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Dreams and Barriers

Aspirations, Expectations, and Schooling Outcomes of Indonesian Students

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Abstract

High aspirations for their future motivate youth to strive toward them and achieve better outcomes. However, the influence of perceived constraints on the motivational power of aspirations is unclear: do high aspirations motivate independently of constraints or only when expected constraints seem workable? This paper explores this question with a gender lens and using a large, cross-sectional survey of adolescent students in Indonesia. The findings show that most students aspire to high education levels, but only half of the students expect to complete the level to which they aspire. Although girls have higher aspirations than boys, girls are less likely to expect to achieve their aspirations. Years of aspired education are strongly correlated with better current schooling outcomes (grades and attendance), and while expectations are also associated with better schooling outcomes, the relationship is nonlinear. Aspirations seem to motivate students despite their perceived constraints, unless there is a large gap between their aspirations and expectations. Although there are similar patterns for boys and girls, aspirations are more correlated with boys' attendance, and expectations are more strongly related to boys' grades and attendance. Students cite both mental barriers and economic constraints to achieving their aspirations, especially the latter for girls. The results suggest that both male and female Indonesian students could benefit from programs that boost aspirations and address psychological and economic constraints.

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Aspirations, Expectations, and Schooling Outcomes of Indonesian Students

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1. Introduction

Growing evidence suggests that aspirations are a key factor shaping students' schooling and later-life outcomes (Fruttero, Muller, and Calvo-González 2021). In theory, aspirations for the future act as reference points that guide decisions and inspire effort towards the aspired goals (Ray 2006; Dalton, Ghosal, and Mani 2016; Genicot and Ray 2020). Longitudinal analyses from Brazil, China, Ethiopia, France, and India show that adolescents with higher aspirations indeed also complete more schooling and get better academic outcomes (Glewwe, Huang, and Park 2017; Favara 2017; Ross 2019; Guyon and Huillery 2021; Gagete-Miranda 2022). Likewise, some experimental studies of interventions raising schooling outcomes suggest higher aspirations were the mechanism through which youth changed their behaviors and eventually got better outcomes (Beaman et al. 2012; Avitabile and Hoyos 2018; Ross et al. 2021; Bernard et al. 2022; Riley 2022). On the flip side, disadvantaged students, such as immigrants and those from poor families, are typically less aware of top educational pathways and underestimate their academic ability, leading them to develop low aspirations and eventually confirm these lower prospects (Guyon and Huillery 2021; Carlana, La Ferrara, and Pinotti 2022).

A remaining open question is how perceived constraints affect the motivation spurred by aspirations. Do high aspirations lead youth to better outcomes no matter the constraints they anticipate? Or do aspirations motivate youth only when the expected constraints on their educational path—such as the lack of money and family support, low perceived abilities, etc.—feel manageable? This is a key issue for policy design. If aspirations alone are sufficient to motivate students, interventions can focus on increasing awareness of opportunities and motivating students to dream big. On the other hand, if students' expectations of their future are more salient, expected constraints may curb motivation, and interventions could focus on removing actual constraints and on fostering the perception that they are surmountable.

We examine this issue for a large sample of students in junior secondary school in Indonesia. We use a cross-sectional survey of approximately 56,000 eighth-grade students (age 14 on average) from 2,095 public schools on the Indonesian islands of Java and Sumatera. The data allow to distinguish aspirations, measured from self-reported preferences of students' future completed educational level in a hypothetical scenario in which they had no constraints, and expectations, which are their self-assessed most likely outcomes given their current situation. Having lower expectations than aspirations would mean that the student perceives binding constraints to achieve his or her educational aspirations.

We aim to answer three main questions. First, is there a gap between students' aspirations and expectations, which would indicate that they feel constrained when imagining their future education? If yes, how large is it and how does it differ by gender? Second, how do aspirations, expectations, and having a gap between the two correlate with schooling outcomes such as grades and school attendance, and are these relationships different for girls and boys? Such correlations can suggest the extent to which aspirations and expectations relate to students' current effort in school. Third, what factors do students perceive as their main barriers to fulfilling their aspirations, and do these factors vary by gender?

Our study has at least three main contributions. First, we compare the relationship between aspirations and outcomes with the relationship between expectations and outcomes from one of the few surveys of students measuring both concepts. Second, this is one of the first studies to discuss students' constraints related to their aspirations. Third, our analysis systematically assesses gender differences, a relatively understudied topic, and our results are based on a large-scale survey from a middle-income country.

We find that most Indonesian students aspire to high levels of education but only half of the students expect to complete their aspired level. Three-quarters of the students aspire to postsecondary education, dominantly university education. However, on average, students expect educational levels that represent three years less of education than their aspired level. A non-negligible 15 percent of students have a 9-year aspirations-expectations gap, which represents aspiring for an 8-year university degree and expecting to complete the equivalent of high school. While boys tend to aspire to lower levels of education, girls aspire higher but expect much less than they aspire to: while 86 percent of girls aspire to a postsecondary degree (compared to 67 percent of boys), only 55 percent expect it (compared to 42 percent of boys).

Higher aspirations correlate with better grades and, up to a point, lower absenteeism. Aspirations are positively correlated with grades across the distribution, although with decreasing magnitude. Each additional year of aspired education is correlated with fewer missed days of school, up to 19.7 years of aspired education (more than a master's degree) when this trend reverses. The magnitude of correlation between aspirations and schooling outcomes is notable: aspiring to achieve a bachelor's degree rather than a high school degree is associated with grades that are 0.14 standard deviation higher and with missing 0.32 fewer days of school per month. Whereas the relationship between aspirations and grades is similar for boys and girls, the relationship between aspirations and absenteeism is stronger for boys, suggesting that girls may have less control over the reasons for which they miss school.

The relationship between expectations and schooling outcomes follows a more bended arc shape. Expecting to achieve a bachelor's degree rather than a high school degree is associated with grades that are 0.06 standard deviation higher and with missing 0.17 fewer days of school per month. Expectations are associated with higher grades and absenteeism until between 15 and 16 years of expected education (about the equivalent of a bachelor's degree) after which the trend reverses. Students who expect to complete high school have similar grades and absenteeism as those who expect to achieve a PhD. Perhaps students with highest grades and high-but-not-highest aspirations express that they expect a bachelor's rather than master's or PhD out of higher carefulness —being conscious that possible difficulties and hard work lie ahead—or because part of the students who do not have the top grades would express expecting a PhD without really understanding the requirements and efforts to achieve it. Boys have a stronger relationship between their expectations and their schooling outcomes than girls, suggesting that boys may be particularly motivated by dreams that seem achievable.

Aspirations appear to motivate students despite the constraints they face, except when the gap between aspired and expected education levels surpasses 7 years. Expecting to achieve an education level that is less than the aspired one is positively correlated with grades and school attendance, likely because students who have lower expectations than aspirations are also those who aspire to the highest levels. However, the relationship between current schooling outcomes and the number of years difference between aspired and expected education levels is non-linear. Students who aspire to a PhD but expect at most a secondary-school level have similar or worse current schooling outcomes than those who do not have a gap between their aspired and expected education levels. This suggests that aspirations motivate students despite expected constraints unless their expectations fall very short of their aspirations.

These non-linear patterns are aligned with theoretical and empirical studies that explore the differences between aspirations and current situations. Foundational theory of aspirations in economics argues that aspirations motivate individuals up to a point after which aspirations become too far off one's initial situation and are no longer motivating, coining the term "aspirations gap" to refer to the difference between someone's aspirations and his current situation (Ray 2006, Genicot and Ray 2017). Panel data for Indian adolescents confirm that educational outcomes at age 19 correlate positively with the size of their aspirations gap of at age 12—the difference between the wages corresponding to their aspired job and education, and the wages corresponding to their parent's occupation—up to a point corresponding to about seven times the average parents' wage, twice the average aspiration gap, and one and a half times the average aspired level (Ross 2019). Similar nonlinear relationships were

found for different outcomes in different contexts: between the income aspirations gap and real estate investment measured by expenditures on household construction materials and land in rural Myanmar (Bloem 2021); and between women's aspirations for personal income and for their children's education and their savings and expenditures on their children's education in rural Nepal (Janzen et al. 2017). In our analysis, the initial situation of students — their current education — is the same for all as they are surveyed in grade 8, so the distance between their current and aspired education only differs by their levels of aspirations. Yet, the expectations we measure also capture what students feel is possible, as the initial conditions may do when measuring the aspirations gap.

In our analysis, students report both mental barriers and a lack of resources as their main difficulties to achieving their educational aspirations. The main mental barriers include the perceived lack of study habits and perseverance cited by 30 percent of students, and to a lesser extent not feeling smart enough and fearing of being overwhelmed by higher education (9 and 4 percent, respectively). The lack of resources includes the lack of money, felt by 24 percent of students, and need to work as well as the lack of connections and family support (6 and 1 percent, respectively). Girls are more likely to cite economic constraints, which might be due to the longer studies to which they aspire. Higher perceived economic constraints by girls might also be linked to the low labor market participation and lower wage of women in Indonesia, in addition to restrictive gender norms, driving some families to perceive girls' education as less valuable (Afkar et al. 2020).

Overall, our results suggest that aspirations are strongly correlated with schooling trajectories: aspiring to high school instead of middle school education and to a bachelor's degree instead of a high school degree are correlated with current grades that are 0.15 and 0.14 standard deviations higher, respectively. Although in most cases aspirations seem to motivate students despite the constraints they face, encouraging students to set high aspirations without creating opportunities for them to achieve these aspirations can lead to discouragement and frustration (Genicot and Ray 2020). Moreover, students can become demotivated when they expect education levels that are considerably lower than their aspirations. As such, it is also important to address both mental and economic barriers that could impede students from reaching their goals. Different policies may have stronger impacts on boys or girls given gender differences in aspirations, expectations, and perceived constraints. However, all of the aforementioned policies would likely be beneficial for both boys and girls, as patterns of aspirations, expectations, and their relationship with schooling outcomes are similar for both boys and girls, even if magnitudes are different.

Our paper has four sections after this introduction. Section 2 introduces the concept of aspirations, how they influence our behaviors, and how they differ from expectations. Section 3 presents the data

set, a large cross-sectional survey of adolescent students in Indonesia that is the baseline of an impact evaluation of a school-based program, and the measures of the outcomes and the main variables of interest. Section 4 describes our methodological approach and the limitations of our data and analysis. Section 5 presents the results for our three research questions. We then conclude with the possible policy implications of our findings.

