IN THE EYE OF THE BEHOLDER: PEERS' EXPECTATIONS AND LONG TERM EDUCATIONAL OUTCOMES IN BRAZIL*

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Preliminary and incomplete. Please do not cite or circulate

Abstract

The influence of one's peers actions and attributes over human capital accumulation has been shown in a variety of contexts. Using unique data from Brazilian middle-school students, we contribute to this literature by assessing a novel aspect of peer interactions: the role of peer expectations. We adapt the methodology presented in Papageorge, Gershenson, and Kang (2020) to our context and find strong evidence of a *causal* impact of peer expectations regarding an 8th grader's college completion over her high school graduation four years into the future. These findings highlight a nuanced way in which peers can support the accumulation of human capital as a self-fulfilling prophecy. We go on to document important racial and gender dimensions of these impacts, indicating intricate ways by which inequality is perpetuated.

*All errors are those of the authors.

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1 Introduction

A burgeoning literature across multiple social science disciplines has pointed to the importance of peers for human capital accumulation decisions. The main focus of these contributions has been to analyze and identify how peers' actions and characteristics influence one's own outcomes and behavior (see Sacerdote, 2011, 2014, for reviews).[1] Chief among the topics in the empirical literature that follows is the estimation of peer effects over formal schooling trajectories (Abramitzky, Lavy, & Pérez, 2018; Altmejd et al., 2021; Ballis, 2020; Barrios-Fernández, 2022; Bobonis & Finan, 2009; Cools, Fernández, & Patacchini, 2021; Pagani & Pica, 2021) and plans (Gagete-Miranda, 2020). In terms of achievement, the prevailing finding is that high-performance students benefit from the presence of other high-performance students. Some authors also find that both the racial composition and the race-specific achievements of their peers affect one's performance.[2] The present paper takes a different perspective and examines the role of the *nature* of these peer interactions over schooling outcomes. In particular, we investigate the extent to which expectations of peers regarding one's schooling decisions and attainment may ultimately *influence* these future individual outcomes, i.e., have a *self-fulfilling prophecy* effect.

Self-fulfilling prophecies regarding the expectations or prejudice that others have about an individual have been documented for teachers (Carlana, 2019; Hill & Jones, 2021; Lavy & Sand, 2018; Papageorge et al., 2020), parents (Cunha, Elo, & Culhane, 2013), managers (Glover, Pallais, & Pariente, 2017), and even one-self (Wiswall & Zafar, 2015). However, to the best of our knowledge, the literature has yet to document the long-term impacts of peer or friend expectations on students. The reasoning behind such an investigation is based on the recognition that early adolescence is a period of life in which individuals are particularly attentive to others' views of them. Well-meaning or otherwise, such views occupy much of an adolescent's decision-making as she works to meet the expectations of others (and of school peers in particular) (Bursztyn, Egorov, & Jensen, 2019; Bursztyn & Jensen, 2017).

[1] A comprehensive and theory-founded review of the Psychology scholarship on this issue can be seen in Ciranka and van den Bos (2021).

[2] See review in Sacerdote (2011).

To identify the *causal impact* of peers' expectations on students' educational attainment, we combine detailed administrative data with a uniquely rich network dataset collected across Brazilian public middle schools. We leverage an innovative feature of the survey designed to capture social networks within schools: when naming their friends, teens were asked to provide a short profile of the latter, including how far they expected each of those friends would go in school. In other words, they were asked to provide expectations regarding the educational attainment of each of their nominated peers.

Of course, estimating the impact of peers' expectations does not come without a challenge. In principle, it is hard to disentangle peers' accurate prediction from peers' influence over such future outcomes. On the one hand, peers form their expectations from students' signals, such as performance, behavior, and family background. Hence, a positive correlation between peers' expectations and students' outcomes could simply indicate that peers' are doing a good job reading students' signals, such that their forecast is accurate. On the other hand, it is not clear how to rule out peers' expectations changing students' behavior or perceptions about themselves, which would materialize in outcomes that follow a self-fulfilling prophecy. Therefore, to identify the causal impact of peers' expectations, we resort to a methodology recently employed by Papageorge et al. (2020) in their study of teachers' expectations. Like in their original study, we exploit discrepancies between different peers' expectations about a given student so that the expectation of one peer serves as a control for the expectations of the other. More precisely, when analyzing the impact of one particular peer's expectation, we use the average expectations of other peers to control for unobserved factors that directly affect student schooling decisions, which all peers utilize when forming expectations. Mechanically, we hold the signal constant and identify the self-fulfilling effects from the noise contained in the expectations reported by different peers.

We start by documenting the main determinants of friends' expectations. We show three important patterns. First, there is a positive association between students' proficiency and such expectations, which shows that friends do observe students' quality when forming their opinions. Second, while there is no conditional racial gap in friends' expectations, friends tend to have lower

expectations regarding boys, even after controlling for several important characteristics such as proficiency and socio-emotional skills. Third, boys also tend to have lower expectations of their friends.

We then turn to the estimation of the impact of friends' expectations, and we show that if friends expect that a student will obtain a college degree in the future, this increases 6.2 percent of student's likelihood of finishing high school, and 8 percent their likelihood to finish high school in the minimum required time. While boys and girls are both impacted by their friends' expectations, such an impact is not significant for black students. We finally show that friends' expectations increase students' classroom attendance and teachers' grades in the future, pointing to an increase in school engagement as a possible mechanism behind our impacts.

2 Data and descriptive statistics

We combine two rich sources of data. The first contains detailed administrative records of all students in the Sao Paulo public education system. These include information about students' characteristics, such as gender, race, parental education, and school outcomes, such as class attendance, performance, school transition history, and progression. Since these data follow students throughout their education trajectory, they can be used to calculate each student's high-school completion and graduation timing, our primary outcome variables of interest.

The second data source is a large-scale survey funded by a pool of local NGOs and designed by researchers at the University of Sao Paulo. Fieldwork was conducted in 2011 and targeted all students enrolled in eighth grade across 85 state-operated schools. Importantly, in the Brazilian educational system, the eighth grade is the last grade of primary school and the last year of mandatory schooling. After the eighth grade, students can choose whether to go on to high school and acquire another three years of schooling or to leave the education system (either right after the eighth grade or at any point during high school).

