

Hard Cash and Soft Skills: Experimental Evidence on Combining Scholarships and Mentoring in Argentina*

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Abstract

Many developing countries provide cash to low-income families to encourage children to attend school. These initiatives have increased student participation in school, but they have rarely increased student achievement. One reason why scholarships and cash transfers have had a limited impact on achievement is that the beneficiaries of these programs may lack the “soft” skills to succeed in school. We conducted a randomized evaluation of a program that provides seventh graders in the Province of Buenos Aires, Argentina with a scholarship and non-academic mentoring. After one year, we find limited evidence that the program improved socio-emotional skills on average. However, it improved their school performance, increasing their propensity to pass language and math, and reducing grade failure and student absenteeism. After two years, we still find little evidence of impact on socio-emotional skills on average. However, we find clear evidence of impact on students’ school navigation skills. We can discard small to moderate effects on reading and math achievement. The program is most effective for low-income students and students who had previously dropped out of school.

JEL codes: C93 Field Experiments; I21 Analysis of Education; I22 Educational Finance; I25 Education and Economic Development.

1 Introduction

Many developing countries provide cash to low-income families to encourage children to attend school. Some of these initiatives are called “scholarships” and others “cash transfers”, but they operate under the same theory of change. Low-income parents may not send their children to school if they perceive that the costs of schooling are too high, its benefits are too low (or take too long to materialize), or they lack access to credit (Banerjee et al. 2013). Thus, these programs aim to cover the costs of and raise the (immediate) returns to schooling, while relaxing credit constraints by offering their beneficiaries cash to enroll and stay in school (Fiszbein et al. 2009).

Scholarships and cash transfers are among the most rigorously evaluated educational interventions in developing countries. According to a recent review, there are 47 impact evaluations of these programs in 20 countries (Ganimian and Murnane 2016). Nearly all of these initiatives have increased student participation in school, but with few exceptions, they have not increased student achievement.

One potential reason why scholarships and cash transfers have had a limited impact on student achievement is that the beneficiaries of these programs may lack the requisite skills to succeed in school (Borghans et al. 2008; Farrington et al. 2012; Gabrieli et al. 2015). If the lack of these “character”, “socio-emotional”, or “soft” skills is a binding constraint for children, they could benefit from programs that combined scholarships or cash transfers with support to develop such skills.

This paper reports the results of a randomized evaluation of a program that provides seventh graders in the Province of Buenos Aires, Argentina with a scholarship and non-academic mentoring. To our knowledge, this is the first study to rigorously

assess the effect of combining financial incentives with non-academic mentoring on school performance in a developing country.

After one year, we find limited evidence that the program improved socio-emotional skills on average. However, it improved their school performance, increasing their propensity to pass language and math, and reducing grade failure and student absenteeism. After two years, we still find little evidence of impact on socio-emotional skills on average. However, we find clear evidence of impact on students' school navigation skills. We can discard small to moderate effects on reading and math achievement. The program is most effective for low-income students and students who had previously dropped out of school.

The paper is organized as follows. Section 2 reviews prior research. Section 3 describes the context, intervention, sampling strategy, and randomization. Section 4 presents the data collected for this study. Section 5 discusses the empirical strategy. Section 6 reports the results. Section 7 discusses the policy implications.

2 Prior Research

There are three common obstacles that low-income parents face when deciding whether to send their children to school (Banerjee et al. 2013). First, the costs of doing so may be too high. These include the *direct* costs (e.g., fees) (Barrera-Osorio et al. 2007; Borkum 2012; Liu et al. 2012; Lucas and Mbiti 2012), the costs of *complements* to schooling (e.g., transportation, uniforms, or textbooks) (Evans et al. 2009; Glewwe et al. 2009; Muralidharan and Prakash 2013), and the *opportunity* costs

of not employing children at home or in the informal labor market (Del Carpio and Macours 2010; Skoufias et al. 2001). Second, the benefits from schooling may be too low or take too long to accrue. Specifically, the returns that parents *expect* for their children may be too low, given their private assessment of their children’s skills and of their available schooling options (Jensen 2010, 2012; Loyalka et al. 2013). Third, parents may lack access to credit to cover schooling costs (Karlan and Linden 2014).

Scholarships and cash transfers were conceived to tackle these common barriers to schooling (Fiszbein et al. 2009). They provide cash to low-income parents for enrolling and keeping their children in school. They aim to cover the costs of schooling, provide a short-term reward for a behavior that pays off over the long-term, and relax (or lift altogether) existing credit constraints.

Nearly every one of these programs that has been rigorously evaluated has increased schooling. Yet, their impact has depended on the design of such initiatives and the characteristics of their beneficiaries (Ganimian and Murnane 2016).¹

Scholarships and cash transfers, however, have been less successful in improving student achievement. Several studies that measured the impact of such programs on student learning found no effect (Baez and Camacho 2011; Filmer and Schady 2014). There are two exceptions. There is some evidence that cash transfers may impact student learning in the long-run (Barham et al. 2014). Merit-based scholarships (i.e., scholarships awarded based on students’ performance on an exam) have also

¹Some design features that make a difference are whether cash is made conditional (Baird et al. 2011; Benhassine et al. 2013), the outcomes upon which it is made conditional (Barrera-Osorio et al. 2011), and treatment exposure (Behrman et al. 2009, 2011; Dammert 2009; Perova and Vakis 2012). Some characteristics of beneficiaries that matter are the age of beneficiaries (Maluccio and Flores 2005; Schultz 2004) and their socio-economic status (Galiani and McEwan 2013).

increased students' test scores (Barrera-Osorio and Filmer 2013; Kremer et al. 2004).

Admittedly, most scholarships and cash transfers were not designed to improve student achievement. Yet, it seems reasonable to expect that if these programs increase beneficiaries' participation in school, they should also learn more.² One potential reason why these programs have had limited impact on student achievement is that the beneficiaries of these programs may lack the "socio-emotional skills" to succeed in school (e.g., the perseverance to work on a difficult homework problem, the foresight to start studying early for an exam, or the self-control to resist getting distracted during lessons).³ If the children and youth that these programs target lack these skills, increasing their schooling is unlikely to improve their achievement.

Existing research suggests that improving students' socio-emotional skills could improve their academic achievement. In a recent review of the evidence, Farrington et al. (2012) identify five ways in which this could occur: (a) academic behaviors (e.g., going to class, doing homework, organizing materials) could improve academic performance; (b) academic perseverance (e.g., grit, tenacity, delayed gratification, self-discipline, and self-control) could improve academic behaviors, which could in turn affect academic performance; (c) academic mindsets (e.g., sense of belonging, growth mindset, self-beliefs about academics) could improve academic perseverance, thus influencing academic behavior and performance; (d) learning strategies (e.g.,

²This expectation seems less reasonable in low-income countries where disadvantaged students already lag far behind their peers by primary school and have little chance of understanding the material taught in school lessons (Muralidharan and Zieleniak 2014; Pritchett and Beatty 2015). Yet, it seems more reasonable in middle-income countries such as the one we study.

³There is a long-standing debate among economists, psychologists, and scholars in other fields over the correct label for such skills (Duckworth and Yeager 2015). In this paper, we use the term socio-emotional skills to refer to "patterns of thought, feelings, and behavior" (Borghans et al. 2008) other than cognitive ability that lead to student success.

study skills, metacognitive strategies, self-regulated learning, and goal-setting) could improve academic perseverance, behavior, and performance; and (e) social skills (e.g., interpersonal skills, empathy, cooperation, assertion, and responsibility) could improve academic behaviors, which could in turn affect academic performance (see also reviews by Borghans et al. 2008; Gabrieli et al. 2015).⁴ The authors conclude that academic behaviors have the most immediate effect on academic performance, and that academic behaviors can be improved mostly by influencing students' academic mindsets, and developing their metacognitive and self-regulatory skills, rather than by trying to change students' tendency to persevere.

Mentoring could potentially improve students' socio-emotional skills, but there is almost no rigorous evidence on its merits in developing countries. To our knowledge, there is only exception. Huan et al. (2014) evaluated the impact of a government program that designated a music, art, or physical exercise teacher to deliver 32 fully-scripted, 45-minute school counseling sessions per week to students in grades 7 and 8 in Shaanxi, China in 2012. The intervention sought to help students deal with "learning anxiety" and stressful relationships with teachers and peers.⁵ On average, the intervention reduced learning anxiety and dropout rates after six months, but the effects faded after a year. The authors argued that this fadeout is largely due to decreasing student interest in the program. Importantly, however, students at high-risk of dropping out still saw positive effects after a year.

⁴Farrington et al. (2012) focus exclusively on academic performance as measured by students' grades in school. However, their framework is useful to think about how socio-emotional skills may improve student achievement as measured by standardized tests.

⁵As the authors discuss, an important source of learning anxiety in this context is the importance of competitive high school entrance exams.

This study raises a number of questions, including whether mentoring would be more effective and engaging if it catered to the individual needs of each student, and whether it could also affect school performance and student achievement. To our knowledge, ours is the first study to address these questions in a developing country.

3 Experiment

3.1 Context

Schooling in Argentina is compulsory from 4 years of age until the completion of secondary school. In 12 out of the 24 provinces, including the Province of Buenos Aires, primary school runs from first to sixth grades and secondary school from seventh to twelfth grades DiNIECE (2013b).⁶ According to the latest official figures from 2013, the Argentine school system serves nearly 11 million students, including 1.7 million in pre-school, 4.6 million in primary school, and 3.9 million in secondary school (DiNIECE 2013a). The school calendar runs from February to December.

Education in Argentina is the shared responsibility of the national and sub-national (provincial) governments. According to the National Education Law (LEN) of 2006, the provinces are responsible for the provision of all education services except for higher education, and the central government is responsible for financing higher education and for providing the necessary financial and technical assistance to the provinces to improve the quality of the system.