2. What are aspirations and expectations?

Aspirations are desires for the future that motivate. They can be about any desirable goals: completing a given education level, working in a dream job, getting married, or reaching a high social status (Ray 2006). They depend on awareness about possible opportunities, for example knowing about various educational pathways or types of jobs. They also depend on preferences, which are heavily influenced by the social groups one belongs to (Ray 2006; Genicot and Ray 2020). Once set, aspirations drive choices and effort towards them (Dalton, Ghosal, and Mani 2016). In this paper, we study educational aspirations, conceptualized as preferences for the ideal future completed level in a hypothetical scenario in which one had no constraints.

Expectations are the beliefs of the most likely outcome given one's perceived current situation and constraints (Bernard and Taffesse 2014; La Ferrara 2019). They may coincide with aspirations, and their formations are undoubtedly related. However, expectations capture a different concept: one's perceived likeliness to achieve one's goals. Note that constraints are *perceived*, not necessarily *actually* impossible to overcome. For example, students can perceive the actual constraint of the amount of money they and their family can allocate to their schooling. However, they can also perceive economic constraints, such as schooling costs, which may or may not be actually binding, for example if the schooling cost can be overcome with a scholarship.

A handful of studies with measures of both aspirations and expectations suggest that they are different concepts. Given that aspirations are ideal outcomes and expectations are most likely ones, expectations are on average lower or at maximum equal to aspirations. In rural Ethiopia, a sample of adults had on average only slightly lower expectations for their children's education than aspirations — 12.4 and 12.9 years, respectively — but had much lower expectations in terms of income, wealth, and social status, than the level they aspired to (Bernard et al. 2014).[2] Likewise, in a sample of poor households in Colombia, 14 percent of parents expected to complete university themselves while 33

[2] Measures of expectations in the four dimensions were based on a survey question with a time horizon of ten years, while the aspirations question were based on wished achieved level in life, which may have influenced differential aspired and expected levels.

percent aspired to it; 21 percent expected their children to do so while 40 percent aspired to it (Garcia, Harker, and Cuartas 2019). Similarly, when asked about educational options they were aware of and felt academically able to follow, French junior-high-school students reported that they felt able to follow only a subset of options of the ones they were aware of (Guyon and Huillery 2021). In El Salvador, Mexico, and Uruguay, a housing program for slum-dwellers had a positive impact on participants' aspirations but not their expectations, and their expectations were found to be unrelated to the evolution of their housing aspirations over time (Galiani, Gertler, and Undurraga 2021).

3. Data

Data set

We use a large cross-sectional survey that is representative of students in public, secular, middle schools on the Indonesian islands of Java and Sumatera, which are home to 70 percent of the Indonesian population. The survey, collected in February-March 2018, covers 55,964 8th grade students studying in 2,095 public schools.[3] The data was collected as the baseline of an impact evaluation of a pilot intervention aimed at improving students' aspirations, mindsets, socioemotional skills, studying practices, and learning outcomes (Johnson et al. 2020).

Measures of outcomes and correlates

Schooling outcomes. We measure two current schooling outcomes: absenteeism and grades. Absenteeism (the opposite of school attendance) is the number of missed days of school in the month preceding the survey, which is self-reported by the students. Students who did not miss any day—51 percent of the sample—are marked with a zero. Eighty percent of students who missed at least one day report they missed school because of sickness. Students who mention other factors for missing schools, such as family's demands, school and weather factors, and issues related to their behaviors, miss more days per month on average. Grades are the average of four subjects—Math, Science, English, and Bahasa Indonesia—of the last semester before the survey. Information on grades was collected from the schools' administrative data and has been standardized at the school level with a mean of zero and a standard deviation of one. School attendance and grades correlate highly with college attendance, future wages, and future arrests better than standardized achievement test scores (Jackson 2018).

[3] The survey lasted 40 minutes on average. It was paper-based and self-administered during school time under the guidance of a trained enumerator.

Aspirations, expectations, and the aspirations-expectations gap. We measure students' aspirations and expectations for future educational attainment. As it is typically done, aspirations and expectations were measured by one survey question each (Fruttero, Muller, and Calvo-González 2021). For educational attainment, aspirations are measured using the following question with ten response options: "Imagine you had no constraints and could study for as long as you liked. What level of education would you like to complete?" similarly to Favara (2017) and Ross (2019). Expectations are measured using the following question and the same response options: "What level of education do you expect to reach, given your current situation?" We measure the gap in educational attainment as the difference in years of education between aspirations and expectations in educational attainment.

Socioemotional skills. The survey includes seven measures of mindsets, perceptions of the classroom environment, and socioemotional skills, which are distinct concepts but which we collectively call "socioemotional skills" in this paper for simplicity. Mindsets are the way in which people perceive their own basic capabilities, in particular regarding how smart they are, and whether they can change it or not (Dweck and Yeager 2019). Socioemotional skills are a set of learned attitudes and behaviors that allow people to manage personal and social situations effectively (Weissberg et al. 2015). Perceptions are about the classroom environment and what is valued and rejected by classmates and teachers in the learning process (Lam et al. 2015). The seven measures are: self-esteem, sense of belonging, perseverance, growth mindset, effort beliefs, learning orientation, and performance-avoidance orientation. These measures are based on a battery of survey questions, aggregated in individual scores according to validated psychological scales and adapted to the Indonesian context. Surveyed students answer statements such as "I cannot change how smart I am" or "I feel I belong at my school" with five response options quantified from 1 to 5: "Not true at all," "Not quite true," "A little bit true," "Quite true," "Completely true." The scores are the average of survey questions corresponding to a skill or mindset and range from 1-5. The higher the score, the more of the skill, mindset, and perception one demonstrates. The definitions, survey questions, and a discussion of the validity and reliability of the measures are in Annex 1.

Summary statistics of outcomes, aspirations, expectations and covariates are in Annex 2.

4. Empirical Strategy

Methodological approach

We use descriptive statistics to explore how students' aspirations and expectations for their future education compare (section 5.1) and the main barriers students perceive to achieving their aspirations (section 5.3). To assess how much students' aspirations and expectations correlate with immediate schooling outcomes (section 5.2), we use polynomial regression analysis using the following equation:

$$S_{is} = \alpha + \sum \beta_1 AE_{is} + \sum \beta_2 AE_{iS}^2 + \sum \beta_3 SE_{is} + \sum \beta_4 X_{is} + \varepsilon_{is} \qquad (1)$$

Where:

S_{is} represents the schooling outcomes—grades and absenteeism—of individual *i* in school *s*

AE_{is} represents the number of years of aspired or expected education or the difference between the two (each in one specification)

SE_{is} is socioemotional skills that are known to influence schooling outcomes (OECD 2015)

X_{is} is four demographic factors (age, sex, location in urban or rural areas, and location in the islands of Java or Sumatra)

ε_{is} is the error term.

We cluster standard errors at the school level to adjust for sample design (Abadie et al. 2022). We include the quadradic of AE_{is} because previous studies suggest that the relationship between aspirations and outcomes may not be linear (Ross 2019; Bloem 2021), and a graphical depiction of this relationship suggests this is the appropriate functional form.

Limitations

The reader should interpret results of the methodological approach for section 5.2. as correlations controlling for confounding factors, rather than causal effects. Although the results demonstrate policy-relevant patterns, we acknowledge five limitations:

Simultaneity bias (or reverse causality). Schooling outcomes and facets of aspirations are likely jointly shaped since, in theory, people adapt their aspirations with their realized outcomes (Dalton, Ghosal, and Mani 2016). For example, a junior-secondary student may aspire to complete a bachelor's degree but upgrade his aspiration to a master's degree after getting good grades in upper-secondary

level. Given that our survey is cross sectional—i.e. our information about grades, facets of aspirations, and other information is at the same point in time—this bias may be particularly relevant. In our survey, grades that were given by schools are actually from the semester before students reported their aspirations, so the risk of reverse causality—the estimated outcome causing one of his supposed determinants—may be high. Another source of reverse causality may arise between the schooling outcomes and the measures of socioemotional skills we control for. For example, having higher grades may contribute to boosting self-esteem (Almlund et al. 2011).

Endogeneity of controls. Our measures of socioemotional skills (self-esteem, sense of belonging, growth mindset, and perseverance, among others), which we control for in regressions given their proven impact on schooling outcomes in other contexts, may contribute to shape aspirations and expectations and generate endogeneity. While there is little research so far on the topic, two studies in Italy and India find that self-efficacy, a belief that captures one's confidence about his ability to successfully achieve goals, drives aspirations (Bandura et al. 2001; Roy, Morton, and Bhattacharya 2018).

Omitted variable bias. Our data may lack some important determinants of our outcomes of interest, such as students' cognitive skills — mental abilities such as comprehension and reasoning— which are a great determinant of academic performance and school attainment, or other socioemotional skills we do not measure. In this case, we would be unable to observe relevant differences across individuals that may explain their differences in outcomes and misinterpret the latter as the result of the characteristics we measure.

Measurement error. There is a risk, as with every survey, that our survey measures people's characteristics with error. For example, some students may understand differently subtle questions on aspirations. Besides, survey-based measures of mindsets and socioemotional skills are notoriously noisy, especially in low- and middle-income countries (Lajaaj and Macours 2019). School grades also have a degree of subjectivity.

Selection bias. Another caveat is that the relationships we explore only represent the population of students who attend public, secular schools,[4] which is selective given that it excludes youth who quit school earlier as well as those who attend private schools, religious schools, or technical and remedial schools. According to the Institute for Statistics of the United Nations Educational, Scientific and Cultural Organization (UNESCO), 81 percent of girls and 75 of boys of age to be enrolled in junior-

[4] In the Indonesian education system these schools are known as *Sekolah Menengah Pertama Negeri*.

secondary level are actually enrolled at the lower secondary level in Indonesia in 2015. While this is the majority of the age cohort, the relationships between aspirations, expectations, and outcomes could be different if out-of-school adolescents were still in school and considered, especially since they likely have either lower aspirations or face greater constraints to continuing their education.