The comprehensive survey instrument was fielded by school officials and contained the pre-

identification of individual student respondents based on the aforementioned administrative records. One of the blocks of questions in this survey captured a detailed mapping of students' social networks. Students were asked to name their four closest same-grade peers (which, in most schools, consists of more than one classroom). Students also answered questions focused on profiling each of their nominated peers. The profile questions included how reliable or intelligent they perceived their peers to be as well as how far they expected each one to go in school.

Once we link these perceptions to each of the students about which expectations were "formed," we reach our central covariate of interest: each individual has expectations reported by each of their nominating peers. Specifically, if a student i named another student j as a friend, i was asked to predict whether she thinks j will: *(i)* leave school even before entering high school; *(ii)* start high school but not finish it; *(iii)* finish high school but not go to college; *(iv)* start college but not finish it; or *(v)* obtain a college degree. Figure 1 shows the distribution of friends' expectations. As we can see, about 60% of the students believed their friends would obtain a college degree. Another relevant mass of students (about 25%) believed their friends would finish high school but would not go on to college. Since our data only allow us to follow students up to the end of high school, we are unable to observe whether students obtained a college degree in the future. However, as we will show in section 3, we can measure whether students were too optimistic about their friends' trajectory, particularly if students expected their friends to finish college, but such friends did not finish high school.

Figure 1: Distribution of friends' expectations

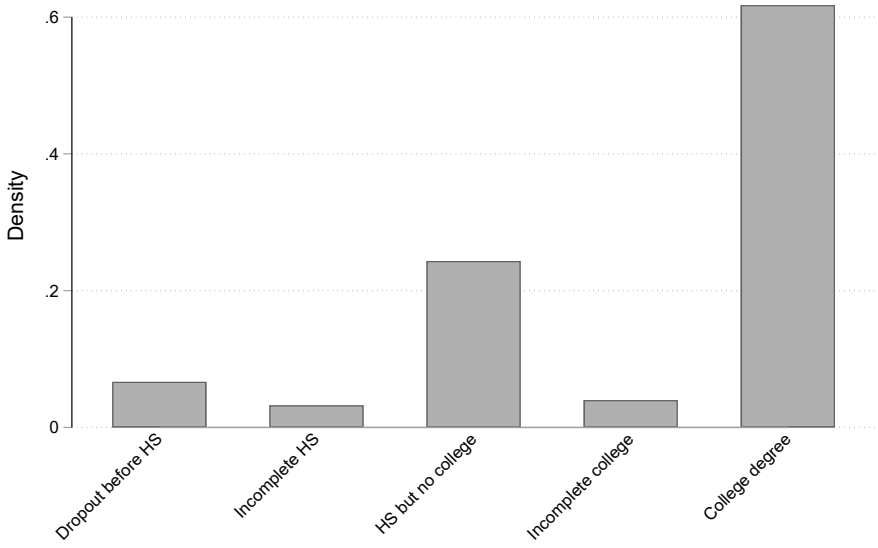


Table 1 presents descriptive statistics of the survey sample, both for senders i – that is, students that sent a friendship tie to someone else in their grade – and receivers j – that is, students that received at least one friendship tie from another colleague in their grade[3]. We can see that, on average, students send and receive 2.5 friendship ties. The table also shows important patterns in students' high school completion. We create two measures to understand such a pattern. The first, "Concludes HS," indicates that the student finished high school up to five years after they answered the survey in 2011. The second, "Concludes HS in minimum time," indicates that the student finished high school at most three years after they answered the survey, which is the minimum time needed to conclude such an educational stage. As we can see on the table, high school graduation is far from being universal in these schools (a problem faced by virtually all public schools in the country): less than 80% of students ended up finishing high school after their enrollment in the eighth grade in 2011, while only 63% of students finished high school in the minimum time.

The number of peers who named a student as a friend is defined as the students' *in-degree*, which we describe in Figure A1. Since our identification strategy relies on controlling one peer's expectations for the expectations of another peer, or peers, we limit our sample to students with an

[3]We dropped from our sample students that did not receive any tie.

in-degree greater or equal to two. As we can see in Figure A1, this means that we lose about 30% of our sample. In the next sections, we estimate exercises with and without such students to check whether such an exclusion drives any portion of our results.

	Sender's Characteristics		Receiver Characteristics	
	mean	sd	mean	sd
Boy	0.46	0.50	0.47	0.50
Age	14.46	0.75	14.47	0.76
White	0.34	0.47	0.35	0.48
Brown	0.52	0.50	0.51	0.50
Black	0.13	0.34	0.14	0.35
Mom educ: College	0.17	0.38	0.17	0.38
Dad educ: College	0.16	0.36	0.15	0.36
Reading proficiency	-1.06	0.83	-1.06	0.84
Math proficiency	-1.28	0.73	-1.29	0.73
Teacher grade: reading	6.06	1.43	6.06	1.46
Teacher grade: math	5.89	1.66	5.90	1.68
Concludes HS	0.76	0.43	0.75	0.43
Concludes HS in minimum time	0.63	0.48	0.62	0.48
Nr. nominated/nominators	2.45	1.09	2.46	1.48
Observations	4,547		4,527	