Argentina began expanding access to secondary education before most Latin

⁶In the other 12 provinces, primary school runs from first to seventh grades and secondary school from eighth to twelfth grades.

American countries. By the early 1990s, 60% of secondary school age youths were enrolled on time in Argentina, compared to 45% in the average country in the region. By the late 2000s, Argentina's enrollment advantage remained virtually unchanged: 75% of secondary school age youths were enrolled on time, compared to 59% in the average country in the region (Busso et al. 2013).

However, Argentina's secondary school graduation lags behind those of other middle-income countries in Latin America. In 2011, its graduation rate stood at 41%, compared to 64% in Brazil, 84% in Chile, and 44% in Mexico (OECD 2014). Further, youths from low- and high-income families have very different chances of graduating from secondary school. In 2011, 39% of secondary school age youths from the lowest income quintile graduated from school, compared to 81% of their peers in the highest income quintile (Alfonso et al. 2011).

Many secondary school students in Argentina do not reach national standards. The latest national student assessment, the *Operativo Nacional de Evaluación* (ONE) 2013, found that 50% of eighth graders performed at the lowest level in math, 24% in language, 29% in social studies, and 49% in science (Ganimian 2015).

In fact, the relative performance of Argentina's secondary school students has deteriorated. In 2000, Argentine 15-year-olds ranked second among Latin American countries in reading achievement in the Program for International Student Assessment (PISA), after Mexico. In 2012, Argentina ranked behind Chile, Costa Rica, Mexico, Brazil, Uruguay, and Colombia, and it only outperformed Peru, which had scored two grade levels behind Argentina in 2000 (Ganimian 2013).

Student achievement is highly unequal in Argentina. The achievement gap be-

tween the lowest- and highest-performing regions of the country in PISA 2012 was as wide as the one between the lowest- and highest-performing countries in Latin America (Ganimian 2014). Students in the lowest quartile of socio-economic and cultural status in Argentina are two grade levels behind their peers in the highest quartile, and they are the fourth-lowest performers when compared to their counterparts in all other PISA-participating countries (Ganimian 2013).

3.2 Treatment

The *Programa Futuros Egresados* (PFE) is a scholarship and mentoring program run by *Fundación Cimientos* (FC), the largest education non-profit in Argentina. It is first offered to students when they are in seventh grade and it is meant to last for six years (i.e., until students graduate from secondary school). It is the longest-standing and largest scholarship run by a non-profit in the country. It has been in place for over 15 years, and in 2014 it reached 2,713 students in 16 provinces and the Autonomous City of Buenos Aires. The PFE has two components: (a) a scholarship worth ARS 3,600 per year;⁷ and (b) monthly individual and group mentoring sessions of about 30 and 60 minutes, respectively.⁸

3.2.1 Scholarship

The scholarship is disbursed in 10 monthly installments, from February to December of each year. It is deposited in a bank account in the name of the parents or legal

⁷USD 414 per year. At the start of the study, USD 1 \approx ARS 8.69: <http://bit.ly/1fwTsW5>.

⁸All program participants are also invited to a day-long annual meeting every year.

guardians of the beneficiaries. The funds from that account can be withdrawn at any time and they can be used for any purpose.

3.2.2 Mentoring

The mentoring sessions are 10 individual or group meetings with a mentor, known as *Encargado de Acompañamiento* (EA). These sessions are held from March to December of each year, typically whenever students are not in class (i.e., if they go to school in the morning, the meetings are held in the afternoon and vice versa).⁹ They are always held at the schools that the students attend. When they are group meetings, they include PFE beneficiaries from the same grade and school. The ratio of individual and group meetings is left up to each EA's discretion.

Mentoring sessions have three parts: (a) an “icebreaker”, in which the EA seeks to earn the trust of the students, and the students share their schoolwork, as well as a number of reports from teachers and school staff required by the program;¹⁰ (b) a “diagnosis”, in which students discuss their experience at school with the EA as well as their strengths and weaknesses; and (c) an “action plan”, in which students and the EA agree on specific goals (e.g., studying for an upcoming math exam).

In theory, these sessions are compulsory. If students miss them without justification, FC may suspend the scholarship. In practice, scholarship suspensions are rare.

⁹Whenever it is not possible to meet students after school, they are pulled out of their classrooms to attend these meetings.

¹⁰Students are expected to show: (a) their folders, which contain their work on all the subjects that they take at school (monthly); (b) their attendance and discipline certificates, which are completed by a staff member of the school (every month; this form can be accessed at: <http://bit.ly/1MgWRom>); (c) a report from the same staff member (bi-annually; accessible at: <http://bit.ly/1MgWRom>); (d) their school report cards; and (e) a report from one of their teachers (bi-annually; accessible at: <http://bit.ly/1DrcbaF>).

They occur only after FC contacts the student and his/her parents and determines that there were no impediments for the student to miss the mentoring session.

EAs typically have a bachelor's in psychology, pedagogical psychology, social work, or education, or they have graduated from a teacher-training program. When EAs join FC, they undergo an induction process and receive a manual. Each year, they also have two training sessions: a face-to-face and an online session. During the year, they also draw resources from and exchange ideas at an online platform.

EAs vary widely in the number of students that they mentor. According to FC's records, in 2014 each EA mentored between 30 and 58 students. EAs also vary in their tenure at FC. In 2014, EAs had between one month and ten years of experience working for FC, and between two months and nine years working in their position.

3.2.3 Theory of change

Table 1 presents the theory of change underlying the PFE. The program seeks to address what FC perceives as two different problems keeping youths from low-income families from enrolling, staying, and succeeding in school: (a) the costs of schooling; and (b) the low socio-emotional skills of disadvantaged students to succeed in school.

[Insert Table 1 here.]

The two components of the PFE are meant to tackle each of these problems: (a) the scholarship is supposed to relax or lift any cash constraints keeping low-income parents from sending PFE beneficiaries to school; and (b) the mentoring sessions are meant to improve students' socio-emotional skills and their ability to "navigate"

school, and thus improve their school performance and academic skills.¹¹

3.3 Sample

This study was conducted in the Province of Buenos Aires (PBA). The PBA offers an ideal setting to study policies that could be scaled to the rest of Argentina. First, it is the largest sub-national school system in the country. In 2012, it had 4,442 secondary schools and nearly 1.5 million students from eighth to twelfth grades (DiNIECE 2013a). Second, PBA students perform similarly to the average student in the country on national exams. In 2010, 54% of eighth graders in the PBA performed at the lowest level of the national math test, 26% in language, 30% in social studies, and 50% in science (Ganimian 2015).

Ten schools from the PBA were invited to participate in the study, based on three criteria: (a) they had to be public schools serving youths from low-income families; (b) they had to have previously participated in the PFE; and (c) they could not have any PFE participants in eighth grade on February 2014. The first criterion was adopted to focus on the most disadvantaged students. The second criterion was adopted to ensure that schools had familiarity with the PFE and its data collection process. The third criterion was adopted to avoid having study participants, who would be selected by lottery, in the same classroom with regular PFE participants, who are selected through an admissions process. A representative of FC met with each school's principal to explain the main components of the evaluation.

¹¹Importantly, the PFE does not provide any academic support (e.g., remedial lessons). The expectation is that the improvement in socio-emotional and school navigation skills will translate into better performance in school and higher academic achievement.

All 10 schools accepted to participate in the study. Each was located in a different locality of the PBA: Campana, Ensenada, Gregorio de Laferrere, Guernica, José C. Paz, Merlo, Quilmes, Santos Lugares, Virrey del Pino, and Zárate.

Students who were eligible to participate in the evaluation were selected as follows. The number of PFE slots at each school was set by the funds that FC had raised to offer the scholarships at each site. Two seventh grade sections (i.e., *divisiones*) were selected for recruitment at each school using a random number generator.

The students who participated in the lottery were recruited as follows. First, all students in the randomly selected sections received a note in their communications notebooks announcing the date and time of an information session for this study. Then, a team from FC held the information session at each school and wrote down the names of parents who were interested in participating in the evaluation. Finally, representatives of FC met with all interested parents and their children to conduct the baseline data collection described in Section 4. All 408 students who participated in this baseline survey were entered into an applicant roster.

3.4 Lottery

Students in the lottery roster were assigned to the treatment or control groups as follows. A lottery was held at each school to assign 204 students to the treatment group and 204 to the control group. Thus, this was a multi-site (blocked) cluster randomized trial, in which the point of random assignment was the student (level 2) within each school (level 1). All lottery winners were offered a spot on the PFE. All lottery winners who took up the offer signed a contract in which students and their

parents committed to complying with the program.¹² In exchange, FC committed to providing the PFE for six years.¹³

4 Data

Table 2 offers an overview of all the rounds of data collection for this study. It includes the dates, types of surveys, percent of sample that participated, and the mode of administration (e.g., school- or home-based).

[Insert Table 2 here.]

4.1 Baseline

We administered two surveys prior to randomization: (a) a student survey; and (b) a household survey. Both surveys were conducted during the meetings between the FC representatives and the families in the applicant roster. The student survey asked students about their demographics and schooling trajectory.¹⁴ The household survey asked the adult accompanying the student (typically, the mother) about the assets in the household and the housing conditions.¹⁵ Table 3 checks that the randomization worked as expected, producing comparable treatment and control groups, using

¹²Students committed to attending school regularly, working hard and behaving well at school, attending the mentoring sessions and annual meetings, and passing their grade. Parents committed to supporting their children in all of these commitments. The *acta de compromiso* can be accessed at: <http://bit.ly/1I9iP6w>.

¹³FC conducts an annual review of all PFE participants to ensure that they meet the program's requirements. In theory, FC could stop providing the scholarship to students who fail to meet these requirements. In practice, this occurs very rarely.

¹⁴This survey is at: <http://bit.ly/1TOZAXB> (part 1) and <http://bit.ly/1kZCMIw> (part 2).