5. Results

5.1. What do students aspire to and expect when imagining their future education?

High aspirations, lower expectations

Indonesian adolescent students in our sample dream of completing high educational levels. When asked what level of education they would like to complete if they had no constraints and could study as long as they liked, three-quarters of students aspired for postsecondary education, dominantly university education (Figure 1).[5] This proportion is similar to the average for a handful of low- and middle-income countries for which we have similar data: the 74 percent aspiring for university in Indonesia are similar to Vietnam in which 75 percent of 12-year-olds —including those who are not students anymore— respond to a similar question that they aspire to complete university, higher than Ethiopia (69 percent) and India (68 percent) but lower than Peru (79 percent) (Favara et al. 2018).[6] Among students in Indonesia, almost half aspire for a PhD —the highest level representing eight years of postsecondary education and more than twenty years of education in total— that is three times more than any other level, be it postsecondary magister or technical and vocational high school.[7]

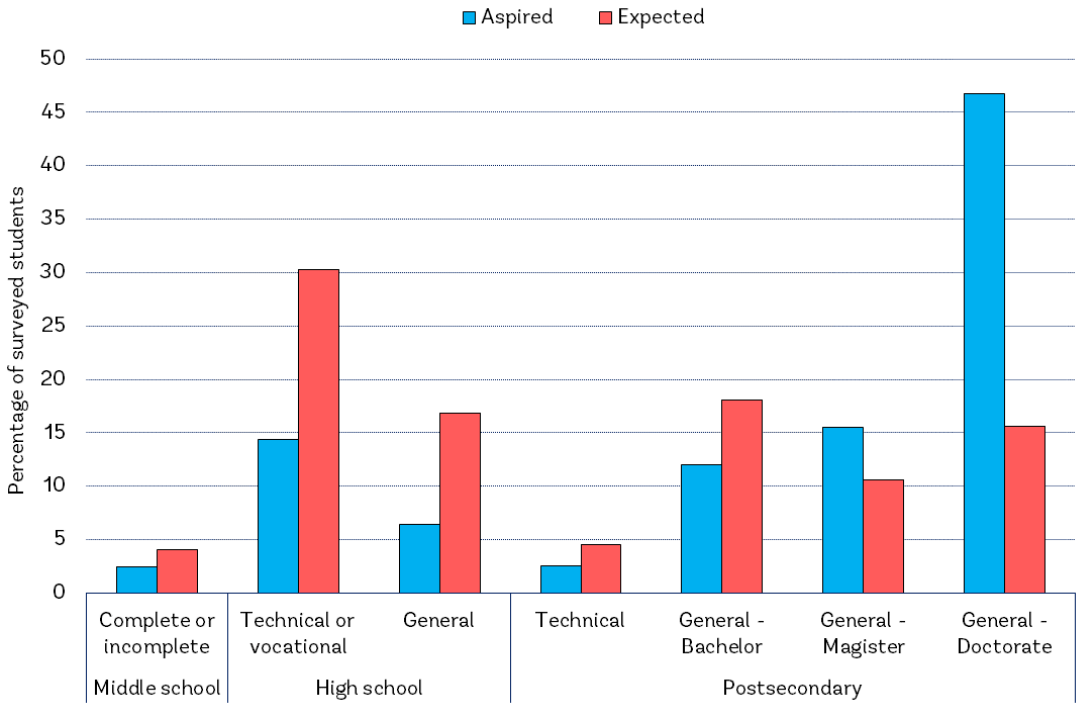
[5] Only 3 percent of the students wish for a vocational postsecondary education.

[6] Data on aspirations for these countries are from the Young Lives Surveys, which measure educational aspirations with a similar survey question in: "Imagine you had no constraints and could study for as long as you liked, or go back to school if you have already left. What level of formal education would you like to complete?" (Favara 2017, Ross 2019).

[7] The proportion of students aspiring to a doctorate may seem high, considering that many students of this age might not actually know that the doctorate level exists nor what it entails. Given that students were presented this question on a paper they were filling themselves with an ascending list of educational levels, they might have checked the highest one, possibly with limited knowledge of it. In this case, this could be interpreted as a strong signal that students see value in education and want the most of it if they had no constraints.

Figure 1. Adolescent students have high aspirations but lower expectations

Share of students by aspired level of education if they had no constraints and expected one given their current situation



Source: Authors' calculations based on the 2018 survey "Getting to Know 8th Grade Students."

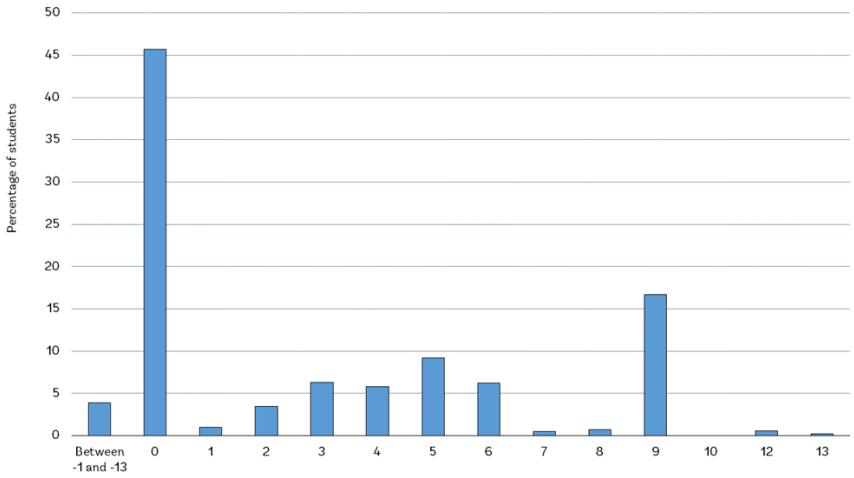
However, when considering their current situation, students have dramatically lower expectations (Figure 1), which represent several less levels and years of education. Half of the students expect to complete a lower level given their current situation than the one to which they aspire with no constraints (Figure 2). Students expect to complete fifteen years of education on average, which is 3 years lower than the eighteen to which they aspire.[8] The average difference between aspired and expected years of education when considering only those who expect lower levels is five, which is also the median. Naturally, those who aspired for higher levels are also those more likely to expect lower levels than aspired. Close to 70 percent of those who aspired for a PhD expect much lower levels, including a university's bachelor's degree (20 percent of them) and even a vocational high school degree (22 percent)—the equivalent of nine years less of education. The most widely expected education level is vocational high school (30 percent of students), followed by university bachelor (17

[8] Mean expectations are significantly lower than mean aspirations [t(55,916) = 177.94, p = 0.00].

percent) and general high school (17 percent). Beyond the differences in aspired and expected levels of education, less than 40 percent of students expect to get a degree in their preferred subject.

Figure 2. Expectations are 3 years lower than aspirations on average

Share of students according to the difference in years of education between their aspired and expected levels

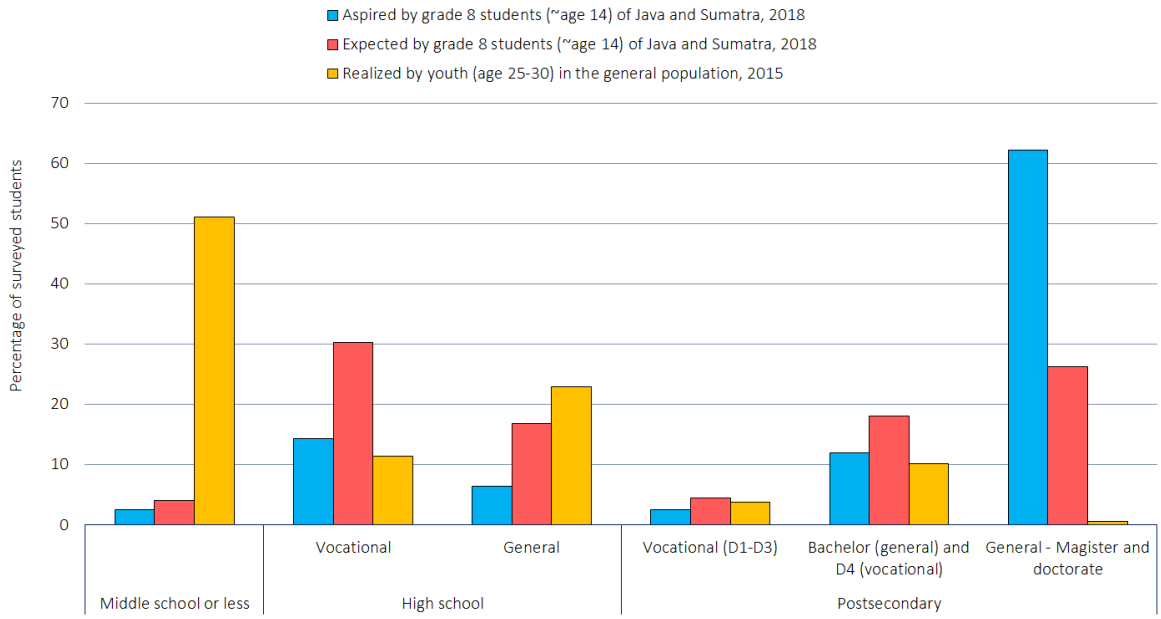


Source: Authors' calculations based on the 2018 survey "Getting to Know 8th Grade Students."
Note: Negative values indicate that the student reported an expected level representing more years of education than his aspired one.

To contextualize, the adolescent students of the sample, despite their lower expectations than aspirations, have much higher aspired and expected education levels than the achieved levels of youth from Indonesia's general population. The 2015 Indonesia national labor force survey shows that half of youth ages 25-30 completed middle school or a lower level, a third completed high school, and about 15 percent postsecondary (Figure 3). Those large gaps between aspirations and expectations of our sample are expected given that our sample of students has already achieved grade 8, one year below completing middle school, making them a selective sample as educated as half of the contemporaneous youth. They thus aspire and expect higher education levels than achieved by the general youth population.

Figure 3. Adolescent students of the sample have higher aspired and expected education than achieved education of Indonesian youth from the general population

Share of students by aspired and expected levels along share of youth in the general population across achieved level of educations



Source: Authors' calculations based on the 2018 survey "Getting to Know 8th Grade Students" for aspirations and expectations and on the 2015 Indonesia National Labour Force Survey (Sakernas).