Table 1: Descriptive statistics

2.1 Expectation formation

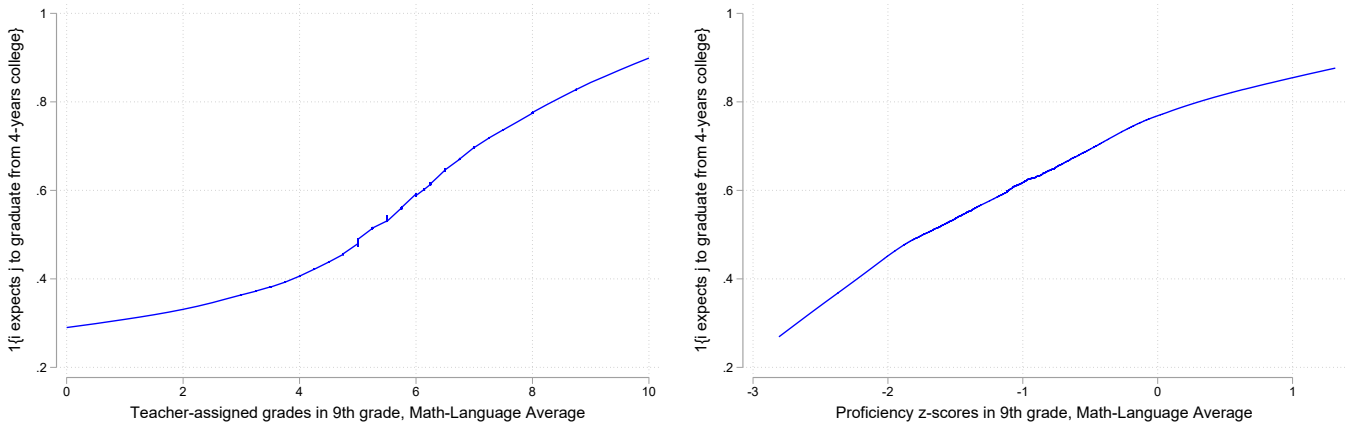
In Figures 2 and 3 and Table 2, we turn to the empirical description of the expectation formation process. We correlate friends' perceptions about the likelihood of students finishing college in the future with a set of individual attributes regarding the student being nominated and their nominator. Figure 2 shows evidence that friends' expectations are not frivolous: the better students perform at school, the more likely their friends are to predict they will finish college. Figure 2a presents the

correlation between students' Math-Language average grades assigned by teachers and friends' expectations about college completion. Figure 2b, in turn, presents the correlation between students' proficiency in a State-wide exam and friends' expectations about college completion. In both cases, we can see a reasonably strong positive association.

While friends' expectations do not seem to depend much on students' race, they tend to be systematically lower for boys. We can see such a pattern in Figure 3, where we analyze the same correlations as in Figure 2 but separately for black and white students (Figures 3a and 3c), and for boys and girls (Figures 3b and 3d). We can see that friends' expectations for any given grade/score are lower for black students and boys. However, while such a gap is almost negligible between black and white students, it is very pronounced between boys and girls. This is nonetheless compatible with population-level differences in college completion observed in this context.

Table 2 confirms the patterns shown in Figure 3. It associates the expectations of friend i about the likelihood that student j will finish college. Column (1) associates such expectations with students' gender and race, controlling only for schools' fixed effects. We can see that friends' expectations about college completion are 16.5 p.p. lower for boys, 2.2 p.p. lower for brown students, and 8.6 p.p. lower for black students. As we gradually add controls from columns (2) to (5), we can see that, on the one hand, the coefficients for brown and black students decrease consistently in size and significance; on the other hand, even though the coefficient for boys also decreases, it remains strongly significant. We can also notice in column (5) that not only do boys receive lower expectations from their friends, but they are also less optimistic regarding their friends: expectations are 5.8 p.p. lower if i is a boy, compared to whether i is a girl, even after controlling for several of j's characteristics. Column (6) controls for i's fixed effects, and the results do not change much. Since the identification strategy adopted in this paper requires that students have a nomination of at least two friends, we check in column (7) whether the exclusion of students named by only one friend from the estimation impacts the results. As we can see, the results remain virtually the same.

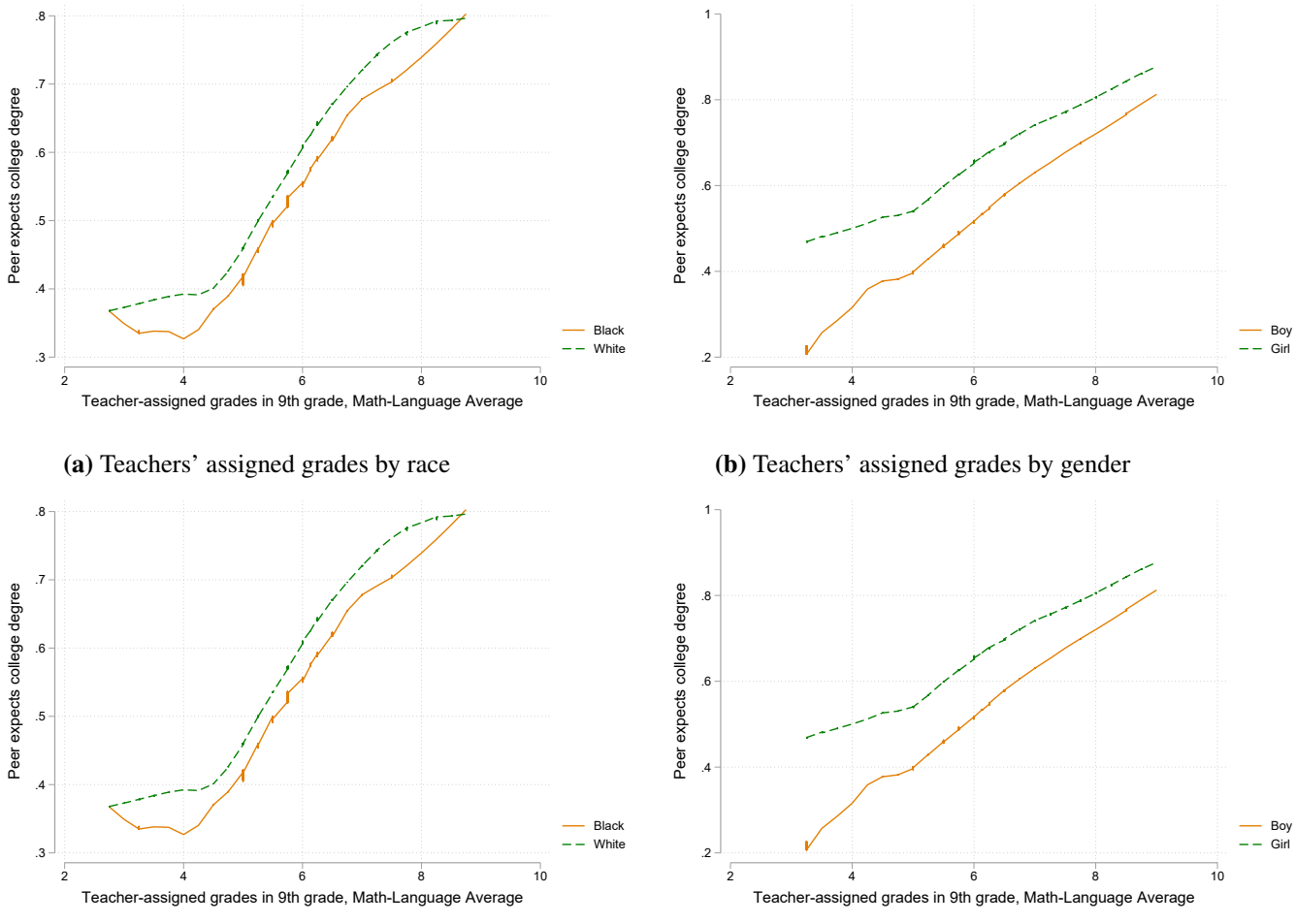
Figure 2: Students' cognitive skills and friends' expectations