¹⁵This survey is at: <http://bit.ly/1ZfIPq0>.

selected variables from the student and household surveys.¹⁶

[Insert Table 3 here.]

Panel A shows that students in our sample were academically disadvantaged: almost a third (31%) had repeated a grade and 4% had dropped out of school. Panel B indicates that these students came from low-income families. They had limited assets: only 21% of students had a car, 72% had a fridge, and 55% had a computer. They also had substandard living conditions: only 30% had natural gas, 83% had running water, and 63% was a homeowner. We find small differences between experimental groups on a few variables, so in Section 6 we test the robustness of our impact estimates to the inclusion of these variables.

4.2 Follow-up

We followed students for two years and collected data on their: (a) program participation; (b) socio-emotional skills; (c) “school navigation” skills (defined below); (d) school performance; and (e) academic skills.

4.2.1 Program participation

We collected data on the extent to which students in the treatment group participated in the PFE during 2014 and 2015. The program was implemented as expected. As Table A.1 in Appendix A shows, in 2014, these students received eight scholarship payments, they were invited to participate in nine mentoring sessions, and they

¹⁶The balance checks for all other variables are available from the authors upon request.

attended eight of them. The average student was offered one introductory mentoring session, seven regular sessions, and one wrap-up session. On average, students were offered seven individual sessions and two group sessions. The typical student had one mentor. A small share of students rescheduled their sessions once or twice. On average, parents were invited to about six sessions and attended five of them.

The figures for 2015 are similar, with two exceptions. First, there were no introductory mentoring sessions because this was the second year of the program. Second, treatment students were more likely to reschedule mentoring sessions.

4.2.2 Socio-emotional skills

We also collected data on students' socio-emotional skills during 2014 and 2015.¹⁷ Both rounds included the same six instruments: (a) a survey of self-beliefs about academics, which measures students' self-beliefs about their self-efficacy and performance; (b) the Learning and Study Strategies Inventory (LASSI), which measures students' organization and planning skills, as well as their motivation; (c) the Short Grit Scale (GRIT-S); (d) the Domain-Specific Impulsivity Scale for Children (DSISC), a survey of students' self-control; (e) a section of the Wechsler Intelligence Scale for Children Third Edition (WISC-III) called "LABS", which measures students' planning skills; (f) a written assessment of self-control (hereafter "CARAS").¹⁸

Appendix B offers a brief description of each of these instruments. Importantly, we combined instruments that rely on self-reports and performance tasks, as several studies have highlighted the perils of relying on either method exclusively (Borghans

¹⁷We are planning to conduct a final round of data collection in 2016.

¹⁸The surveys are at: <http://bit.ly/1mQdA8A> (part 1) <http://bit.ly/1RwL4X4> (part 2).

et al. 2008; Duckworth and Yeager 2015; West et al. 2014).

4.2.3 School navigation skills

We collected data on students' ability to "navigate" specific aspects of schooling during 2015.¹⁹ This includes students' self-reported: (a) views on the importance of school; (b) frequency of negative school-related habits (e.g., forgetting to do their homework); (c) frequency of reaching out to others (e.g., principals, teachers, peers) to discuss school-related problems; (d) general proactive behavior in school (e.g., asking teachers to explain confusing concepts again); (e) proactive behaviors related to homework (e.g., checking homework answers with peers), tests (e.g., reviewing the textbook before a test or going to a tutor), failing subjects (e.g., asking teachers for extra work), skipping class (e.g., asking a peer for missed schoolwork), free periods (e.g., using them to study); and (f) views on dropping out of school.²⁰

4.2.4 School performance

We collected data on students' performance in school during 2014.²¹ This includes information on students' final grades in math and language, the number of subjects that they failed and had to take tests on during December and/or March,²² their number of absences, whether they failed a grade, whether they dropped out, or

¹⁹We are planning another round of data collection in 2016.

²⁰This survey is at: <http://bit.ly/10dFnZZ>.

²¹Data for 2015 are forthcoming.

²²In Argentina, when students fail a subject, they need to take an exam to pass it in December. If they fail this exam, they need to take another exam in March. They can fail up to two subjects in March. If they fail more, they can take these exams again once the school year begins. If they still fail more than two of these subjects by then, they are supposed to repeat the grade. In practice, schools allow students who have failed more than two subjects to progress onto the next grade.

whether they transferred schools.

4.2.5 Academic skills

We also administered assessments of math and language during 2015.²³ These tests assessed what students should know and be able to do according to Argentina’s own standards. They were based on: (a) the *Núcleos de Aprendizaje Prioritario* (NAPs), the contents that the government has prioritized from the national curriculum; and (b) the publicly-released items from the national assessment described in Section 3. They were developed by the *Centro de Medición de la Universidad Católica de Chile* (MIDE-UC). Appendix C offers a brief description of the design of the tests.

4.3 Attrition

We tracked students’ participation in each round of data collection. Table A.2 checks that the treatment and control groups were comparable at each round, using selected variables from the student and household surveys.²⁴

As the table indicates, 13 students (i.e., 3% of the sample) did not participate in the first round of surveys and assessments of socio-emotional skills, 42 students (i.e., 10% of the sample) did not participate the second round, and 50 students (12%) did not participate in the assessment of academic skills. We find small differences between experimental groups on a few variables, so in Section 6 we test the robustness of our impact estimates to the inclusion of these variables.

²³We are planning to conduct another round of data collection in 2016.

²⁴The attrition checks for all other variables are available from the authors upon request. The surveys of socio-emotional and school navigation skills in 2015 were administered on the same day.

5 Empirical Strategy

We estimate the effect of the *offer* of a spot in the PFE (i.e., the intent-to-treat or ITT), since only two students who were offered a spot did not take it.

The effect of the offer of a spot in the PFE is given by:

$$Y_{ij} = \alpha_j + \beta T_{ij} + \gamma X_{ij} + \epsilon_{ij} \quad (1)$$

where Y_{ij} represents the outcome of interest for student i at school j , T_{ij} is a dummy indicating whether each student was offered a spot in the PFE, X_{ij} is a vector of covariates collected at baseline,²⁵ and α_j are the school (i.e., randomization block) fixed effects. All estimations are conducted with standard errors that account for clustering at the school level. The coefficient of interest in this regression is β ; it indicates the magnitude of the effect of the offer of a spot in the PFE.

6 Results

We report the ITT effects of the program in the first and second years (2014 and 2015). We also report these effects on four sub-groups of students: girls, students who had previously repeated a grade or dropped out, and low-income students.²⁶

²⁵When we estimate the first-year effects, we include the variables on which experimental groups were unbalanced at baseline (whether students had dropped out, whether they had a car, a fridge, and natural gas). When we estimate the second-year effects, we include the same variables and those in which experimental groups were not balanced during the 2015 data collection (students' age, whether they attended school in the morning, and whether they had repeated a grade).

²⁶In our analyses, low-income students are those in the lowest quintile of an index of assets and housing conditions. This index adds up dummies for students whose families have a car, fridge, computer, cell phone, Internet connection, natural gas, running water, solid floor, and are home-

6.1 Year 1 effects (2014)

6.1.1 Socio-emotional skills

Table 4 shows the effects of the program on socio-emotional skills after six months. The distributions of the raw scores on these skills are shown in Figure A.1. The scores were standardized with the mean and standard deviation of the full sample.

[Insert Table 4 here.]

The offer of the program had a positive but statistically insignificant effect on most socio-emotional skills during the first year. There were two exceptions. First, it increased students' self-beliefs about self-efficacy by .139 to .17 standard deviations (SDs). Second, it also seems to have increased students' perseverance by .172 SDs, but this effect is statistically insignificant once we include covariates.

The rest of the coefficients are imprecisely estimated; we cannot discard large positive or negative effects. However, the effects on one of the performance assessments (LABS) is consistently estimated to be around zero and negative.²⁷

We find no evidence that the program differentially impacted girls or students who had previously repeated a grade.²⁸ It was however particularly beneficial for students who had previously dropped out of school and low-income students. As Table A.3 shows, the program had very large positive impacts on the self-beliefs about academics, self-beliefs about self-efficacy, and motivation of previous dropouts.

owners. It is standardized using the overall mean and standard deviation in our full sample.

²⁷CARAS is also consistently estimated to be around zero and negative, but the way that it should be coded, negative values are better.

²⁸These and all other results mentioned but not shown in this section are available from the authors upon request.

As Table A.4 indicates, it also had large positive effects on the self-beliefs about performance, organization and planning skills, grit, and self-control (as measured by CARAS) of low-income students.²⁹ It seems to have also increased their consistency, but the coefficient on this estimate is only marginally statistically significant.

6.1.2 School performance

Table 5 shows the effects of the program on school performance after the first year. Students' grades were standardized using the mean and standard deviation of the full sample.

[Insert Table 5 here.]

We can discard large effects of the offer of the program on students' final grades in language (larger than .18 SDs) and math (larger than .23 SDs). However, the program increased the share of students who passed language by 9 to 11 percentage points and the share who passed math by 7 to 9 percentage points. It also reduced the share of students who failed the year by 5 to 6 percentage points. It seems to have also reduced the number of absences by 2 to 3 days, but the effect is statistically insignificant once we include covariates. The program's impact on the share of students who dropped out or transferred schools is imprecisely estimated, but consistently small and negative.

We find little evidence that the program differentially impacted girls, students who had previously repeated a grade, or low-income students. Yet, we find that the program was particularly beneficial for students who had previously dropped out.

²⁹As mentioned above, the way that CARAS is coded, a negatively signed effect is positive.

As Table A.5 shows, the program increased the share of these students who passed language by 57 percentage points and it reduced their absences by 14 days.

6.2 Year 2 effects (2015)

6.2.1 Socio-emotional skills

Table 6 shows the effects of the program on socio-emotional skills after 17 months. The distributions of the raw scores on these skills are shown in Figure A.2. The scores were standardized with the mean and standard deviation of the full sample.