While boys aspire lower, girls aspire higher but expect less than they aspire to

There are striking differences between boys and girls, in first that girls formulate much higher aspirations. Eighty-six percent of girls would like to complete a postsecondary degree, and 54 percent of girls aspire to PhD, compared to 67 and 39 percent for boys, respectively.[9] This is quite remarkable compared to Ethiopia, India, Peru, and Vietnam for which data exist for adolescents in and out of school: in those countries the maximum gender difference is 11 percentage point (in India) and boys tend to have higher aspirations—Peru is the only of these four countries in which girls have higher aspirations (3 percentage points) (Favara, Chang, and Sánchez 2018). It might be because of a virtuous circle between aspirations and grades: girls have higher grades than boys (World Bank 2018), which could inspire them to aspire to even better performance and more education (Dalton, Ghosal, and

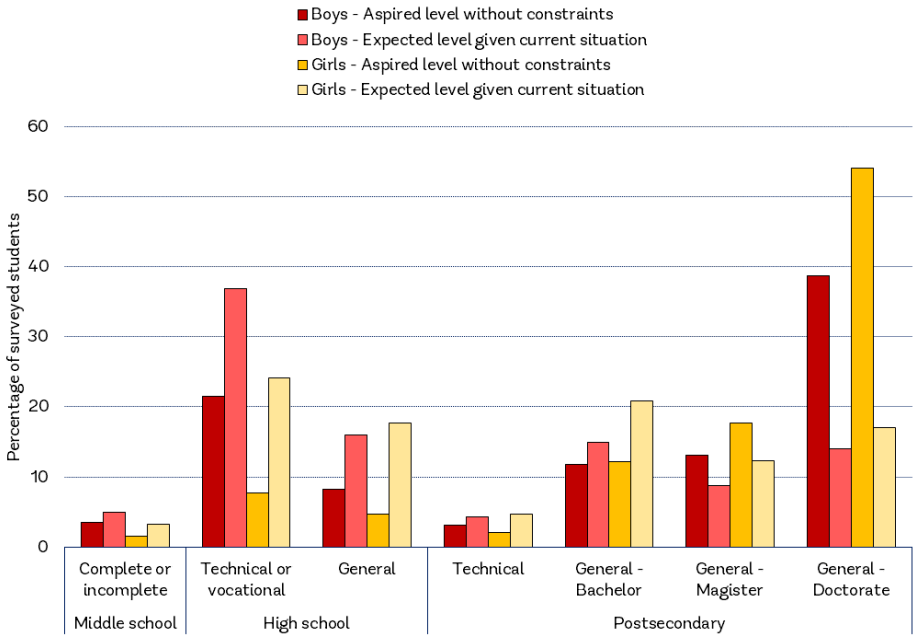
[9] Boys and girls have significantly different distributions of aspirations [X^2 (8, N = 55,934) = 3,164.16, $p < .00$]. The share of girls aspiring to a postsecondary degree is also significantly higher than the share of boys [t(55,934) = -54.96, $p = 0.00$].

Mani 2016). Alternatively, girls may feel they have fewer outside options —boys enjoying more diverse extracurricular activities and adult men working in a wider range of jobs— that can compete for time and interest.

However, girls have much lower expectations than their aspirations. While 43 percent of boys expect a lower level of education than aspired, this is the case for 57 percent of girls.[10] Girls still have slightly higher expectations than boys (15 versus 14 years of education, on average), but their expectations are more than three years lower than their aspirations (compared to two for boys). While PhD was the most aspired level for girls, the most expected one is vocational high school (24 percent), followed by bachelor's degree (21 percent) (Figure 4). Only 17 percent of girls expect a PhD, three times less than the 54 percent who aspire for it. Boys follow the same pattern between aspired and educational level with the distinction that they expect completing vocational high school at an even higher level of close to 40 percent.

Figure 4. Boys aspire lower, girl aspire higher but expect much less than they aspire to

Share of students according to their aspired and expected level of education, by gender



Source: Authors' calculations based on the 2018 survey "Getting to Know 8th Grade Students." Gender differences in distribution of aspirations and expectations are statistically significant at the 1% level.

[10] Boys and girls have significantly different distributions of expectations [X^2 (8, N = 55,934) = 994.12, $p < .00$]. The share of girls expecting to complete a postsecondary degree is also significantly higher than the share of boys [t(55,910) = -30.56, $p = 0.00$].

Many students, especially girls, thus perceive constraints to achieving their aspirations. The fact that half of students have lower aspirations than expectations, often much lower, may indicate that they perceive high barriers. Given that girls have a much larger difference with their expectations than boys, they may feel that it is harder for them to achieve their aspirations, whether the barriers are correctly or wrongly perceived. However, boys, who have lower aspirations than girls in the first place, could also suffer from barriers in setting those aspirations that could have to do with lack of information or lack in confidence in their abilities —even in a hypothetical scenario without constraints. We explore the constraints students face in achieving their aspirations in Section 5.3.

5.2. How much do students' aspirations and expectations correlate with immediate schooling outcomes?

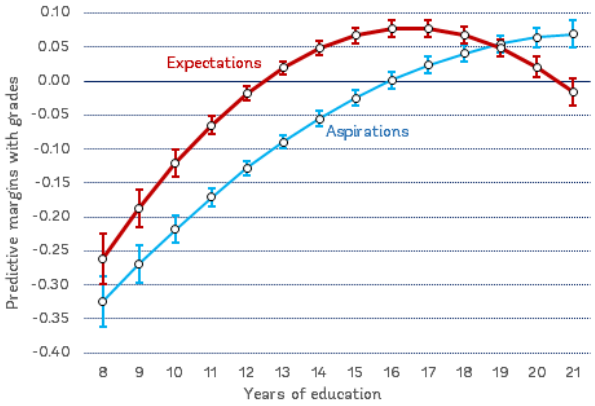
Aspirations for higher levels of education in the future are positively correlated with Indonesian students' current grades and negatively correlated with absenteeism. This is consistent with findings from other countries that show a positive relationship between aspirations for the future and schooling outcomes (Glewwe, Huang, and Park 2017; Favara 2017; Ross 2019; Guyon and Huillery 2021; Gagete-Miranda 2022). However, the relationship between aspirations for the future and current schooling outcomes is not linear (Figure 5 and Table 1). Although higher levels of aspirations are always associated with higher grades, the curve flattens for the highest levels of aspired educational attainment. For absenteeism, aspiring to higher levels of education is correlated with lower absenteeism until 19.7 years of education when the trend starts to reverse. Considering that students who aspire to any level of university training would be motivated to deploy a lot of effort in their current academic pursuits, it is not surprising that aspiring to a PhD-level education only has a slightly stronger correlation with current academic outcomes than aspiring to a bachelor's degree. These relationships are robust to other specifications detailed in Annex 3.

Compared to students who aspire to a lower level of education, those who aspire to complete high school or university have considerably better current schooling outcomes. Aspiring to complete high school rather than middle school is associated with grades that are 0.15 standard deviations higher and missing 0.39 fewer days of school each month. Similarly, aspiring to achieve a bachelor's degree rather than a high school degree is associated with grades that are 0.14 standard deviations higher and with missing 0.32 fewer days of school per month (Figure 6). To put these results in context, this relationship is on par or higher than the conditional correlations of several socioemotional skills and mindsets with current schooling outcomes (Table 1).

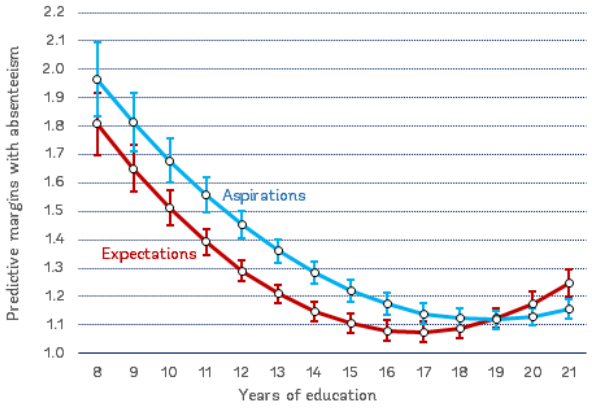
Figure 5. Quadratic conditional correlations of schooling outcomes with aspirations and expectations, by aspired and expected years of education and their difference

Schooling outcomes and education aspirations and expectations

A. Standardized average grades

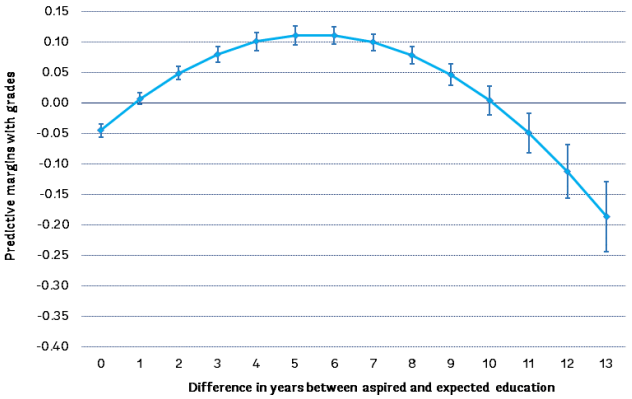


B. Number of school days missed in the past month

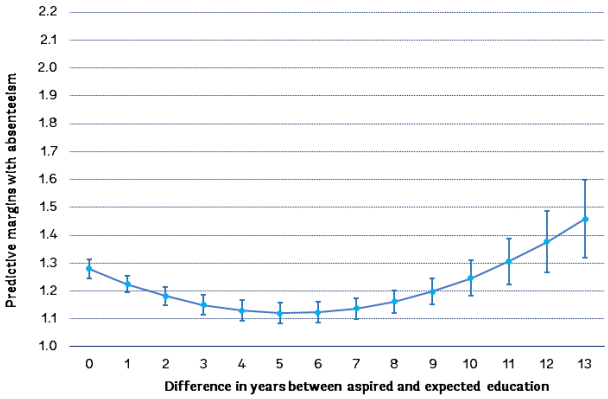


Schooling outcomes and difference in years between aspired and expected education

C. Standardized average grades



D. Number of school days missed in the past month



Source: Authors' calculations based on the 2018 survey "Getting to Know 8th Grade Students."
Notes: Error bars are the confidence intervals at the 95 percent level. Grades are the average of four subjects—math, science, English, Bahasa Indonesia—of the last semester before the survey and come from the schools' administrative data. They are standardized at the school level, with a mean of zero and a standard deviation of one. Standard errors are clustered at the school level. Underlying regressions control for socioemotional skills, age, gender, living area, and island. Panel C and D excludes 2,024 students (5 percent of the sample) that have higher expectations than aspirations.