(a) Teachers' assigned grades

(b) Test scores' proficiency

Figure 3: Students' cognitive skills and friends' expectations – gender and racial gaps



(a) Teachers' assigned grades by race

(b) Teachers' assigned grades by gender

(c) Test scores' proficiency by race

(d) Test scores' proficiency by gender

	1{i expects j to graduate from 4-year college}						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
j is a Boy	-0.165***	-0.149***	-0.112***	-0.113***	-0.070***	-0.067***	-0.066***
	(0.013)	(0.013)	(0.012)	(0.013)	(0.014)	(0.014)	(0.015)
j is Brown	-0.022*	-0.020*	-0.004	-0.004	-0.003	-0.012	-0.010
	(0.012)	(0.011)	(0.011)	(0.011)	(0.010)	(0.009)	(0.010)
j is Black	-0.086***	-0.076***	-0.032**	-0.031*	-0.027*	-0.027*	-0.025*
	(0.017)	(0.017)	(0.016)	(0.016)	(0.016)	(0.014)	(0.015)
i is a Boy					-0.058***		
					(0.016)		
i is Brown					-0.000		
					(0.014)		
i is Black					-0.039*		
					(0.021)		
R2	0.06	0.08	0.13	0.13	0.15	0.73	0.73
School FE	✓	✓	✓	✓	✓		
j SES		✓	✓	✓	✓	✓	✓
j Proficiency			✓	✓	✓	✓	✓
j Socio-Emotional				✓	✓	✓	✓
i SES					✓		
i Proficiency					✓		
i Socio-Emotional					✓		
i FE						✓	✓
Minimum # of nominators	1	1	1	1	1	1	2
# of dyads	11153	11153	10970	10970	10783	9835	8409
# of nominees	4525	4525	4440	4440	4417	4048	2923
# of nominators	4545	4545	4514	4514	4433	3379	2967

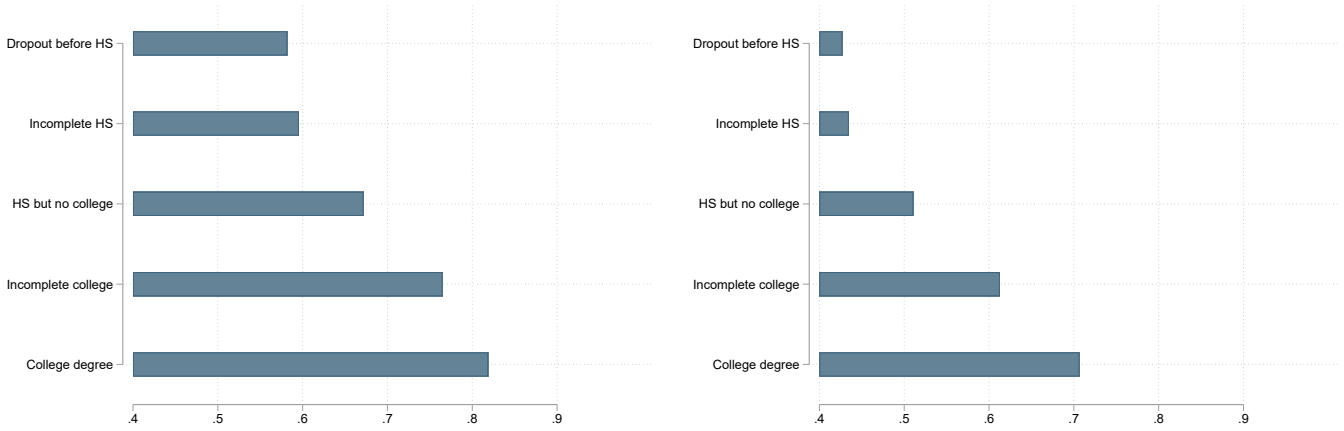
Table 2: Gender and racial gaps in expectation formation

3 Identifying causal effects of peers expectations

The primary challenge in establishing a causal relationship between friends' expectations and students' long-term outcomes is the difficulty of disentangling the impact of friends' expectations from friends' accurate forecasts, based on students' signals that the econometrician cannot observe. Indeed, in Figure 4, we show that peers' expectations are a good predictor of students' future school trajectories. The graphs show the proportion of students graduating from high school (at any time in Figure 4a or at the minimum time in Figure 4b) for each level of education expected for students' peers. As friends have higher expectations about how far students will go, we can see that they are more likely to graduate from high school. Interestingly, we also observe that some friends are overly pessimistic – for instance, in figure 4a, about 60% of students whose friends' prediction was to drop out before starting high school, actually finished such educational stage –; while some other friends are overly optimistic – for instance, in 4a, less than 85% of students predicted to finish college by their friends completed high school, a necessary condition to even start a college.

Importantly, however, friends often disagree about their expectations. Figure 5 presents the distribution of friends' average expectations about whether students will finish college. An average of zero or one indicates that all friends agree – that is, either all of them think the student will not get a college degree or all agree that the student will finish college. However, we have a quite significant portion of friends who disagree: any number between zero and one in the friends' average opinion means that at least one friend has different expectations. We leverage these disagreements to identify the causal impact of friends' expectations.