[Insert Table 6 here.]

Once again, the offer of the program had a positive but statistically insignificant effect on most socio-emotional skills during the second year. There was one exception. It increased students' motivation by .171 to .177 SDs. It also seems to have increased students' self-beliefs about performance by .14 to .159 SDs, but this effect is only marginally statistically significant. Similarly, the program appears to have increased the perseverance of these students by .17 SDs, but these effects become statistically insignificant once we include covariates.

The rest of the coefficients are imprecisely estimated. Again, we cannot discard large positive or negative effects. The effects on one of the performance assessments (LABS), however, is once again estimated to be negative.

We find little evidence that the program differentially impacted girls or students who had previously repeated a grade. Yet, it had a differential impact on students who had dropped out and low-income students. As Table A.6 shows, it improved

the self beliefs about self-efficacy of prior dropouts, their motivation, grit, and perseverance. As Table A.7 indicates, the program had large impacts on the organization and planning skills and perseverance of low-income students. It also seems to have increased their grit and self-control (as measured by DSIS), but these effects are only marginally statistically significant.

6.2.2 School navigation skills

Table 7 shows the effects of the program on academic skills after 17 months. We have presented these effects in indices of students' behaviors. The variables in each index are shown in Appendix D. The distributions of the raw indices are in Figure A.3.

[Insert Table 7 here.]

The program reduced the extent to which students reached out for help with negative school habits by .17 to .213 SDs. Yet, it positively impacted students' corrective homework behavior (by .167 to .203 SDs), preventive test behavior (by .142 to .206 SDs), corrective failing behavior (by .201 to .261 SDs), corrective absenteeism behavior (.214 to .254 SDs), and corrective free period behavior (by .226 to .254 SDs). It also seems to have increased students preventive homework behavior (by .17 to .231 SDs) and corrective test behavior (by .163 to .217 SDs), but such effects become statistically insignificant once we include covariates.

We find little evidence that the program differentially impacted girls or students who had previously repeated a grade. It was however particularly beneficial for students who had previously dropped out and low-income students. As Table A.8

shows, the program had very large positive impacts on the propensity of previous dropouts to reach out to others, their proactive school behavior, and their preventive test behavior. As Table A.9 indicates, it also had smaller negative effects on the negative school habits low-income students (i.e., it purportedly reduce those habits). Interestingly, however, it also *reduced* their corrective homework behavior. In fact, the coefficients on the interaction between the treatment and the low-income dummy is negative (although statistically insignificant) for most school navigation indices.

6.2.3 Academic skills

Table 8 shows the effects of the program on academic skills after 12 months. The distributions of the raw scores on these skills are shown in Figure A.4. Below, these scores are standardized with the mean and standard deviation of the full sample.

[Insert Table 8 here.]

We can discard small effects in reading (larger than .06 SDs) and moderate effects in math (larger than .21 SDs). In fact, we find little evidence that the program differentially impacted any sub-group of students.

7 Discussion

This papers presents the findings from the first two years of a three-year experimental evaluation of a program that combines scholarships and mentoring for secondary school students in the Province of Buenos Aires, Argentina. The program seeks to

directly improve students' participation in school, and to indirectly improve their performance in school and academic skills by affecting their socio-emotional skills.

We find that the program had the intended effects, but mostly not through its hypothesized mechanisms. On average, it reduced student absenteeism and grade failure, but there is no evidence that it reduced drop out rates. It also improved school performance and school navigation skills, but there is limited evidence that it improved socio-emotional skills, and no evidence that it improved academic skills.

One way of interpreting these results is that instead of radically changing students' *general* socio-emotional skills, such as grit and self-control, the program helped students succeed in school by marginally affecting more *specific* socio-emotional skills, such as doing homework in advance and reviewing failed assignments. This interpretation is consistent with the heterogeneous effects that we observe, since the program was most beneficial for students who are least likely to have developed these habits, such as students who had previously dropped out of school and students from low-income families. It is also consistent with the position of some psychologists, who have argued against conceptualizations of socio-emotional skills that apply to every context, and in favor of constructs that are more context-specific (see Mischel 1968). And it is also in agreement with the findings from the empirical literature summarized in Section 2, which indicate that academic behaviors have the most immediate effect on academic performance (see Farrington et al. 2012).

The results from the upcoming rounds of data collection will help us better understand how much empirical support there is behind this working hypotheses. In mid 2016, we will collect data on students' school performance in 2015, which will

allow us to test for heterogenous effects in school performance by school navigation skills. In late 2016, we will also conduct a third round of data collection on socio-emotional, school navigation, and academic skills, to understand whether the program has affected these over the medium-term.

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Table 1: PFE’s theory of change

Need	Input	Activities	Output	Outcome	Impact
<ul style="list-style-type: none"> • Parents cannot afford costs of schooling (direct costs, costs of complements, and/or opportunity costs) 	<ul style="list-style-type: none"> • ARS 3,600 per student per year 	<ul style="list-style-type: none"> • Scholarship: Disbursement of ARS 3,600 per year to students’ parents or guardians 	<ul style="list-style-type: none"> • Parents cover the costs of students’ schooling 	<ul style="list-style-type: none"> • Higher student participation in school 	<ul style="list-style-type: none"> • Lower absenteeism • Lower grade repetition • Lower dropout rates
<ul style="list-style-type: none"> • Parents lack experience with secondary school to transfer school readiness skills 	<ul style="list-style-type: none"> • <i>Encargados de acompañamiento</i> (EAs or mentors) 	<ul style="list-style-type: none"> • Mentoring: One individual or group meetings between PFE participants and EAs per month 	<ul style="list-style-type: none"> • PFE participants learn how to better prepare for school • PFE participants learn how to solve problems that come up in school 	<ul style="list-style-type: none"> • Higher socio-emotional skills (e.g., grit, self-control) • Higher school navigation skills 	<ul style="list-style-type: none"> • Higher passing rates and grades in school • Higher academic skills

Table 2: Data collection timeline

Month	Event	Participants	Location
2014			
February	<i>School year starts</i>		
May 14-26	Student survey	100% sample	School
	Household survey	81% sample	School (in person)
		19% sample	Phone
	<i>Lottery is conducted</i>		
Nov 10-Dec 4	Survey of socio-emotional skills	80% sample	School
Dec 18-Jan 16		17% sample	Home
2015			
January	PFE data for 2014	100% treatment	
	School data for 2014	100% sample	
February	<i>School year starts</i>		
Jun 22-Jul 6	Survey of academic skills	75% sample	School
Jul 13-Aug 12		13% sample	Home
Oct 14-Nov 6	Survey of socio-emotional skills	66% sample	School
	School navigation skills		
Nov 3-Dec 1		24% sample	Home
2016			
January	PFE data for 2015	100% treatment	

Table 3: Balancing checks (baseline)

Variable	All (1)	Control (2)	Treatment (3)	Diff. (4)	N (5)
<i>Panel A. Student survey</i>					
Argentine	.951 (.216)	.951 (.216)	.951 (.216)	0 (.026)	408
Female	.52 (.5)	.544 (.499)	.495 (.501)	-.049 (.051)	408
Age	12.435 (1.062)	12.502 (1.153)	12.368 (.961)	-.131 (.11)	407
Morning shift	.578 (.494)	.583 (.494)	.574 (.496)	-.008 (.045)	408
Repeated grade(s)	.309 (.463)	.322 (.468)	.297 (.458)	-.024 (.044)	404
Dropped out	.044 (.206)	.064 (.245)	.025 (.155)	-.039* (.02)	408
<i>Panel B. Household survey</i>					
Has car	.21 (.408)	.163 (.371)	.256 (.438)	.096*** (.026)	405
Has fridge	.72 (.449)	.677 (.469)	.764 (.426)	.087** (.028)	404
Has computer	.545 (.499)	.547 (.499)	.542 (.499)	-.002 (.026)	404
Has cell phone	.913 (.282)	.891 (.313)	.936 (.245)	.045 (.029)	404
Has Internet	.386 (.487)	.383 (.487)	.389 (.489)	.01 (.036)	404
Has natural gas	.298 (.458)	.269 (.444)	.327 (.47)	.064* (.034)	403
Has running water	.825 (.38)	.805 (.397)	.846 (.362)	.051 (.047)	401
Has solid floor	.985 (.122)	.98 (.141)	.99 (.1)	.01 (.007)	398
Homeowner	.627 (.484)	.605 (.49)	.648 (.479)	.043 (.035)	389

Notes: (1) The table shows the mean and standard deviations of all students in the sample (column 1), control group (column 2), and treatment group (column 3). It also tests for differences across these two groups (column 4) and shows the number of non-missing observations (column 5). (2) * significant at 10%; ** significant at 5%; *** significant at 1%. (3) Standard errors in column 4 are clustered at the school level.

Table 4: ITT effects on socio-emotional skills (2014)

	(1) Control	(2) Effect size	(3)
Self-beliefs about academics	-.021 (.969) 193	.04 (.099) 395	.022 (.087) 391
Self-beliefs - Performance	.037 (.938) 193	-.072 (.133) 395	-.075 (.125) 391
Self-beliefs - Self-efficacy	-.088 (1.016) 193	.17*** (.052) 395	.139** (.05) 391
LASSI - Organization and planning	-.015 (.999) 193	.027 (.101) 395	.029 (.097) 391
LASSI - Motivation	-.079 (1.02) 193	.156 (.131) 395	.121 (.142) 391
GRIT-S	-.039 (.966) 193	.076 (.07) 395	.053 (.076) 391
GRIT-S - Consistency	.022 (.999) 193	-.044 (.086) 395	-.051 (.09) 391
GRIT-S - Perseverance	-.088 (.947) 193	.172* (.082) 395	.141 (.083) 391
DSIS (self-control)	-.052 (.986) 193	.098 (.097) 395	.12 (.094) 391
LABS (organization skills)	.009 (.982) 193	-.014 (.065) 395	-.079 (.068) 391
CARAS - Index of reflexivity	.006 (1.121) 193	-.01 (.092) 394	.01 (.08) 390
School FE?		Y	Y
Controls?		N	Y

Notes: (1) The table shows the mean and standard deviations of control group students (column 1) and the average ITT effect with (column 2) and without covariates (column 3). (2) * significant at 10%; ** significant at 5%; *** significant at 1%. (3) Standard errors in columns 2 and 3 are clustered at the school level.