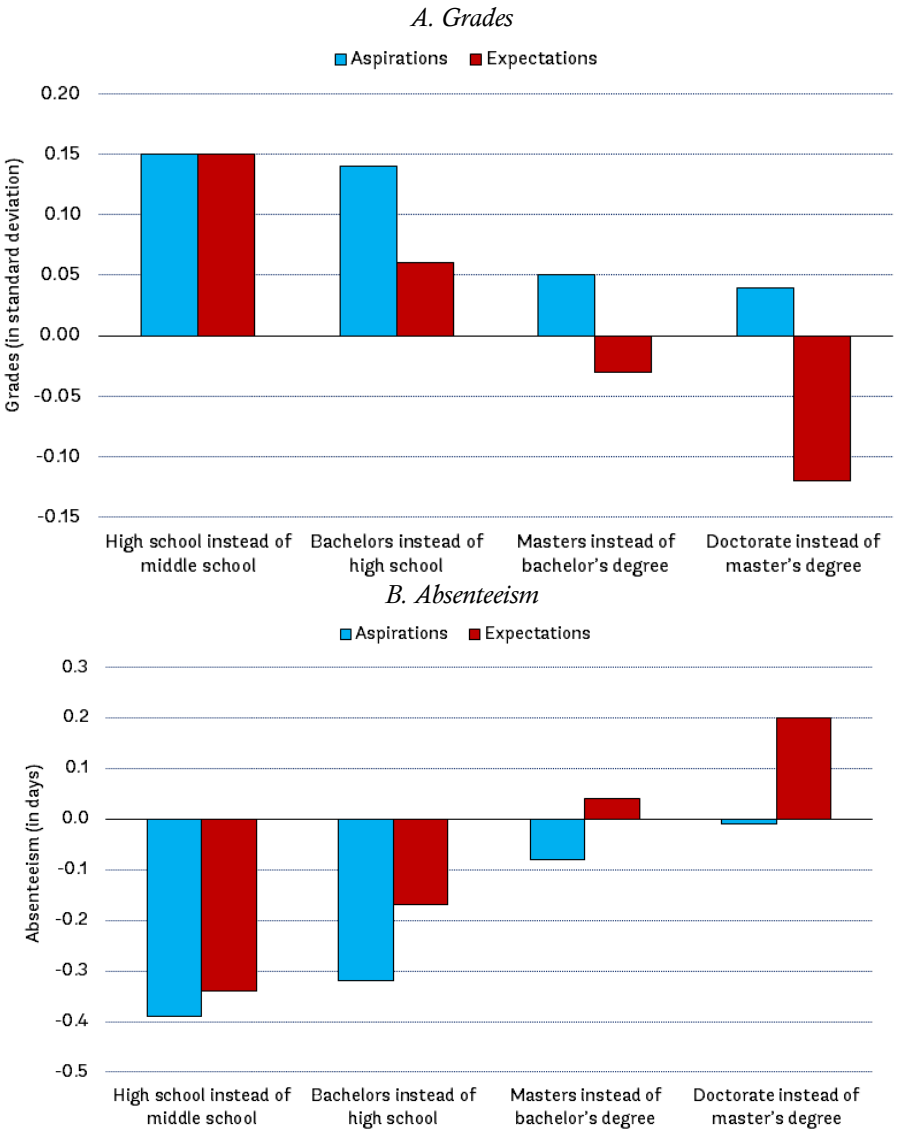
Table 1. Conditional correlations of grades and absenteeism with aspired and expected education

	Standardized average grades				Number of school days missed in the past month			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Aspired education in years	**0.091*** **				**-0.276*** **			
	(0.01)				(0.03)			
Aspired education in years^2	**-0.002*** **				**0.007*** **			
	(0.00)				(0.00)			
Expected education in years		**0.154*** **				**-0.322*** **		
		(0.01)				(0.03)		
Expected education in years^2		**-0.005*** **				**0.010*** **		
		(0.00)				(0.00)		
Diff. in years between aspi. and expect.			**0.029*** **				**-0.040*** **	
			(0.00)				(0.01)	
Diff. in years between aspi. and expect.^{2}			**-0.002*** **				**0.003*** **	
			(0.00)				(0.00)	
Having lower expect. than aspi. (dummy)				**0.122*** **				**-0.117*** **
				(0.01)				(0.02)
Self-esteem	-0.004	-0.005	-0.001	-0.000	-0.050***	-0.048***	-0.054***	-0.054***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Sense of belonging	0.063***	0.066***	0.065***	0.066***	-0.101***	-0.105***	-0.105***	-0.107***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Perseverance	0.042***	0.046***	0.047***	0.048***	-0.029**	-0.033***	-0.037***	-0.038***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Growth mindset	0.145***	0.151***	0.152***	0.153***	-0.090***	-0.095***	-0.101***	-0.104***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Effort beliefs	0.053***	0.056***	0.055***	0.055***	0.002	-0.002	-0.002	-0.002
	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Learning orientation	0.123***	0.129***	0.131***	0.130***	-0.095***	-0.102***	-0.109***	-0.110***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Performance-avoidance orientation	-0.059***	-0.059***	-0.060***	-0.060***	0.039***	0.039***	0.042***	0.042***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Age (with decimals)	-0.101***	-0.104***	-0.109***	-0.110***	0.143***	0.146***	0.160***	0.162***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Being a girl (dummy)	0.580***	0.601***	0.596***	0.595***	-0.360***	-0.392***	-0.393***	-0.395***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)
Living in urban area (vs. rural)	-0.113***	-0.110***	-0.091***	-0.090***	-0.109***	-0.105***	-0.147***	-0.151***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.03)	(0.03)	(0.03)	(0.03)
Living in Java (vs. in Sumatra)	0.038***	0.031***	0.020***	0.021***	0.009	0.015	0.041	0.040
	(0.01)	(0.01)	(0.01)	(0.01)	(0.03)	(0.03)	(0.03)	(0.03)
Constant	0.231*	-0.020	1.230***	1.212***	1.893***	1.939***	-0.753***	-0.753***
	(0.12)	(0.12)	(0.08)	(0.08)	(0.33)	(0.32)	(0.21)	(0.21)
Observations	54,639	54,615	54,610	54,610	55,039	55,014	55,009	55,009
R-squared	0.24	0.23	0.23	0.23	0.05	0.04	0.04	0.04

Source: Authors' calculations based on the 2018 survey "Getting to Know 8th Grade Students."
Note: Conditional correlations are Ordinary Least Squares regressions. Yellow and blue highlights show significant correlations at least at the 95 percent level for the variables of interest and covariates, respectively. Grades are the average of four subjects—math, science, English, Bahasa Indonesia—of the last semester before the survey and come from the schools' administrative data. They are standardized at the school level, with a mean of zero and a standard deviation of one. Measures of socioemotional skills are standardized for the entire sample (see annex 2 for definitions). Standard errors are clustered at the school level. The base level of the dummy 'have lower expectations than aspirations' includes 5 percent of students with higher expectations than aspirations.

**p < 0.1 **p < 0.05 ***p < 0.01*

Figure 6. Change in outcome associated with a change in aspired or expected level of education



Source: Authors' calculations based on the 2018 survey "Getting to Know 8th Grade Students."

The positive relationship between aspirations and schooling outcomes is observed for both boys and girls (Table 2). However, the relationship between aspirations and absenteeism is weaker for girls. If girls have less control over the reasons for which they miss school, we could expect a weaker relationship. Nevertheless, the fact that there are no gender differences in the relationship between aspirations and grades suggests that those who are unable to boost their attendance find other strategies to deploy effort to learn.

Aspirations appear to motivate students despite constraints that seem binding, except when students aspire to the highest level of education but only expect a high school degree or less. Overall, students who expect to achieve a level of education that is less than their aspired level have grades that are 0.12 standard deviations higher and absenteeism that is 0.12 days per month lower than those who expect to achieve their aspired level (Table 1). This finding is likely linked to the fact that the students who do not expect to achieve their aspired education level are also those who have the highest aspirations. However, the magnitude of the gap between the aspired and expected education levels matters. As shown in Figure 5, the gap between the aspired and expected education levels is positively correlated with grades and school attendance until approximately 7 years, when the trend reverses. Figure 2 shows that the majority of students with more than a 7-year gap have a gap of 9 years, which is the equivalent of aspiring to a PhD but expecting to complete high school. This suggests that binding constraints can demotivate students who dream big but expect much less.

While aspirations are positively associated with grades across the distribution and negatively associated with absenteeism across almost all of the distribution, the relationship between expected educational attainment and current schooling outcomes is more complex. Aligned with the theory that expecting to achieve a higher level of education can motivate students to do their best at school, expectations are associated with higher grades and attendance until 15.4 and 16.1 years of expected education, respectively. However, around the number or years needed to complete a bachelor's degree, the trend reverses. The grades of students who expect to receive a PhD are aligned with those of students who expect to complete high school (Figure 5). Perhaps students with higher grades express that they expect a bachelor's degree rather than master's or PhD out of higher carefulness —being conscious that possible difficulties and hard work lie ahead— while they stand firm on their aspirations to the higher levels. Alternatively, some students with grades close to the mean may express expecting a PhD without fully understanding the requirements and effort needed to achieve it.

The relationship between expectations and schooling outcomes is weaker for girls than for boys, although the same general pattern remains (Table 2). Expecting to achieve a high school degree rather than a middle school degree is correlated with grades that are 0.22 and 0.13 standard deviations higher and 0.44 and 0.23 fewer days of school missed per month for boys and girls, respectively. Boys who expect to obtain a bachelor's degree have grades that are 0.15 standard deviations higher and miss 0.23 fewer days of school per month than those who expect a high school degree, whereas for girls these correlations are only 0.06 and 0.12, respectively. As discussed above, dreaming big seems to equally motivate boys and girls to work hard and improve their grades in school. However, boys are particularly motivated not only when they dream big but when those dreams seem achievable.

Table 2. Conditional correlations of grades and absenteeism with aspiration and expectations by gender