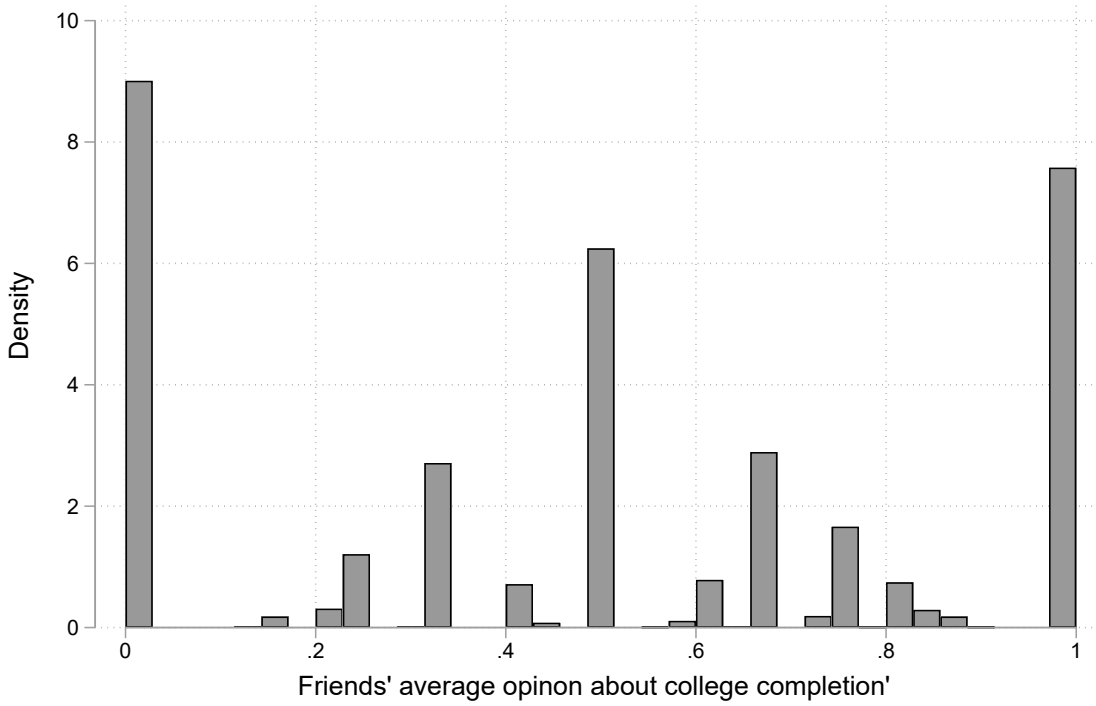
Figure 4: Friends' expectations and students' likelihood to complete HS



(a) Proportion of HS completion

(b) Proportion of HS completion in minimum time

Figure 5: Friends disagreements about students' likelihood to finish college



We implement the methodology suggested by the work of Papageorge et al. (2020) and exploit friends' disagreements about students to credibly identify how friends' expectations influence high school completion. Assuming that friends' disagreements are conditionally random, we can use

within-student variations in friends' expectations to estimate causal effects. More specifically, consider that the true model to estimate the causal impact of friends' expectations on students' high school completion is the following:

$$y_j = \alpha + \beta Expec_i + X_j\delta^j + X_i\delta^i + \theta_j + \varepsilon_j, \tag{1}$$

where y_j is a binary variable indicating whether student j completed high school; $Expec_i$ is the expectation of friend i regarding j's schooling attainment; X_j and X_i are vectors of controls for j and i, respectively, that are observed by the econometrician, such as their school performance and attendance, race, gender, parents' education, socio-emotional skills, and other relevant SES variables; θ_j is a signal that student j sends to all his friends about her quality; and ε_j is a random error term. Friends use students' signal θ_j when forming their expectations, but the econometrician cannot observe such a signal.

Assume that all j friends receive the same signal and that their disagreement about j's likelihood to finish college is random, conditional in controlling for j's and i's observable variables. If such an assumption holds, one can use the average expectation of other friends as a proxy for j's signal. The idea here is straightforward. While simply omitting θ_j from the estimation would generate bias, since

$$Cov(Expec_i, \theta_j | X_j, X_i) \neq 0,$$

if we control for the average expectations of other friends, $Avg.Expec_{-i}$, such a bias will vanish:

$$Cov(Expec_i, \theta_j | X_j, X_i, Avg.Expec_{-i}) = 0$$

Hence, we implement such a strategy by estimating simple OLS models of the form:

$$y_j = \alpha + \beta Expec_i + \gamma Avg.Expec_{-i} + X_j\delta^j + X_i\delta^i + \varepsilon_j,$$

Another way of interpreting this identification strategy is that friends try to read students' capabilities based on students' signals, but they do it imperfectly, which generates measurement errors in their expectations. By holding $Avg.Expec_{-i}$ constant, we hold the *signal* portion of the expectations constant so that β identifies only the noise that i brings to the measure.

4 Results

Our results show that friends' expectations positively impact students' likelihood of finishing high school. Tables 3 and 4 show the estimations for the likelihood of completing high at any time (up to five years after finishing middle school) and the likelihood of completing high school in the minimum possible time (three years after finishing middle school), respectively. In Panel A, we define friends' expectations as a binary variable indicating whether friend i believes that student j will complete college. In Panel B, we use the 1-5 scale of friends' expectations (1- i thinks j will drop out before entering high school; 2- i thinks j will start high school but will not finish it; 3 - i thinks j will finish high school but will not go to college; 4 - i thinks j will start college but will not finish it; 5 – i thinks j will finish college).

Column (1) includes all students, while columns (2) onward keep only students named by more than one friend – an exclusion that our identification strategy requires us to do. Fortunately, we can see that the results do not change dramatically when comparing columns (1) and (2).