Table 5: ITT effects on school performance (2014)

	(1) Control	(2) Effect size	(3)
Language - final grade	-.032 (1.08)	.058 (.052)	.039 (.059)
	161	345	343
Math - final grade	.047 (.995)	-.09 (.143)	-.109 (.135)
	153	328	326
Language - passed	.721 (.45)	.111*** (.034)	.093** (.029)
	204	408	403
Math - passed	.696 (.461)	.09** (.039)	.071* (.035)
	204	408	403
Absences - 2014	17.212 (18.926)	-2.989* (1.412)	-2.278* (1.162)
	204	408	403
Failed	.147 (.355)	-.061** (.024)	-.047*** (.013)
	204	408	403
Dropped out	.025 (.155)	-.01 (.012)	-.016 (.012)
	204	408	403
Transferred	.054 (.226)	-.025 (.021)	-.016 (.019)
	204	408	403
School FE?		Y	Y
Controls?		N	Y

Notes: (1) The table shows the mean and standard deviations of control group students (column 1) and the average ITT effect with (column 2) and without covariates (column 3). (2) * significant at 10%; ** significant at 5%; *** significant at 1%. (3) Standard errors in columns 2 and 3 are clustered at the school level.

Table 6: ITT effects on socio-emotional skills (2015)

	(1) Control	(2) Effect size	(3)
Self-beliefs about academics	-.047 (.941) 180	.1 (.068) 366	.098 (.068) 362
Self-beliefs - Performance	-.069 (.974) 180	.14* (.071) 366	.159* (.076) 362
Self-beliefs - Self-efficacy	-.01 (.989) 180	.028 (.103) 366	.008 (.093) 362
LASSI - Organization and planning	-.013 (.94) 180	.028 (.074) 366	.025 (.061) 362
LASSI - Motivation	-.084 (.988) 180	.171** (.073) 366	.177* (.084) 362
GRIT-S	-.059 (1.023) 180	.117 (.09) 366	.101 (.086) 362
GRIT-S - Consistency	-.011 (1.026) 180	.02 (.095) 366	.011 (.091) 362
GRIT-S - Perseverance	-.083 (1.029) 180	.17* (.078) 366	.153 (.085) 362
DSIS (self-control)	-.076 (1.071) 180	.142 (.082) 366	.144 (.082) 362
LABS (organization skills)	.057 (.978) 180	-.111 (.107) 366	-.155 (.107) 362
CARAS - Index of reflexivity	-.025 (1.006) 176	.044 (.082) 360	.102 (.083) 356
School FE?		Y	Y
Controls?		N	Y

Notes: (1) The table shows the mean and standard deviations of control group students (column 1) and the average ITT effect with (column 2) and without covariates (column 3). (2) * significant at 10%; ** significant at 5%; *** significant at 1%. (3) Standard errors in columns 2 and 3 are clustered at the school level.

Table 7: ITT effects on school navigation skills (2015)

Index	(1) Control	(2) Effect size	(3)
Negative school habits	.019 (1.017) 180	-.032 (.103) 366	-.038 (.102) 362
Reaching out to others	.088 (1.029) 180	-.17* (.077) 366	-.213** (.087) 362
Proactive school behavior	-.062 (.99) 180	.114 (.16) 366	.048 (.14) 362
Preventive homework behavior	-.123 (.982) 180	.231* (.123) 366	.17 (.105) 362
Corrective homework behavior	-.109 (.989) 180	.203** (.08) 366	.167* (.081) 362
Preventive test behavior	-.11 (.984) 180	.206** (.069) 366	.142* (.064) 362
Corrective test behavior	-.116 (1.008) 180	.217** (.082) 366	.163 (.089) 362
Corrective failing behavior	-.138 (.989) 180	.261** (.083) 366	.201** (.085) 362
Corrective flunking behavior	-.064 (.986) 180	.119 (.086) 366	.069 (.091) 362
Preventive absenteeism behavior	-.095 (1.015) 180	.179 (.098) 366	.133 (.09) 362
Corrective absenteeism behavior	-.132 (.997) 180	.254** (.088) 366	.214** (.093) 362
Corrective free period behavior	-.133 (.971) 180	.254** (.097) 366	.226** (.099) 362
School FE?		Y	Y
Controls?		N	Y

Notes: (1) The table shows the mean and standard deviations of control group students (column 1) and the average ITT effect with (column 2) and without covariates (column 3). (2) * significant at 10%; ** significant at 5%; *** significant at 1%. (3) Standard errors in columns 2 and 3 are clustered at the school level.

Table 8: ITT effects on academic skills (2015)

	(1) Control	(2) Effect size	(3)
Reading achievement (std.)	.072 (.986) 177	-.129 (.084) 358	-.158 (.089) 356
Math achievement (std.)	.005 (1.075) 177	.009 (.092) 358	-.046 (.092) 356
School FE?		Y	Y
Controls?		N	Y

Notes: (1) The table shows the mean and standard deviations of control group students (column 1) and the average ITT effect with (column 2) and without covariates (column 3). (2) * significant at 10%; ** significant at 5%; *** significant at 1%. (3) Standard errors in columns 2 and 3 are clustered at the school level.

Appendix A

Figure A.1: Distributions of socio-emotional skills (2014)

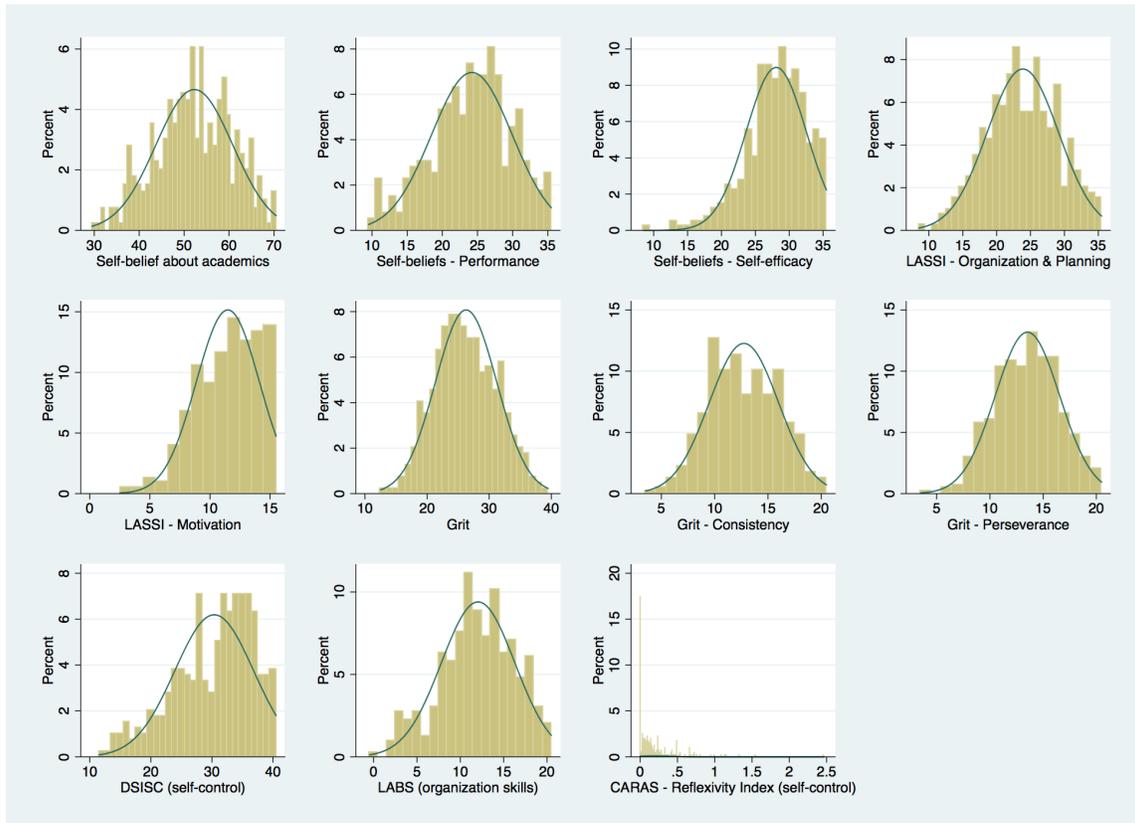


Figure A.2: Distributions of socio-emotional skills (2015)