	Standardized average grades				Number of school days missed in the past month			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Being a girl (dummy)	**0.436****	**1.014*****	**0.590*****	**0.603*****	**-1.841*****	**-1.887*****	**-0.432*****	**-0.455*****
	(0.18)	(0.17)	(0.01)	(0.01)	(0.49)	(0.45)	(0.03)	(0.03)
Aspired education in years	**0.084*****				**-0.350*****			
	(0.01)				(0.05)			
Aspired education in years^2	**-0.002*****				**0.010*****			
	(0.00)				(0.00)			
Girl * Aspired education	0.016				**0.179*****			
	(0.02)				(0.06)			
Girl * Aspired education in years^2	-0.000				**-0.005*****			
	(0.00)				(0.00)			
Expected education in years		**0.177*****				**-0.421*****		
		(0.02)				(0.05)		
Expected education in years^2		**-0.005*****				**0.013*****		
		(0.00)				(0.00)		
Girl * Expected education in years		**-0.049****				**0.196*****		
		(0.02)				(0.06)		
Girl * Expected education in years^2		0.001*				**-0.006*****		
		(0.00)				(0.00)		
Diff. aspi. and expect. (years)			**0.028*****				**-0.057*****	
			(0.00)				(0.01)	
Diff. aspi. and expect. (years)^2			**-0.002*****				**0.005*****	
			(0.00)				(0.00)	
Girl * Diff. aspi. and expect. (years)			0.001				**0.040*****	
			(0.00)				(0.01)	
Girl * aspi. and expect. (years)^2			0.000				**-0.003****	
			(0.00)				(0.00)	
Lower expect. than aspi. (dummy)*				**0.131*****				**-0.177*****
				(0.01)				(0.03)
Girl * Lower expect. than aspi.				-0.017				**0.116*****
				(0.02)				(0.04)
Self-esteem	-0.004	-0.005	-0.001	-0.000	-0.051***	-0.048***	-0.054***	-0.054***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Sense of belonging	0.063***	0.065***	0.065***	0.066***	-0.101***	-0.104***	-0.105***	-0.107***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Perseverance	0.042***	0.046***	0.047***	0.048***	-0.029**	-0.033***	-0.037***	-0.037***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Growth mindset	0.145***	0.151***	0.152***	0.153***	-0.091***	-0.095***	-0.101***	-0.103***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Effort beliefs	0.053***	0.056***	0.055***	0.055***	0.002	-0.002	-0.002	-0.002
	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Learning orientation	0.123***	0.129***	0.131***	0.130***	-0.095***	-0.102***	-0.110***	-0.110***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Performance-avoidance orientation	-0.059***	-0.059***	-0.060***	-0.060***	0.039***	0.039***	0.042***	0.042***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Age (with decimals)	-0.101***	-0.103***	-0.109***	-0.110***	0.143***	0.146***	0.159***	0.161***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Living in urban area (vs. rural)	-0.113***	-0.109***	-0.091***	-0.090***	-0.110***	-0.106***	-0.147***	-0.151***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.03)	(0.03)	(0.03)	(0.03)
Living in Java (vs. in Sumatra)	0.038***	0.032***	0.020**	0.022***	0.008	0.014	0.039	0.038
	(0.01)	(0.01)	(0.01)	(0.01)	(0.03)	(0.03)	(0.03)	(0.03)
Constant	0.285**	-0.218	1.234***	1.206***	2.500***	2.688***	-0.731***	-0.714***
	(0.14)	(0.14)	(0.08)	(0.08)	(0.42)	(0.41)	(0.21)	(0.21)
Observations	54,639	54,615	54,610	54,610	55,039	55,014	55,009	55,009
R-squared	0.24	0.23	0.23	0.23	0.05	0.04	0.04	0.04

Source: Authors' calculations based on the 2018 survey "Getting to Know 8th Grade Students."

Note: 2,024 students (5 percent of the sample) have higher expectations than aspirations.

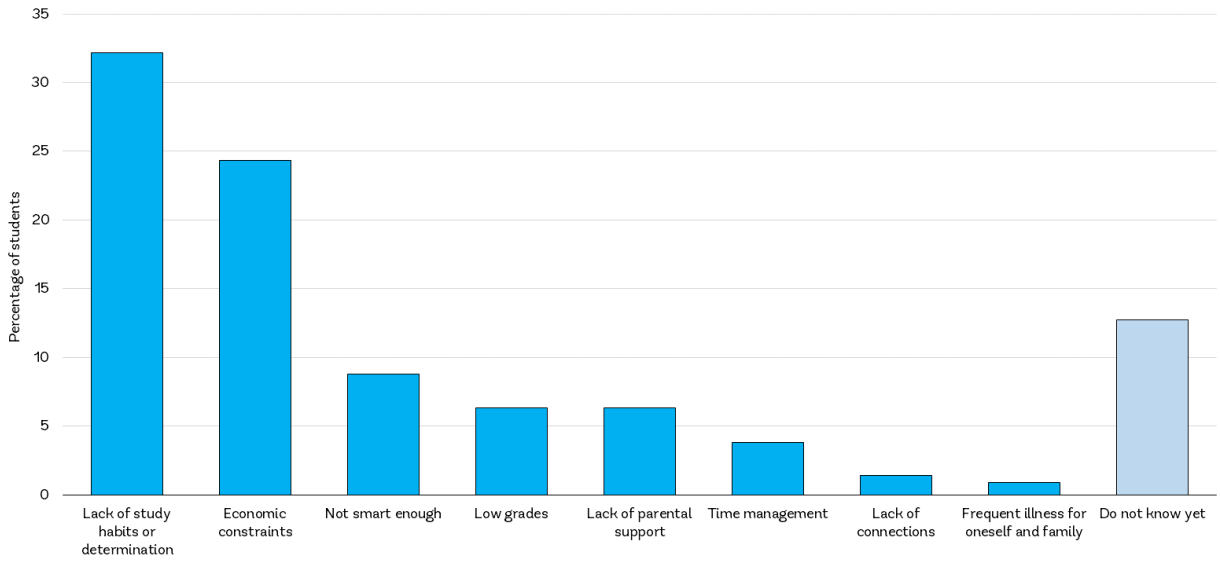
**p < 0.1 **p < 0.05 ***p < 0.01*

5.3. What are students' perceived challenges to fulfill their aspirations and how binding are they?

When asked about their main difficulty to achieve their aspired level of education, students cite both mental barriers and a lack of resources. Among a list of nine possible answers, a third of students report a lack of study habits and determination as their main difficulty and a quarter respond economic constraints (Figure 7). Other responses are scattered among a handful of constraints that do not exceed 9 percent of students. Thirteen percent of students report not knowing yet what their constraints are. The dominance of a perceived lack of study habits and determination, along with a cumulative 20 percent of students mentioning that they do not feel smart enough, or have too low grades, or would not be able to manage their time for it, demonstrates the strength of students' mental barriers.[11] Meanwhile, the quarter of students citing economic constraints (the lack of money and need for work), along with the 7 percent that cite the lack of parental support and the lack of connections as constraints denote the importance of the lack of money and other resources for students.

Figure 7. Students perceive both mental barriers and economic constraints to achieve their aspired educational level

Share of students by expected main difficulty to achieve aspired level of education



Source: Authors' calculations based on the 2018 survey "Getting to Know 8th grade students."

[11] These barriers, often labeled as "internal constraints," refer to low confidence in oneself and one's abilities, as opposed to "external constraints," which refer to the lack of resources (money, credit) and opportunities.

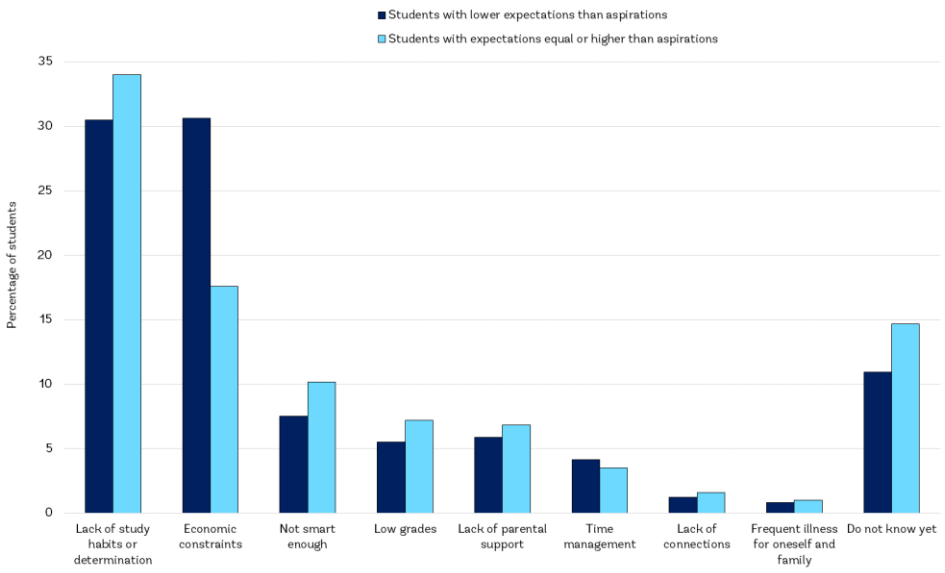
Notes: All surveyed students were asked about the main difficulty to achieve their aspired level of education. Students had to pick one answer among nine possible. Less than 1 percent responded that their main difficulty was "other" and 2 percent of students responded they did not see any barriers to achieving aspired level of education (not displayed in the graph). The "Lack of parental support" data also include responses to a possible answer labelled as "Family will not allow", which less than half a percent of students chose.

Students who have lower expectations than aspirations are more likely to perceive economic constraints as their biggest obstacle, suggesting that students may perceive economic constraints as more challenging to overcome than mental barriers. Indeed, 31 percent of students who do not expect to achieve their aspired education level cite economic constraints as their main difficulty, compared to 18 percent of those who expect to be able to achieve their aspirations (Figure 8). Because constraints that are perceived as insurmountable would likely lead to a gap between aspirations and expectations, economic constraints may seem more difficult to overcome than other barriers. Nevertheless, mental barriers can also pose obstacles that appear difficult to overcome: 30 percent of students who do not expect to achieve their aspired education level cite a lack of study habits or determination as their main obstacle and 12 percent cite other mental barriers (compared to 34 and 14 percent of students who expect to achieve their aspired education level, respectively).

Girls are more likely to cite economic constraints as their main difficulty to achieving their aspired education level (29 percent of girls compared to 20 percent of boys). This does not seem driven by a lack of parental will to invest in girls' education: similar levels of girls and boys cite lack of parental support (financial or encouragement) as their main barrier. Instead, the result is likely linked with girl's overall higher aspirations. As discussed in section 5.1, 86 percent of girls would like to complete a postsecondary degree, and 54 percent of girls aspire to PhD, compared to 67 and 39 percent for boys respectively. Completing a postsecondary degree, and PhDs in particular, requires more resources than lower levels of education due to a need to cover both tuition and living expenses for a longer period of time while studying. This may also be that restrictive gender norms, lack of childcare options, and low labor market participation and lower wage of women in Indonesia, make some families perceive girls' education as less valuable and thus costly (Afkar et al. 2020).

Figure 8. Students with lower expectations than aspirations feel more economic constraints to achieve their aspirations

Share of students by expected main difficulty to achieve aspired level of education, by differences in aspirations and expectations



Source: Authors' calculations based on the 2018 survey "Getting to Know 8th grade students."

Notes: All surveyed students were asked about the main difficulty to achieve their aspired level of education. Students had to pick one answer among nine possible. Less than 1 percent responded that their main difficulty was "other" and 2 percent of students responded they did not see any barriers to achieving aspired level of education (not displayed in the graph). The "Lack of parental support" data also include responses to a possible answer labelled as "Family will not allow", which less than half a percent of students choose.