Overall, the two tables and panels show the same pattern: from columns (2) to (4), we gradually add controls to the estimations, and the coefficients of i' expectations regarding j's attainment decrease. Interestingly, adding the average expectations of the other friends (column (5)) does not change the coefficient of i' expectations. One relevant consideration here is that we are controlling our estimations for teacher-assigned grades, which might be the strongest signal about their friends' quality that students observe. Hence, controlling for such grades might already be a good proxy for students' signals. This might be why we do not observe an additional drop in the coefficient after including the average expectations of other friends. In column (6), we add controls for

i (the same ones already added for j), and we can see that the results do not change.

We can see that if a student's friend predicts that she will finish college, this increases in about five p.p. this student's likelihood of finishing high school (both at any point and in the minimum time). Given that the average high school completion rate is 76% (63% if we consider graduation in the minimum time), this represents an increase of 6.2% in the likelihood of finishing high school (8.0% if we consider graduation in the minimum time).

While friends' expectations positively impact both boys and girls, they only affect non-black students. We can see this in Table 5, which presents estimations similar to the ones in Table 4, but separately for boys, girls, black, and non-black students. If we look at Panel A, we can see that the coefficients of i's expectations about j's college attainment are about the same (five p.p.) for boys (column (1)) and girls (column (2)). However, while such a coefficient is 6.2 p.p. for non-black students (column (3)), it's only 3.4 p.p. and non-significant for black students (column (4)).

We conduct several checks to test the robustness of our results. First, as we estimate dyadic regressions where each line represents a link between two students, more popular students (those receiving more friendship nominations) are over-represented in our estimations. We perform two exercises to ensure that this is not what is driving our results. First, tables A1 and A2 in the appendix reproduce the exercises shown in tables 3 and 4, respectively, using an inverse probability weighting in the estimations, which gives the same weight to each student in our sample. The results are virtually the same.

Second, we transform our dyadic data to data containing one student per line by randomizing only one friend whose expectations we will analyze. Figure A2 presents the results of a bootstrap with 100,000 repetitions for estimations similar to the ones in Panel A of Table 4, where we randomize one friend for each repetition. As we can see, the results are, on average, similar to our main ones.

A final check is to investigate if our results change substantially depending on the student's number of friends. If different friends read different signals from students, controlling for the average expectations of a few friends (like one or two) might not be enough to proxy for students'

unobservable quality. If that were true, the more friends a student has, the more accurate the signal captured by the friends' average expectation (excluding i), which could reduce the size and significance of the coefficient of friend i's expectations. However, table A3 shows that the results are pretty consistent regardless of students' in-degree. If anything, the results get larger the more friends a student has.

	1{j graduates from HS}					
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Binary college graduation expectation						
i's expectation regarding j's attainment	0.159***	0.149***	0.072***	0.048***	0.045***	0.047***
	(0.018)	(0.018)	(0.015)	(0.015)	(0.014)	(0.014)
$-i$ avg. expectation regarding j's attainment					0.082***	0.079***
					(0.026)	(0.026)
Panel B: Expectation (1-5)						
i's expectation regarding j's attainment	0.051***	0.049***	0.024***	0.015***	0.013***	0.014***
	(0.004)	(0.004)	(0.004)	(0.003)	(0.003)	(0.003)
$-i$ avg. expectation regarding j's attainment					0.025***	0.024***
					(0.006)	(0.006)
School FE	✓	✓	✓	✓	✓	✓
j SES			✓	✓	✓	✓
j Proficiency			✓	✓	✓	✓
j Socio-Emotional			✓	✓	✓	✓
j Teacher-assigned grades				✓	✓	✓
i controls						✓
Minimum # of nominators	1	2	2	2	2	2
# of dyads	11153	9698	9698	9544	9544	9380
# of nominees	4525	3070	3070	3014	3014	3014
# of nominators	4545	4128	4128	4102	4102	4031

Table 3: i expectations and j school completion

	1{j graduates from HS in minimum time}					
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Binary college graduation expectation						
i's expectation regarding j's attainment	0.196***	0.191***	0.094***	0.058***	0.055***	0.048***
	(0.018)	(0.019)	(0.015)	(0.014)	(0.013)	(0.013)
$-i$ avg. expectation regarding j's attainment					0.099***	0.092***
					(0.023)	(0.024)
Panel B: Expectation (1-5)						
i's expectation regarding j's attainment	0.068***	0.066***	0.033***	0.021***	0.018***	0.017***
	(0.004)	(0.005)	(0.004)	(0.004)	(0.003)	(0.004)
$-i$ avg. expectation regarding j's attainment					0.034***	0.033***
					(0.006)	(0.006)
School FE	✓	✓	✓	✓	✓	✓
j SES			✓	✓	✓	✓
j Proficiency			✓	✓	✓	✓
j Socio-Emotional			✓	✓	✓	✓
j Teacher-assigned grades				✓	✓	✓
i controls						✓
Minimum # of nominators	1	2	2	2	2	2
# of dyads	11153	9698	9698	9544	9544	9380
# of nominees	4525	3070	3070	3014	3014	3014
# of nominators	4545	4128	4128	4102	4102	4031

Table 4: i expectations and j school completion in minimum time

	1{j graduates from HS in minimum time}			
	Boy	Girl	Black	Non-Black
	(1)	(2)	(3)	(4)
Panel A: Binary college graduation expectation				
i's expectation regarding j's attainment	0.049**	0.053**	-0.032	0.062***
	(0.021)	(0.020)	(0.037)	(0.015)
$-i$ avg. expectation regarding j's attainment	0.091**	0.102***	0.122**	0.086***
	(0.036)	(0.035)	(0.053)	(0.026)
Panel B: Expectation (1-6)				
i's expectation regarding j's attainment	0.021***	0.014***	0.008	0.019***
	(0.006)	(0.005)	(0.008)	(0.004)
$-i$ avg. expectation regarding j's attainment	0.039***	0.027***	0.026*	0.033***
	(0.009)	(0.009)	(0.014)	(0.007)
# of dyads	3955	5425	1139	8240
# of nominees	1300	1714	925	2966
# of nominators	2258	2681	509	3521