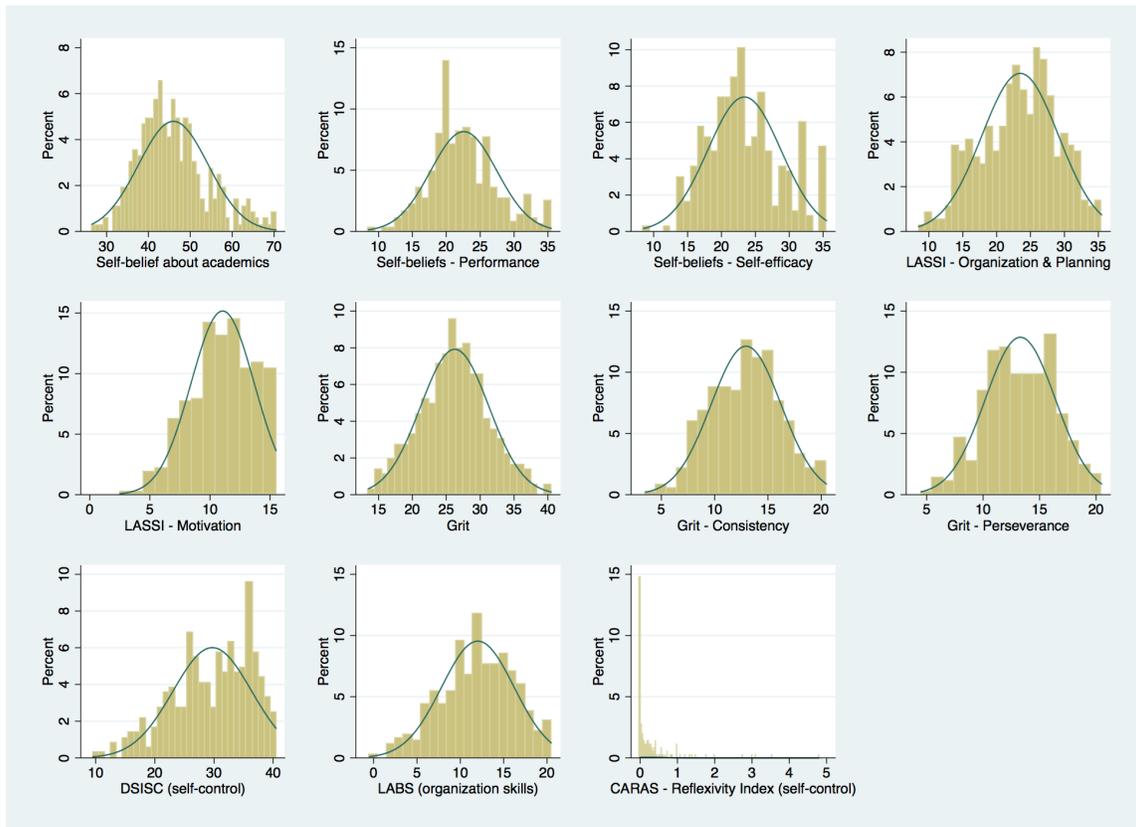


Figure A.3: Distributions of school navigation skills (2015)

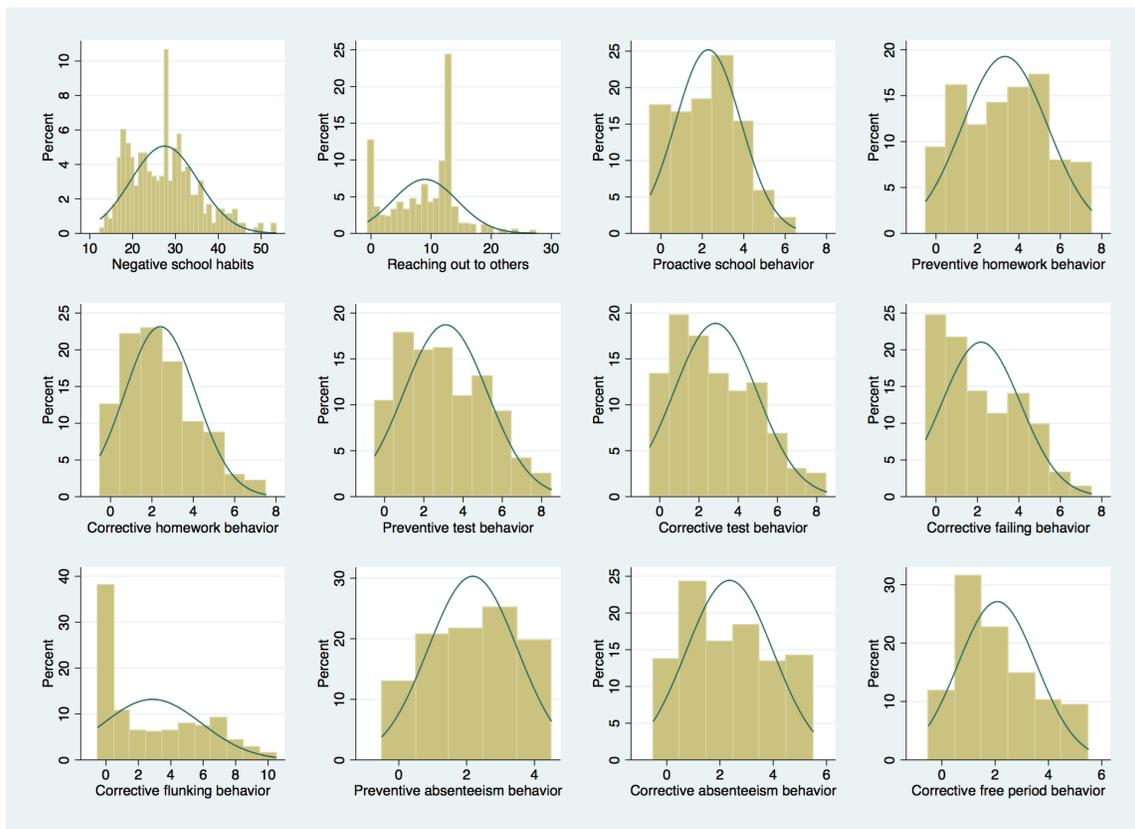


Figure A.4: Distributions of academic skills (2015)

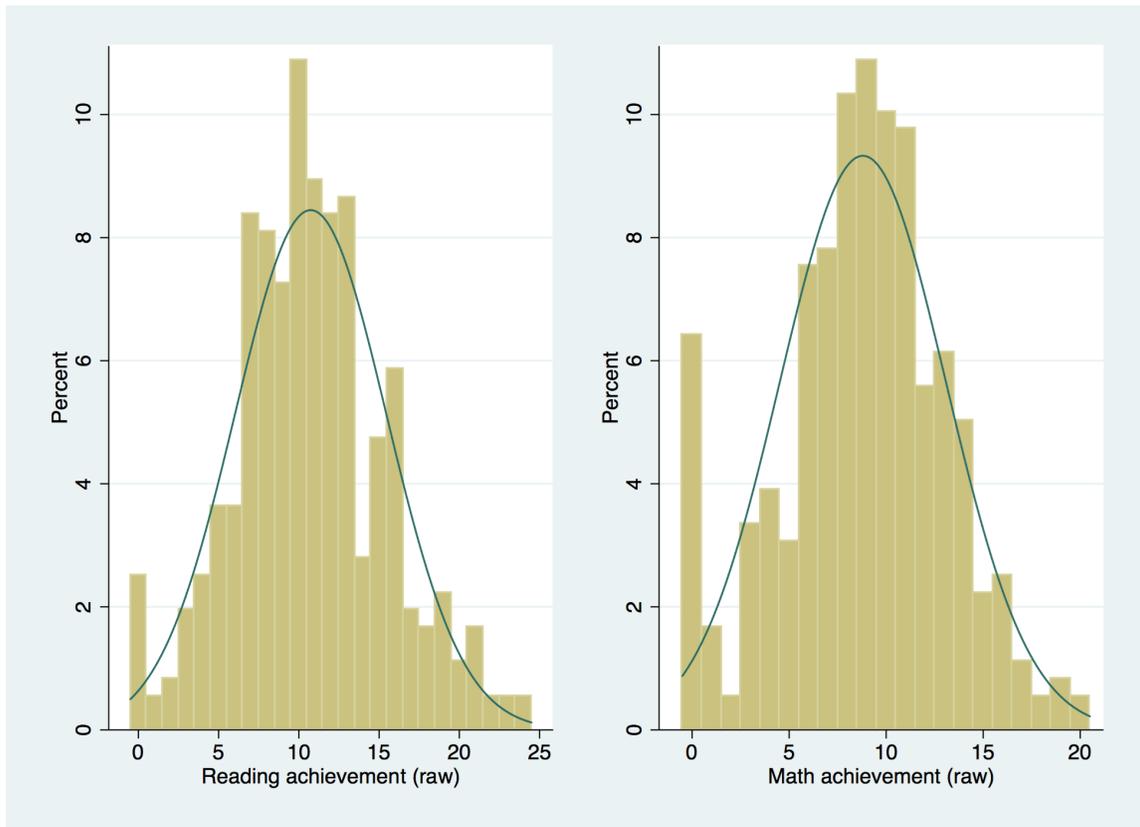


Table A.1: Treatment dosage (2014 and 2015)

Variable	2014		2015	
	Treatment (1)	N (2)	Treatment (3)	N (4)
PFE scholarships received	7.51 (3.023)	204	7.817 (3.347)	191
Intended mentoring sessions	9.093 (1.025)	204	8.77 (2.902)	191
Actual sessions	7.819 (1.782)	204	7.487 (3.291)	191
Introductory sessions	1.152 (.588)	204	0 (0)	191
Monthly sessions	6.98 (1.178)	204	6.812 (2.669)	191
Wrap-up sessions	.961 (.195)	204	.838 (.37)	191
Individual sessions	7.245 (1.912)	204	8.152 (2.723)	191
Group sessions	1.848 (1.503)	204	.618 (.707)	191
No. of mentors	1.191 (.394)	204	1.099 (.3)	191
Rescheduled once	.216 (.509)	204	.466 (.905)	191
Rescheduled twice	.025 (.155)	204	.094 (.343)	191
Rescheduled more than twice	0 (0)	204	.005 (.072)	191
Parent/guardian invited	5.858 (2.295)	204	7.157 (2.56)	191
Parent/guardian attended	5.49 (2.412)	204	4.738 (2.758)	191

Notes: (1) The table shows the mean and standard deviations of students in the treatment group (columns 1 and 3) and the number of non-missing observations (columns 2 and 4).