6. Conclusion

Our study presents Indonesian students' aspirations and expectations for their future education, how aspirations and expectations relate to current schooling outcomes, and the main constraints students perceive to achieving their aspirations. Most students aspire for the highest levels of education: three-quarters of students aspire to postsecondary education. However, half of students do not expect to reach the education level to which they aspire. On average, boys have lower aspirations, and girls are less likely to expect to achieve their aspired level of education. These gender gaps may negatively influence both boys and girls because aspirations are positively correlated with grades and school attendance, and large gaps between aspired and expected education levels can demotivate students. Students perceive both mental barriers and lack of resources as obstacles to achieving their aspirations, and resource constraints are more salient among girls and among students who do not expect to achieve their aspired education. While we cannot establish causal links between aspirations, expectations, and students' outcomes, our descriptive findings point to potentially important directions for future research and policy work.

Encouraging students to dream big may be an effective approach for boosting students' current academic outcomes. Although both boys and girls may benefit from these types of interventions, they may be particularly beneficial for boys, who have lower aspirations on average than girls. Some pilot studies have improved students' aspirations and performance in school by making them believe that they can achieve more through exposure to role models (through video documentaries or in person) (Breda et al. 2020; Riley 2022), and tutoring and career counseling (Carlana, La Ferrara, and Pinotti 2022).

While fostering aspirations may boost immediate schooling outcomes, programs and policies should also support students in overcoming the obstacles they face in the future. If aspirations do not materialize, students may become frustrated or discouraged (Genicot and Ray 2020). As such, boosting aspirations without addressing students' constraints could have longer term negative impacts on their wellbeing. Moreover, when students expect that binding constraints will prevent them from attaining a level close to their aspired level—for example, expecting a secondary-level education while aspiring to a PhD—they can be demotivated, as reflected by lower grades and higher absenteeism. Helping students overcome both perceived and actual barriers could particularly benefit girls who are more likely to perceive binding constraints that will prevent them from achieving their aspirations.

For Indonesian adolescents, policies and programs that help students overcome both economic and mental barriers would be relevant for both boys and girls. Although girls are more likely to perceive

economic constraints than boys, sizeable shares of both boys and girls report each type of constraint. Examples of programs addressing economic constraints include scholarship programs and informational campaigns on financing opportunities, which have been shown to reduce actual and perceived economic constraints and motivate students in other contexts (Avitabile and de Hoyos 2018; Laajaj, Moya, and Sánchez 2022). Mental barriers felt by students may be surmounted by shifting students' mindsets. The way that students view themselves, their capacities, and their opportunities influences how they set their aspirations and behave (Bandura et al. 2001). Students persuaded that their abilities and intelligence are fixed and cannot be improved through dedication and hard work — having what is called a "fixed mindset," by contrast to a "growth mindset"— avoid challenges and effort and tend to get lower school outcomes (Dweck and Yeager 2019). School interventions in the U.S. and middle-income countries have shown that perseverance and growth mindset can be taught and have positive impacts on schooling outcomes, especially for the most vulnerable students (Alan, Boneva, And Ertac 2019; Yeager et al., 2019; Outes, Sánchez, and Vakis 2020).

6. References

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Annex 1. Definitions, survey questions, and psychometric properties of measures of socioemotional skills

Table A.1.1. Inventory of survey questions (items) for the measures of socioemotional skills

Mindset, perception, socioemotional skill	Definition	No. total	No. by skills	Items in English	Answer's scale	Cronbach's alpha	Scale reference
Self-esteem	The degree of positive self-evaluation of the student's own worth	1	1	How do you feel about yourself?	5 options, from "really sad" (1) to "really happy" (5)	0.73	Harris, Donnellan, and Trzesniewski (2018)
		2	2	How do you feel about the kind of person you are?			
		3	3	When you think about yourself, how do you feel?			
		4	4	How do you feel about the way you are?			
Perseverance	The degree to which students keep up effort to achieve their goals despite difficulty, delays, and failure	5	1	I finish whatever I start	5 options, from "almost never" (1) to "almost always" (5)	0.64	Duckworth and Quinn (2009)
		6	2	I stick with tasks or activities for more than a few weeks			
		7	3	I try very hard even after I fail			
		8	4	I stay committed to my goal, even if it takes a long time			
Sense of belonging	The extent to which students feel they are accepted members of the school community	9	1	I feel comfortable at school	5 options, from "Not true at all" (1) to "Completely true" (5)	0.68	Anderson-Butcher and Conroy (2002); Walton and Cohen (2007)
		10	2	I feel I belong at my school			
		11	3	I feel that school is very important for me			
		12	4	People at my school support me in understanding the lessons			
		13	5	I feel accepted (by my peers and teachers)			
		14	6	I am the kind of person who does well in school			
Growth mindset	The extent to which students believe that they can improve their abilities and become smarter through dedication and hard work	15	1	I can learn new things, but I cannot make myself smarter (R)		0.67	Dweck (1999)
		16	2	I cannot change how smart I am (R)			
		17	3	How smart I am is something about me that I cannot change very much (R)			
		18	4	I was born a certain way, smart or not smart and I can't change that (R)			
Effort beliefs	The extent to which students believe that exerting effort will lead to improved ability	19	1	When school is hard, I often want to work on it more		0.69	Blackwell, Trzesniewski, and Dweck (2007)
		20	2	The harder I work at something, the better I will be at it			
		21	3	If an assignment is hard, it probably means I'll learn a lot doing it			
Learning Orientation	The extent to which student perceive that classmates and teachers value hard work, learning progress, and learning from mistakes in their math class	22	1	In my math class, trying hard makes me proud		0.72	Midgley et al. (2000)
		23	2	In my math class, showing others that I have improved is really important			
		24	3	In my math class, how much I learn is more important than getting good grades			
		25	4	In my math class, it's okay to make mistakes as long as you learn from the mistakes			
Performance Avoidance Orientation	The extent to which student perceive that classmates and teachers disparage mistakes and lack of knowledge	26	1	In my math class, showing others that you are not bad at class work is really important		0.69	
		27	2	In my math class, it's important that you don't make mistakes in front of everyone			
		28	3	In my math class, it's very important not to look dumb			

Note: (R) indicates that the item is reverse coded. Cronbach's alpha is one measure of scale reliability based on consistency among the items of an index (for a given number of items, the Cronbach's alpha increases when the correlation between items increases).

Validity of socioemotional skills measures

All measures of socioemotional skills were adapted from previously validated scales and translated from English to Bahasa by a professional translator and translated back to English by a team member to check for substantive changes to the meaning of each item. The measures were piloted twice (in January 2018 and February 2018) and adaptations to the items and response categories were made to facilitate students' interpretation of the measures. Adaptations were primarily focused on reducing ceiling effects for heavily skewed items. Based on items that were less skewed, items were adapted by changing items to be in the first person rather than in the second or third person.

Cronbach's alphas, which measure scale reliability, range between 0.64 to 0.73 (table A.1.1). Although these Cronbach's are lower than standards in high-income countries, they are consistent with prior research on the socioemotional skills in low- and middle-income countries (e.g. Laajaj and Macours 2021). Socioemotional skills correlate modestly between themselves and correlate as expected; for example, growth mindset negatively correlates with a lack of challenge-seeking. Examining the reliability and validity of socioemotional skills measures from this survey, Napolitano et al. (2021) find that most of the measures of growth mindset, learning goals, and perseverance measures had no gender bias and measure the same constructs as the same items for U.S. adolescents.

Annex 2. Summary statistics

Table A.2.1. Summary statistics

	Missing values (%)	Unique values	Min.	Max.	Mean	Median	Standard deviation
Absenteeism (incl. those with zero absence)	0.1	29	0.0	31.0	1.2	0.0	2.0
Absenteeism (excl. those with zero absence)	51.1	28	1.0	31.0	2.5	2.0	2.2
Average grade in four subjects	0.8	>500	25.5	97.8	78.4	78.5	5.1
Bahasa Indonesia	0.9	414	0.0	100.0	80.1	80.0	5.8
English	0.9	485	0.0	99.0	78.0	78.0	6.3
Math	0.9	493	0.0	100.0	77.2	77.2	6.6
Science	0.8	433	13.0	100.0	78.4	78.0	6.1
Average grade in four subjects (stz.)	0.8	>500	-5.1	4.6	0.0	-0.1	1.0
Bahasa Indonesia (stz.)	1.0	>500	-5.5	5.1	0.0	-0.1	1.0
English (stz.)	1.0	>500	-5.4	5.5	0.0	-0.2	1.0
Math (stz.)	1.2	>500	-5.6	6.0	0.0	-0.2	1.0
Science (stz.)	1.0	>500	-5.5	5.5	0.0	-0.1	1.0
Aspired edu. level is postsecondary	0.0	16	8.0	21.0	17.6	18.0	3.8
Expected edu. level is postsecondary	0.1	38	8.0	21.0	14.7	12.0	3.5
Aspired educational level (7 cat.)	0.0	16	0.0	1.0	0.8	1.0	0.4
Expected educational level (7 cat.)	0.1	38	0.0	1.0	0.5	0.0	0.5
Aspired education in years	0.0	16	1.0	7.0	5.5	6.0	1.8
Expected education in years	0.1	38	1.0	7.0	4.1	3.0	1.8
If there's a aspired-exp. difference for edu.	0.1	47	0.0	1.0	0.6	1.0	0.5
Difference in years of edu. between aspired	0.1	47	-13.0	13.0	2.9	1.0	3.8
Expect to get a degree in preferred subject	0.1	79	0.0	1.0	0.6	1.0	0.5
Self-esteem	0.0	17	1.0	5.0	3.5	3.5	0.6
Sense of belonging	0.5	25	1.0	5.0	4.2	4.3	0.5
Perseverance	0.1	17	1.0	5.0	3.6	3.8	0.6
Growth mindset	0.3	17	1.0	5.0	3.2	3.3	0.8
Effort beliefs	0.2	13	1.0	5.0	3.8	3.7	0.7
Learning orientation	0.1	17	1.0	5.0	3.8	4.0	0.7
Performance-avoidance orientation	0.2	13	1.0	5.0	3.4	3.3	0.9
Self-esteem (stz.)	0.0	17	-3.9	2.3	0.0	0.0	1.0
Sense of belonging (stz.)	0.5	25	-6.6	1.7	0.0	0.3	1.0
Perseverance (stz.)	0.1	17	-4.3	2.2	0.0	0.2	1.0
Growth mindset (stz.)	0.3	17	-2.8	2.2	0.0	0.0	1.0
Effort beliefs (stz.)	0.2	13	-3.9	1.8	0.0	-0.1	1.0
Learning orientation (stz.)	0.1	17	-4.1	1.6	0.0	0.2	1.0
Performance-avoidance orientation (stz.)	0.2	13	-2.7	1.8	0.0	-0.1	1.0
Age	0.1	>500	8.8	23.0	14.2	14.1	0.7
Being a girl (vs. a boy)	0.0	2	0.0	1.0	0.5	1.0	0.5
Living in urban area (vs. rural)	0.2	2	0.0	1.0	0.4	0.0	0.5
Living in Java (vs. in Sumatra)	0.0	2	0.0	1.0	0.6	1.0	0.5

Annex 3. Robustness checks

The relationships between aspired and expected education and schooling outcomes shown in Table 1 are robust to several alternative specifications. First, the positive link between aspirations and expectations and grades and negative correlation with absenteeism holds with aspirations and expectations as dummies, taking the value of 1 for completing a postsecondary degree (as done in other studies like Favara [2017], for example) (Table A.3.1). Second, regressions with aspired and expected education levels as categorical variables instead of the quadratic terms confirm that the nonlinearity of the links between expectations and schooling outcomes is not solely due to the estimation equation functional form (Table A.3.2.). Taking general high school as the reference category, higher expected levels are most positively correlated with grades (and negatively with absenteeism) at the bachelor's level but less correlated for higher levels. Finally, using a Tobit model for regressions on absenteeism to account for the fact that half of the students are never absent (thus have 0 days of absence) shows similar results as the regular OLS model (Table A.3.3).

