: Stability of coeffients OLS regression results for Overall GPA (4 year average) with school fixed effects

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	gpal	gpal	gpal	gpal	gpal	gpal	gpal
Gener. 1.5	-0.0475	-0.110	0.145	0.0834	0.0227	0.0331	0.0789
	(0.0979)	(0.0979)	(0.0927)	(0.105)	(0.0956)	(0.0906)	(0.0756)
Gener. 2	0.0881*	-0.0360	0.0897**	0.109*	-0.0258	-0.0340	0.00304
	(0.0522)	(0.0583)	(0.0397)	(0.0568)	(0.0467)	(0.0472)	(0.0543)
Asp.< Exp.	-0.104**	-0.0498	0.0587	-0.110**	0.0769	0.0807	0.0800
	(0.0488)	(0.0489)	(0.0700)	(0.0457)	(0.0692)	(0.0666)	(0.0630)
Asp.> Exp.	-0.396+	-0.258+	-0.121*	-0.340+	-0.101	-0.0948	-0.119*
	(0.0377)	(0.0356)	(0.0720)	(0.0351)	(0.0700)	(0.0689)	(0.0645)
Gener. 1.5 × Asp.< Exp.	-0.0310	-0.0232	-0.0561	0.0414	-0.0562	-0.121	-0.0160
	(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)	(0.0957)
Gener. 2 × Asp.< Exp.	-0.218	-0.193	-0.192**	-0.144	-0.175*	-0.180*	-0.151
	(0.133)	(0.120)	(0.0930)	(0.130)	(0.0951)	(0.0966)	(0.102)
Gener. 2 × Asp.> Exp.	-0.0397	-0.0184	-0.0389	-0.0143	-0.0323	-0.0374	-0.0437
	(0.0897)	(0.0863)	(0.0836)	(0.0891)	(0.0823)	(0.0815)	(0.0859)
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	N	N	Y	N	Y	Y	Y
Household	N	Y	N	N	Y	Y	Y
Grade	N	N	N	N	N	Y	Y
School FE	N	N	N	Y	N	N	Y

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. 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.

Table 17: Stability of coeffients OLS regression results for Math (4 year average) with school fixed effects

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	math	math	math	math	math	math	math
Gener. 1.5	-0.0786	-0.157	0.118	0.124	-0.0130	-0.00239	0.0625
	(0.114)	(0.118)	(0.101)	(0.122)	(0.111)	(0.106)	(0.0971)
Gener. 2	0.105*	-0.0249	0.139+	0.151**	0.0132	0.00576	0.0351
	(0.0611)	(0.0674)	(0.0468)	(0.0622)	(0.0589)	(0.0580)	(0.0642)
Asp.< Exp.	-0.0471	0.00404	0.122	-0.0524	0.137	0.143*	0.126
	(0.0591)	(0.0569)	(0.0880)	(0.0587)	(0.0852)	(0.0847)	(0.0824)
Asp.> Exp.	-0.363+	-0.234+	-0.128	-0.305+	-0.106	-0.102	-0.0994
	(0.0475)	(0.0446)	(0.0963)	(0.0432)	(0.0953)	(0.0950)	(0.0876)
Gener. 1.5 × Asp.< Exp.	-0.0853	-0.0969	-0.0952	0.0178	-0.111	-0.176	-0.0567
	(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	-0.0977	-0.1000	-0.0341	-0.0966	-0.0994	-0.0676
	(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	N	N	Y	N	Y	Y	Y
Household	N	Y	N	N	Y	Y	Y
Grade	N	N	N	N	N	Y	Y
School FE	N	N	N	Y	N	N	Y

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. 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.