Table 5: Heterogeneous exercises by gender and race

4.1 Placebos and mechanisms

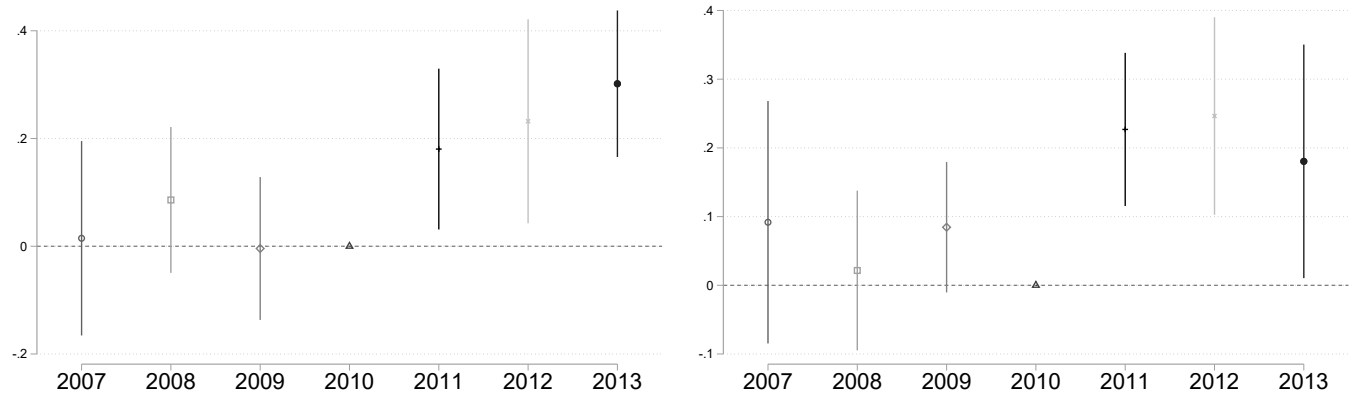
We show in this section that friends' expectations cannot predict students' outcomes, such as classroom attendance and teacher-assigned grades in the past (which would be a clear sign of endogeneity). Still, they impact these outcomes in the future, pointing to the increase in school engagement as a possible mechanism behind our results.

Since we are able to follow students from 2007 to 2013, we first perform some placebo exercises and estimate the association between i expectations regarding j's school attainment (documented in 2011) and j's classroom attendance and grades from 2007 to 2009 (we control our

primary estimations described above with such variables in 2010). If there were any portion of students' signal still being captured by the coefficient of i expectations even after controlling for the average expectation of all other j nominators, the coefficients of such estimations would be significant. However, as shown in Figure 6, i expectations do not have any predictive power on students' classroom attendance or teachers' grades in 2007, 2008, or 2009.

We next leverage the students' observations in the future and investigate whether friends' expectations impact classroom attendance and teachers' grades after 2011. If one of the channels behind the positive impact that friends' expectations have on students' high school completion is through the impact that such expectations have on students' school engagement, we would observe a positive impact of i expectations regarding j on such variables. Indeed, this is what we observe from the estimations for 2011, 2012, and 2013 in Figure 6.

Figure 6: Friends' expectations and students' likelihood to complete HS



(a) Classroom attendance

(b) Teacher-assinged grades

5 Conclusion

This paper examines the role of peers' expectations on students' educational attainment and highlights the self-fulfilling prophecy effect of these expectations. The findings reveal that peers' expectations regarding one's schooling attainment can shape future outcomes, such as high school completion. Our analysis also undercovers that an increase in school engagement might be a mech-

anism at play.

Interestingly, the study highlights that boys and girls are both impacted by their friends' expectations, but the expectations for boys tend to be lower. This finding may help explain the inverse gender gap in school attainment observed today in several countries. The lower expectations for boys might result in lower motivation or different aspirations, leading to disparities in educational outcomes between genders. In contrast, the study finds that friends' expectations do not significantly impact black students. One possible explanation is that black students face stronger constraints to finish school, such as the opportunity costs of working. These constraints may outweigh the influence of peer expectations on their educational outcomes.

Overall, this research emphasizes the importance of considering peers' expectations as a significant factor in shaping students' high school conclusions. While peers may not hold the same power as teachers in defining students' outcomes in the school, their expectations can still significantly influence such outcomes through their impact on school engagement. Understanding these dynamics can contribute to designing interventions and policies that promote positive peer influences and address the disparities in educational attainment among different groups of students.

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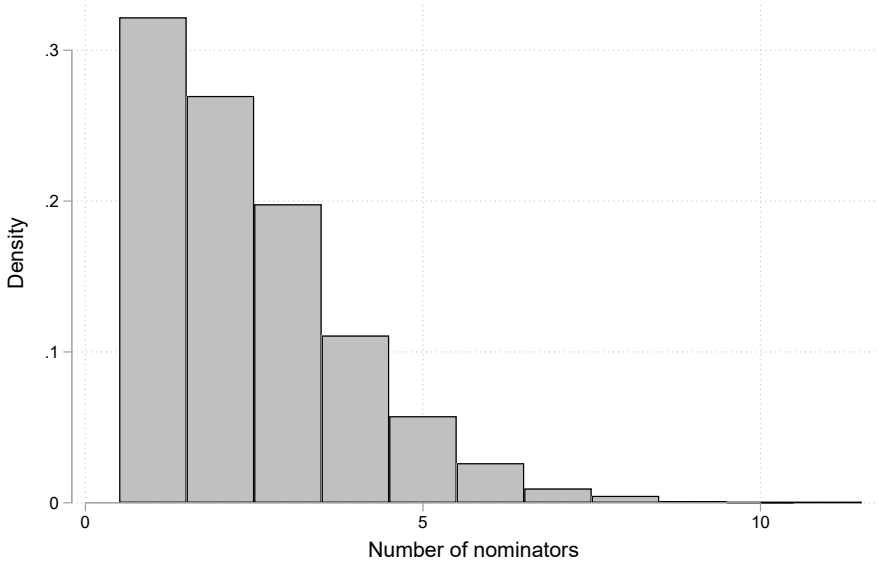
Appendix