Table A.2: Attrition checks

	Attritors		Non-attritors		Difference- in-Difference (5)
	Control (1)	Treatment (2)	Control (3)	Treatment (4)	
<i>Panel A. Survey of socio-emotional skills (2014)</i>					
Argentine	.909 (.302)	0 (0)	.953 (.211)	.96 (.196)	-.916*** (.091)
Female	.364 (.505)	.5 (.707)	.554 (.498)	.495 (.501)	.214 (.162)
Age	13.091 (1.221)	13.5 (.707)	12.469 (1.144)	12.356 (.958)	.465 (.411)
Morning shift	.455 (.522)	.5 (.707)	.591 (.493)	.574 (.496)	.037 (.119)
Repeated grade(s)	.4 (.516)	1 (0)	.318 (.467)	.29 (.455)	.573*** (.128)
Dropped out	.273 (.467)	0 (0)	.052 (.222)	.025 (.156)	-.335* (.171)
N	11	2	193	202	408
<i>Panel B. Surveys of socio-emotional and school navigation skills (2015)</i>					
Argentine	.917 (.282)	.889 (.323)	.956 (.207)	.957 (.203)	-.025 (.096)
Female	.167 (.381)	.444 (.511)	.594 (.492)	.5 (.501)	.36** (.127)
Age	13 (1.314)	12.667 (1.085)	12.439 (1.119)	12.339 (.946)	-.291 (.372)
Morning shift	.375 (.495)	.5 (.514)	.611 (.489)	.581 (.495)	.071 (.141)
Repeated grade(s)	.391 (.499)	.5 (.514)	.313 (.465)	.277 (.449)	.121 (.196)
Dropped out	.167 (.381)	.056 (.236)	.05 (.219)	.022 (.145)	-.106 (.118)
N	24	18	180	186	408
<i>Panel C. Assessment of academic skills (2015)</i>					
Argentine	.963 (.192)	.913 (.288)	.949 (.22)	.956 (.206)	-.052 (.107)
Female	.519 (.509)	.435 (.507)	.548 (.499)	.503 (.501)	-.002 (.154)
Age	13.333 (1.24)	12.913 (1.24)	12.375 (1.088)	12.298 (.9)	-.298 (.345)
Morning shift	.481 (.509)	.478 (.511)	.599 (.492)	.586 (.494)	.054 (.146)
Repeated grade(s)	.615 (.496)	.478 (.511)	.278 (.449)	.274 (.447)	-.122 (.231)
Dropped out	.222 (.424)	.043 (.209)	.04 (.195)	.022 (.147)	-.17 (.11)
N	27	23	177	181	408

Notes: (1) The table shows the mean and standard deviations of attritors and non-attritors by experimental group (columns 1-4). It also tests for the difference-in-difference in these outcomes (column 5). (2) * significant at 10%; ** significant at 5%; *** significant at 1%. (3) Standard errors in column 5 are clustered at the school level.

Table A.3: ITT effects on socio-emotional skills by drop out (2014)

	(1)	(2)	(3)	(4)
	PFE	Drop.	x Drop.	N
Self-beliefs about academics	.103 (.841)	-4.133*** (.755)	5.316* (2.88)	395
Self-beliefs - Performance	-.452 (.805)	-1.812 (1.255)	-.319 (2.526)	395
Self-beliefs - Self-efficacy	.555** (.228)	-2.321*** (.548)	5.635*** (1.121)	395
LASSI - Organization and planning	.161 (.578)	-.978 (2.434)	-1.84 (4.063)	395
LASSI - Motivation	.366 (.358)	.023 (.402)	1.821** (.608)	395
GRIT-S	.431 (.393)	.029 (1.818)	-2.159 (2.352)	395
GRIT-S - Consistency	-.123 (.305)	-.574 (1.485)	-1.395 (1.777)	395
GRIT-S - Perseverance	.554* (.269)	.602 (.366)	-.764 (.808)	395
DSIS (self-control)	.652 (.671)	-1.247 (1.551)	-2.243 (2.191)	395
LABS (organization skills)	-.036 (.242)	-1.389 (2.188)	-2.421 (2.002)	395
CARAS - Index of reflexivity	.001 (.024)	.039 (.077)	-.109 (.117)	394
School FE?				Y
Controls?				N

Notes: (1) The table shows the differential effect of the program by drop out (column 3). (2) * significant at 10%; ** significant at 5%; *** significant at 1%. (3) Standard errors are clustered at the school level.

Table A.4: ITT effects on socio-emotional skills by low SES (2014)

	(1)	(2)	(3)	(4)
	PFE	Poor	x Poor	N
Self-beliefs about academics	-.487 (.796)	-.037 (1.242)	2.925 (1.606)	395
Self-beliefs - Performance	-1.362* (.668)	-.663 (.503)	3.113*** (.925)	395
Self-beliefs - Self-efficacy	.875* (.403)	.626 (.812)	-.188 (1.099)	395
LASSI - Organization and planning	-.682 (.607)	-.248 (.839)	2.815** (.953)	395
LASSI - Motivation	.128 (.25)	-.421 (.51)	.843 (.68)	395
GRIT-S	-.262 (.314)	-.38 (.677)	2.118** (.855)	395
GRIT-S - Consistency	-.48 (.357)	-.463 (.408)	1.021* (.547)	395
GRIT-S - Perseverance	.217 (.313)	.083 (.438)	1.097 (.677)	395
DSIS (self-control)	.513 (.795)	1.041 (.943)	.792 (1.152)	395
LABS (organization skills)	-.139 (.214)	-.829 (.545)	-.024 (.986)	395
CARAS - Index of reflexivity	.031 (.025)	.071* (.035)	-.091** (.034)	394
School FE?				Y
Controls?				N

Notes: (1) The table shows the differential effect of the program by low SES (column 3). (2) * significant at 10%; ** significant at 5%; *** significant at 1%. (3) Standard errors are clustered at the school level.

Table A.5: ITT effects on school performance by drop out (2014)

	(1) PFE	(2) Drop.	(3) x Drop.	(4) N
Language - final grade	.057 (.051)	-.231 (.338)	-.026 (.567)	345
Math - final grade	-.098 (.142)	-.624* (.319)	.295 (.488)	328
Language - passed	.084** (.028)	-.334** (.133)	.566*** (.149)	408
Math - passed	.063 (.035)	-.423** (.139)	.451 (.292)	408
Absences - 2014	-2.204* (1.095)	11.342*** (3.412)	-13.728** (5.632)	408
Failed	-.048*** (.014)	.222 (.187)	-.187 (.129)	408
Dropped out	-.011 (.013)	-.021* (.01)	.015 (.015)	408
Transferred	-.008 (.017)	.259 (.152)	-.28 (.158)	408
School FE?				Y
Controls?				N

Notes: (1) The table shows the differential effect of the program by drop out (column 3). (2) * significant at 10%; ** significant at 5%; *** significant at 1%. (3) Standard errors are clustered at the school level.

Table A.6: ITT effects on socio-emotional skills by drop out (2015)

	(1)	(2)	(3)	(4)
	PFE	Drop.	x Drop.	N
Self-beliefs about academics	.743 (.553)	.176 (1.287)	4.29 (2.524)	366
Self-beliefs - Performance	.718* (.383)	.585 (1.552)	-.823 (2.258)	366
Self-beliefs - Self-efficacy	.026 (.526)	-.409 (.589)	5.114*** (1.206)	366
LASSI - Organization and planning	.031 (.379)	-3.269 (2.6)	1.876 (4.049)	366
LASSI - Motivation	.376* (.188)	-.317 (.679)	2.935*** (.895)	366
GRIT-S	.493 (.411)	-.836 (2.358)	3.391*** (.665)	366
GRIT-S - Consistency	.015 (.306)	-1.133 (1.518)	.939 (.804)	366
GRIT-S - Perseverance	.479* (.218)	.297 (.895)	2.452*** (.528)	366
DSIS (self-control)	.862 (.632)	-2.093 (3.076)	1.376 (5.292)	366
LABS (organization skills)	-.476 (.409)	-2.29 (1.985)	-2.15 (2.761)	366
CARAS - Index of reflexivity	.031 (.042)	.162 (.181)	-.259 (.278)	360
School FE?				Y
Controls?				N

Notes: (1) The table shows the differential effect of the program by drop out (column 3). (2) * significant at 10%; ** significant at 5%; *** significant at 1%. (3) Standard errors are clustered at the school level.

Table A.7: ITT effects on socio-emotional skills by low SES (2015)

	(1)	(2)	(3)	(4)
	PFE	Poor	x Poor	N
Self-beliefs about academics	.406 (.942)	.223 (1.221)	1.642 (2.683)	366
Self-beliefs - Performance	.296 (.594)	.344 (.536)	1.54 (1.05)	366
Self-beliefs - Self-efficacy	.11 (.644)	-.121 (1.032)	.103 (1.994)	366
LASSI - Organization and planning	-.803* (.42)	-.428 (.68)	3.301*** (.94)	366
LASSI - Motivation	.319 (.224)	.181 (.446)	.546 (.691)	366
GRIT-S	-.108 (.387)	-.59 (.638)	2.291* (1.059)	366
GRIT-S - Consistency	-.11 (.288)	-.054 (.302)	.61 (.405)	366
GRIT-S - Perseverance	.002 (.252)	-.536 (.451)	1.681** (.726)	366
DSIS (self-control)	.119 (.66)	-.534 (.989)	2.777* (1.453)	366
LABS (organization skills)	-.878* (.427)	-.986 (.63)	1.101 (1.124)	366
CARAS - Index of reflexivity	.015 (.026)	.125 (.094)	.074 (.147)	360
School FE?				Y
Controls?				N

Notes: (1) The table shows the differential effect of the program by low SES (column 3). (2) * significant at 10%; ** significant at 5%; *** significant at 1%. (3) Standard errors are clustered at the school level.