Table 18: Stability of coeffients OLS regression results for English Literaure (4 year average) with school fixed effects

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	engl	engl	engl	engl	engl	engl	engl
Gener. 1.5	0.0605	-0.00262	0.215**	0.138	0.109	0.119	0.170*
	(0.102)	(0.103)	(0.108)	(0.112)	(0.109)	(0.104)	(0.0889)
Gener. 2	0.0922	-0.0186	0.0727	0.0865	-0.0245	-0.0310	0.0103
	(0.0619)	(0.0617)	(0.0516)	(0.0613)	(0.0517)	(0.0517)	(0.0574)
Asp.< Exp.	-0.113**	-0.0575	0.0736	-0.124+	0.0897	0.0911	0.0973
	(0.0509)	(0.0495)	(0.0828)	(0.0444)	(0.0815)	(0.0800)	(0.0765)
Asp.> Exp.	-0.401+	-0.265+	-0.0840	-0.358+	-0.0658	-0.0583	-0.0948
	(0.0426)	(0.0426)	(0.0807)	(0.0405)	(0.0793)	(0.0789)	(0.0743)
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.	-0.0644	-0.0453	-0.0752	-0.0440	-0.0682	-0.0736	-0.0791
	(0.0943)	(0.0929)	(0.0926)	(0.0962)	(0.0917)	(0.0911)	(0.0980)
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	N	N	Y	N	Y	Y	Y
Household	N	Y	N	N	Y	Y	Y
Grade	N	N	N	N	N	Y	Y
School FE	N	N	N	Y	N	N	Y

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. 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.

Table 19: Stability of coeffients OLS regression results for Science (4 year average) with school fixed effects

	(1) scie	(2) scie	(3) scie	(4) scie	(5) scie	(6) scie	(7) scie
Gener. 1.5	-0.0399	-0.0950	0.153*	0.0782	0.0309	0.0411	0.109
	(0.110)	(0.115)	(0.0902)	(0.129)	(0.0968)	(0.0923)	(0.0881)
Gener. 2	0.104	-0.0218	0.108**	0.0877	-0.0115	-0.0207	0.00435
	(0.0639)	(0.0740)	(0.0521)	(0.0632)	(0.0595)	(0.0592)	(0.0655)
Asp.< Exp.	-0.107*	-0.0510	0.107	-0.116**	0.122	0.126	0.110
	(0.0611)	(0.0594)	(0.100)	(0.0572)	(0.0997)	(0.0971)	(0.0941)
Asp.> Exp.	-0.412+	-0.269+	-0.187**	-0.355+	-0.167**	-0.160**	-0.181**
	(0.0409)	(0.0385)	(0.0821)	(0.0386)	(0.0810)	(0.0794)	(0.0751)
Gener. 1.5 × Asp.< Exp.	0.0526	0.0566	0.0285	0.110	0.0217	-0.0389	0.0497
	(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.	-0.0859	-0.0600	-0.0847	-0.0531	-0.0739	-0.0786	-0.0794
	(0.0955)	(0.0916)	(0.0921)	(0.0910)	(0.0897)	(0.0889)	(0.0901)
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	N	N	Y	N	Y	Y	Y
Household	N	Y	N	N	Y	Y	Y
Grade	N	N	N	N	N	Y	Y
School FE	N	N	N	Y	N	N	Y

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. 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.

Table 20: Oster Check for omitted variable bias

	(1) Overall GPA	(2) Math GPA	(3) English GPA	(4) Science GPA
A) Uncontrolled Coefficients				
Gener. 1.5	-0.0475	-0.0786	0.0605	-0.0399
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	0.0789	0.0625	0.17	0.109
Asp.> Exp.	-0.119	-0.0994	0.0948	-0.181
Gener. 1.5 x Asp.> Exp.	0.264	0.328	0.224	0.2
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 present the checks for the presence of omitted variable bias proposed by Oster, 2016. In part C, we display the bias-adjusted coefficients assuming that the level of selection on unobservables is equal to the selection on observables (δ= 1) with the maximum R^2 value is 1.3*R^2 with the full set of controls. In the part D, we calculate Oster δ for Gener. 1.5 ; Asp.> Exp and Gener. 1.5 x Asp.> Exp, for a null of zero and for a maximum R^2 equal to 1.3 times that of the R^2 with the full set of controls. * $p < 0.10$, ** $p < 0.05$, + $p < 0.01$.