Figure A1: Students' in-degree



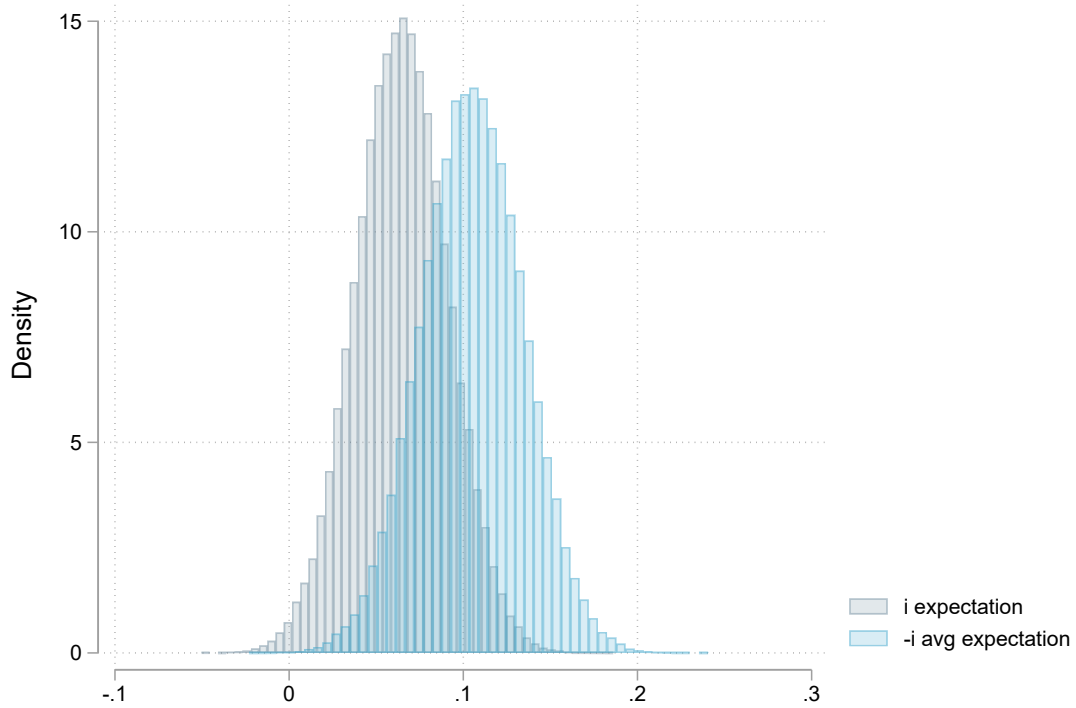
	1{j graduates from HS}					
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Binary college graduation expectation						
i's expectation regarding j's attainment	0.172***	0.161***	0.079***	0.053***	0.050***	0.054***
	(0.019)	(0.017)	(0.016)	(0.017)	(0.016)	(0.016)
$-i$ avg. expectation regarding j's attainment					0.075***	0.070***
					(0.024)	(0.024)
Panel B: Expectation (1-5)						
i's expectation regarding j's attainment	0.055***	0.054***	0.027***	0.018***	0.016***	0.017***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.003)	(0.003)
$-i$ avg. expectation regarding j's attainment					0.025***	0.024***
					(0.005)	(0.005)
School FE	✓	✓	✓	✓	✓	✓
j SES			✓	✓	✓	✓
j Proficiency			✓	✓	✓	✓
j Socio-Emotional			✓	✓	✓	✓
j Teacher-assigned grades				✓	✓	✓
i controls						✓
Minimum # of nominators	1	2	2	2	2	2
# of dyads	11153	9698	9698	9544	9544	9380
# of nominees	4525	3070	3070	3014	3014	3014
# of nominators	4545	4128	4128	4102	4102	4031

Table A1: i expectations and j school completion (inverse probability weighting)

	1{j graduates from HS in minimum time}					
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Binary college graduation expectation						
i's expectation regarding j's attainment	0.198***	0.194***	0.093***	0.056***	0.054***	0.051***
	(0.020)	(0.018)	(0.016)	(0.015)	(0.014)	(0.015)
$-i$ avg. expectation regarding j's attainment					0.080***	0.073***
					(0.021)	(0.022)
Panel B: Expectation (1-5)						
i's expectation regarding j's attainment	0.070***	0.070***	0.035***	0.023***	0.021***	0.020***
	(0.004)	(0.005)	(0.004)	(0.004)	(0.003)	(0.004)
$-i$ avg. expectation regarding j's attainment					0.032***	0.031***
					(0.005)	(0.005)
School FE	✓	✓	✓	✓	✓	✓
j SES			✓	✓	✓	✓
j Proficiency			✓	✓	✓	✓
j Socio-Emotional			✓	✓	✓	✓
j Teacher-assigned grades				✓	✓	✓
i controls						✓
Minimum # of nominators	1	2	2	2	2	2
# of dyads	11153	9698	9698	9544	9544	9380
# of nominees	4525	3070	3070	3014	3014	3014
# of nominators	4545	4128	4128	4102	4102	4031

Table A2: i expectations and j school completion in minimum time (inverse probability weighting)

Figure A2: Estimations with one student per line – Bootstrap w/ 100,000 repetitions



	1{j graduates from HS in minimum time}			
	In-degree 2	In-degree 3	In-degree 4	In-degree 5+
	(1)	(2)	(3)	(4)
Panel A: Binary college graduation expectation				
i's expectation regarding j's attainment	0.045*	0.057*	0.061*	0.074**
	(0.025)	(0.032)	(0.032)	(0.033)
$-i$ avg. expectation regarding j's attainment	0.045*	0.114*	0.184*	0.329**
	(0.025)	(0.064)	(0.095)	(0.145)
Panel B: Expectation (1-5)				
i's expectation regarding j's attainment	0.025***	0.019**	0.018**	0.010
	(0.006)	(0.007)	(0.008)	(0.008)
$-i$ avg. expectation regarding j's attainment	0.025***	0.037**	0.054**	0.045
	(0.006)	(0.014)	(0.023)	(0.035)
# of dyads	2382	2643	1976	2543
# of nominees	1191	881	494	448
# of nominators	1932	2034	1558	1773

Table A3: i expectations and j school completion – heterogeneity by students' in-degree