Table A.3.1. Conditional correlations of grades and absenteeism with aspired and expected education as dummies (completing a postsecondary degree vs. secondary or below)

	Standardized average grades			Number of school days missed in the past month		
	(1)	(2)	(4)	(5)	(6)	(8)
Aspiring to Postsecondary (dummy)	**0.204*** **			**-0.337*** **		
	(0.01)			(0.03)		
Expecting Postsecondary (dummy)		**0.086*** **			**-0.167*** **	
		(0.01)			(0.02)	
There is a difference between aspired and expected educational level (dummy)*			**0.087*** **			**-0.069*** **
			(0.01)			(0.02)
Self-esteem	-0.004	-0.006	-0.001	-0.051***	-0.047***	
	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	
Sense of belonging	0.064***	0.067***	0.067***	-0.103***	-0.107***	-0.053***
	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)
Perseverance	0.042***	0.045***	0.048***	-0.029**	-0.032***	-0.108***
	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)
Growth mindset	0.146***	0.151***	0.154***	-0.091***	-0.098***	-0.038***
	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)
Effort beliefs	0.053***	0.055***	0.055***	0.002	-0.001	-0.105***
	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)
Learning orientation	0.124***	0.131***	0.132***	-0.096***	-0.106***	-0.002
	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)
Performance-avoidance orientation	-0.058***	-0.060***	-0.060***	0.038***	0.041***	-0.112***
	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)
Age (with decimals)	-0.101***	-0.105***	-0.111***	0.146***	0.152***	0.043***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Being a girl (dummy)	0.580***	0.602***	0.600***	-0.361***	-0.395***	0.163***
	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)
Living in urban area (vs. rural)	-0.113***	-0.107***	-0.089***	-0.113***	-0.118***	-0.401***
	(0.01)	(0.01)	(0.01)	(0.03)	(0.03)	(0.02)
Living in Java (vs. in Sumatra)	0.039***	0.032***	0.022***	0.011	0.019	-0.152***
	(0.01)	(0.01)	(0.01)	(0.03)	(0.03)	(0.03)
Constant	0.997***	1.164***	1.238***	-0.342	-0.593***	0.039
	(0.08)	(0.08)	(0.07)	(0.21)	(0.21)	(0.21)
Observations	54,639	54,615	54,610	55,039	55,014	55,009
R-squared	0.24	0.23	0.23	0.04	0.04	0.04

Source: Authors' calculations based on the 2018 survey "Getting to Know 8th Grade Students."

Note: *2,024 students (5 percent of the sample) have higher expectations than aspirations. Conditional correlations are Ordinary Least Squares regressions. Yellow and blue highlights show significant correlations at least at the 95 percent level for the variables of interest and covariates, respectively. Grades are standardized at the school level, with a mean of zero and a standard deviation of one. Measures of socioemotional skills are standardized for the entire sample. Standard errors are clustered at the school level.

*$p < 0.1$ **$p < 0.05$ ***$p < 0.01$

Table A.3.2. Conditional correlations of educational outcomes with aspired and expected education with levels as categorical variables

	Standardized average grades		Number of school days missed in the past month	
	(1)	(2)	(3)	(4)
Aspired education*				
Middle school (complete or incomplete)	**-0.066****		**0.373*****	
	(0.03)		(0.09)	
Vocational high school	0.022		**-0.102****	
	(0.02)		(0.05)	
Vocational Tertiary	**0.081*****		**-0.184****	
	(0.03)		(0.08)	
Bachelor	**0.180*****		**-0.395*****	
	(0.02)		(0.05)	
Magister	**0.218*****		**-0.359*****	
	(0.02)		(0.05)	
Doctorate	**0.228*****		**-0.365*****	
	(0.02)		(0.05)	
Expected education*				
Middle school (complete or incomplete)		**-0.158*****		**0.506*****
		(0.02)		(0.07)
Vocational high school		**-0.025****		0.003
		(0.01)		(0.03)
Vocational Tertiary		**0.052****		**-0.207*****
		(0.02)		(0.04)
Bachelor		**0.117*****		**-0.192*****
		(0.01)		(0.03)
Magister		**0.069*****		**-0.102*****
		(0.02)		(0.04)
Doctorate		-0.008		-0.057*
		(0.01)		(0.03)
Self-esteem	-0.004	-0.005	-0.050***	-0.047***
	(0.00)	(0.00)	(0.01)	(0.01)
Sense of belonging	0.063***	0.066***	-0.101***	-0.104***
	(0.00)	(0.00)	(0.01)	(0.01)
Perseverance	0.042***	0.046***	-0.029**	-0.033***
	(0.00)	(0.00)	(0.01)	(0.01)
Growth mindset	0.145***	0.150***	-0.090***	-0.095***
	(0.00)	(0.00)	(0.01)	(0.01)
Effort beliefs	0.053***	0.056***	0.002	-0.003
	(0.00)	(0.00)	(0.01)	(0.01)
Learning orientation	0.122***	0.129***	-0.095***	-0.102***
	(0.00)	(0.00)	(0.01)	(0.01)
Performance-avoidance orientation	-0.058***	-0.059***	0.039***	0.039***
	(0.00)	(0.00)	(0.01)	(0.01)
Age (with decimals)	-0.100***	-0.103***	0.144***	0.146***
	(0.01)	(0.01)	(0.01)	(0.01)
Being a girl (dummy)	0.578***	0.599***	-0.362***	-0.393***
	(0.01)	(0.01)	(0.02)	(0.02)
Living in urban area (vs. rural)	-0.115***	-0.111***	-0.109***	-0.108***
	(0.01)	(0.01)	(0.03)	(0.03)
Living in Java (vs. in Sumatra)	0.040***	0.034***	0.011	0.015
	(0.01)	(0.01)	(0.03)	(0.03)
Constant	0.979***	1.160***	-0.294	-0.553***
	(0.08)	(0.08)	(0.21)	(0.21)
Observations	54,639	54,615	55,039	55,014
R-squared	0.24	0.23	0.05	0.04

Source: Authors' calculations based on the 2018 survey "Getting to Know 8th Grade Students."
Note: *The omitted category in aspired and expected education is general high school. Conditional correlations are Ordinary Least Squares regressions. Yellow and blue highlights show significant correlations at least at the 95 percent level for the variables of interest and covariates, respectively. Grades are standardized at the school level, with a mean of zero and a standard deviation of one. Measures of socioemotional skills are standardized for the entire sample. Standard errors are clustered at the school level.

*$p < 0.1$ **$p < 0.05$ ***$p < 0.01$

Table A.3.3. Conditional correlations of absenteeism with aspired and expected education under a Tobit model

	Number of school days missed in the past month			
	(1)	(2)	(3)	(4)
Aspired education in years	**-0.524*** **			
	(0.07)			
Aspired education in years^2	**0.014*** **			
	(0.00)			
Expected education in years		**-0.701*** **		
		(0.07)		
Expected education in years^2		**0.021*** **		
		(0.00)		
Diff. in years between aspirations and expectations			**-0.085*** **	
			(0.01)	
Diff. in years between aspired and expected edu.^{2}			**0.007*** **	
			(0.00)	
Have lower expectations than aspirations (dummy)				**-0.298*** **
				(0.05)
Self-esteem	-0.127***	-0.120***	-0.136***	-0.137***
	(0.03)	(0.03)	(0.03)	(0.03)
Sense of belonging	-0.241***	-0.251***	-0.252***	-0.256***
	(0.03)	(0.03)	(0.03)	(0.03)
Perseverance	-0.068**	-0.076***	-0.088***	-0.089***
	(0.03)	(0.03)	(0.03)	(0.03)
Growth mindset	-0.243***	-0.258***	-0.272***	-0.276***
	(0.03)	(0.03)	(0.03)	(0.03)
Effort beliefs	-0.003	-0.014	-0.013	-0.013
	(0.03)	(0.03)	(0.03)	(0.03)
Learning orientation	-0.249***	-0.267***	-0.284***	-0.284***
	(0.03)	(0.03)	(0.03)	(0.03)
Performance-avoidance orientation	0.112***	0.114***	0.120***	0.120***
	(0.03)	(0.03)	(0.03)	(0.03)
Age (with decimals)	0.340***	0.345***	0.377***	0.381***
	(0.03)	(0.03)	(0.03)	(0.03)
Being a girl (dummy)	-0.919***	-0.995***	-0.995***	-0.996***
	(0.05)	(0.05)	(0.05)	(0.05)
Living in urban area (vs. rural)	-0.278***	-0.273***	-0.368***	-0.377***
	(0.08)	(0.08)	(0.08)	(0.08)
Living in Java (vs. in Sumatra)	-0.002	0.013	0.071	0.068
	(0.08)	(0.08)	(0.08)	(0.08)
Constant	-0.511	0.179	-5.730***	-5.704***
	(0.70)	(0.70)	(0.47)	(0.47)
Observations	55,039	55,014	55,009	55,009

Source: Authors' calculations based on the 2018 survey "Getting to Know 8th Grade Students."
Note: The Tobit model estimates linear relationships when there is either left- or right-censoring in the dependent variable. We use censoring from below 1 to that around half of students are never absent (0 days of absence). Yellow and blue highlights show significant correlations at least at the 95 percent level for the variables of interest and covariates, respectively. Grades are standardized at the school level, with a mean of zero and a standard deviation of one. Measures of socioemotional skills are standardized for the entire sample. Standard errors are clustered at the school level.

**p < 0.1 **p < 0.05 ***p < 0.01*