Table A.8: ITT effects on school navigation skills by drop out (2015)

	(1) PFE	(2) Drop.	(3) x Drop.	(4) N
Negative school habits	-.025 (.102)	-.053 (.148)	-.38 (.413)	366
Reaching out to others	-.232** (.078)	-.874 (.489)	1.78*** (.443)	366
Proactive school behavior	.064 (.157)	-.89** (.29)	1.193*** (.358)	366
Preventive homework behavior	.187 (.11)	-.767* (.379)	1.072 (.646)	366
Corrective homework behavior	.165* (.085)	-.793** (.348)	.785 (.657)	366
Preventive test behavior	.165** (.072)	-.81** (.344)	.872** (.337)	366
Corrective test behavior	.187** (.082)	-.74* (.375)	.484 (.672)	366
Corrective failing behavior	.236** (.082)	-.545 (.333)	.465 (.813)	366
Corrective flunking behavior	.094 (.082)	-.601* (.27)	.424 (.69)	366
Preventive absenteeism behavior	.13 (.102)	-1.096*** (.24)	.926 (.653)	366
Corrective absenteeism behavior	.216* (.098)	-.939*** (.26)	.614 (.573)	366
Corrective free period behavior	.208* (.101)	-.749* (.334)	1.199 (.682)	366
School FE?				Y
Controls?				N

Notes: (1) The table shows the differential effect of the program by drop out (column 3). (2) * significant at 10%; ** significant at 5%; *** significant at 1%. (3) Standard errors are clustered at the school level.

Table A.9: ITT effects on school navigation skills by low SES (2015)

	(1)	(2)	(3)	(4)
	PFE	Poor	x Poor	N
Negative school habits	.094 (.102)	.115 (.149)	-.411** (.136)	366
Reaching out to others	-.119 (.078)	.12 (.147)	-.136 (.165)	366
Proactive school behavior	.132 (.15)	-.039 (.169)	-.083 (.184)	366
Preventive homework behavior	.131 (.135)	-.26 (.158)	.258 (.156)	366
Corrective homework behavior	.295** (.098)	.085 (.116)	-.299** (.116)	366
Preventive test behavior	.248** (.108)	.092 (.086)	-.115 (.171)	366
Corrective test behavior	.263** (.091)	-.078 (.098)	-.197 (.145)	366
Corrective failing behavior	.309*** (.095)	-.07 (.122)	-.203 (.247)	366
Corrective flunking behavior	.133 (.123)	-.064 (.164)	-.076 (.198)	366
Preventive absenteeism behavior	.15 (.123)	.006 (.069)	.106 (.218)	366
Corrective absenteeism behavior	.314** (.106)	.048 (.1)	-.198 (.219)	366
Corrective free period behavior	.204 (.128)	-.038 (.184)	.165 (.322)	366
School FE?				Y
Controls?				N

Notes: (1) The table shows the differential effect of the program by low SES (column 3). (2) * significant at 10%; ** significant at 5%; *** significant at 1%. (3) Standard errors are clustered at the school level.

Appendix B

B.1 Self-Beliefs about Academics

The survey of self-beliefs about academics asks students to report the extent to which they agree with 14 statements about themselves using a scale that ranges from 1 (“totally disagree”) to 5 (“totally agree”). A confirmatory factor analysis indicates that it measures two distinct types of self-beliefs: those about performance (e.g., “I think I will get good grades this year”) and about self-efficacy (e.g., “I am capable of doing school assignments well, even if they are difficult”). The survey was developed by a team of Argentine psychologists at the University of Buenos Aires (UBA), and it had already administered to secondary school students in the PBA (Schmidt et al. 2008). Additionally, FC had also administered it to a panel of PFE participants on a previous study (Pais et al. 2013).

B.2 Learning and Study Strategies Inventory

The Learning and Study Strategies Inventory (LASSI) asks students to report the extent to which how frequently they find themselves in 10 different situations, from 1 (“Never”) to 5 (“Always”). According to a factor analysis, seven of these situations measure students’ organization and planning skills (e.g., “I have trouble putting together a study plan and sticking to it”) and three measure their motivation (e.g., “I try hard to get good grades, even in subjects that I do not like”). This inventory was developed by psychologists at the University of Texas at Austin (Weinstein and Palmer 1988) and it was later adjusted for and administered to Argentine teenagers

and adults by psychologists at the UBA (Fernandez Liporace and Casullo 2009). It had also been administered to PFE participants (Pais et al. 2013).

B.3 Short Grit Scale

The Short Grit Scale (GRIT-S) consists of eight questions that ask students how frequently they find themselves in a given situation, from 1 (“Almost never”) to 5 (“At least once a day”). According to prior factor analyses, four items in this survey measure students’ consistency (e.g., “I forget some of the things I need for school”) and three measure students’ perseverance (e.g., “I interrupt others while they are speaking”). It was developed by psychologist Angela Duckworth at the University of Pennsylvania (UPenn) (Duckworth and Quinn 2009). To our knowledge, this is the first time that this survey has been administered in Argentina.

B.4 Domain-Specific Impulsivity Scale for Children

The Domain-Specific Impulsivity Scale for Children (DSISC) describes eight traits or situations to students (e.g., “I am very diligent” or “I have been obsessed with an idea or project for a short period of time, but I later lost interest”) and asks them to indicate whether these descriptions match them, from 1 (“Not at all like me”) to 5 (“Very much like me”). It was developed by a team of psychologists at UPenn (Tsukayama et al. 2013) and it has previously been administered in Argentina (Pais 2015).

B.5 LABS

The LABS assessment asks students to make their way out of 10 increasingly difficult labyrinths without lifting their pencil. Each student's score is determined based on the number of mistakes he or she made (i.e., "dead ends" in the labyrinth that they encountered while trying to solve it) as well as the number of labyrinths he or she solved. This assessment was developed by psychologist David Wechsler (Wechsler 1994), and it has previously been administered in Argentina (Arán-Filipetti 2012; Arán-Filipetti and López 2013; Arán-Filipetti and Richaud de Minzi 2011; Cayssials 2003; Martos Mula et al. 2013; Soprano 2003).

B.6 CARAS

The CARAS assessment shows students many sets of three smileys and asks them to cross out the smiley that is not like the others. For each student, the metric of interest is the "reflexivity index": the number of net correct answers (correct minus incorrect answers) over the number of incorrect answers. This assessment was developed by an American and a Spanish psychologists (Thurstone and Yela 2001) and it has previously been administered in Argentina (Arán-Filipetti 2012; Arán-Filipetti and López 2013; Arán-Filipetti and Richaud de Minzi 2011).

Appendix C

C.1 Reading test

The reading test assessed students' capacity to extract information from, interpret, and reflect on texts. It asked students to: locate information in the text, understand the relationship between two parts of a text, identify the main idea of a text, or interpret the meaning of words from context. It featured different types of texts: a historical passage, a descriptive passage, a poem, two movie reviews, and an excerpt from a fiction book. It included 30 multiple choice questions: nine questions of low difficulty, 12 questions of medium difficulty, and nine questions of high difficulty. The specifications table is available from the authors upon request.

C.2 Math test

The math test assessed students' capacity to identify mathematical concepts, understand and utilize symbolic math, perform calculations using various strategies, and solve mathematical and applied problems. It featured a different topics, including: number properties, equations, probability, measurement, trigonometry, and statistics. It included 30 multiple choice questions: eight questions of low difficulty, 12 questions of medium difficulty, and 10 questions of high difficulty. The specifications table is available from the authors upon request.

Appendix D

D.1 Negative school habits

This index indicates how frequently students have: (a) incorrectly noted the date of an exam; (b) incorrectly noted the due date of a homework assignment; (c) forgot to do their homework; (d) forgot to study for an exam; (e) forgot a folder for a subject; (f) been told off for speaking during class; (g) fought with a peer at school; (h) been mocked by a peer; (i) been hit by a peer; (j) misunderstood something taught in class; (k) failed a test; (l) failed a term; (m) failed a subject. The score for each item ranges from 1 (“Never”) to 5 (“Everyday”). The score for the index ranges from 13 to 65.

D.2 Reaching out to others

This index indicates whether students have reached out to others about any of the problems in the “Negative school habits” index. The options include: (a) the principal; (b) teachers; (c) the *preceptor* (disciplinarian); (d) peers; (e) *psicopedagogo* (school counselor); (f) secretaries; (g) alumni. The score for each item ranges from 0 (if a student did not reach out to anyone about a problem) to 7 (if the student reached out to everyone in this list about the problem). The score for the index ranges from 0 to 91.

D.3 Proactive school behavior

This index indicates whether students did any of the following when they did not understand something in class: (a) asked their teacher to explain a topic again; (b) asked someone in their family to explain it; (c) asked help from a peer; (d) consulted a book/Internet on the topic; (e) sought a private tutor; or (f) sought after-school support. The score for each item is a dummy that equals 0 if the student did not do something and 1 if he/she did. The score for the index ranges from 0 to 6.

D.4 Preventive homework behavior

This index measures how frequently students have taken certain steps before turning in their homework, including: (a) starting to do it more than one day before it was due; (b) getting together with a classmate to do it; (c) asking the teacher clarifying questions about it; (d) asking the teacher about the resources that could be used to do it (e.g., textbooks, calculators); (e) checking with the teacher if answers were “on the right track” before turning it in; (f) checking with the teacher if a given answer was correct; or (g) checking answers with a classmate. The score for each item is a dummy that equals 0 if the student did not do something and 1 if he/she did. The score for the index ranges from 0 to 7.

D.5 Corrective homework behavior

This index measures how frequently students have taken certain steps after receiving their graded homework, including: (a) asking the teacher why some answers were

incorrect; (b) asking the teacher to explain a topic again; (c) asking the teacher to give more credit for correct answers; (d) asking a relative to explain a related topic; (e) checking answers with a classmate; (f) attending a session with an academic tutor; or (g) attending after-school lessons. The score for each item is a dummy that equals 0 if the student did not do something and 1 if he/she did. The score for the index ranges from 0 to 7.

D.6 Preventive test behavior

This index measures how frequently students have taken certain steps before taking a test, including: (a) starting to study more than one day in advance; (b) getting together with a classmate to study; (c) asking a relative for help studying; (d) checking the folder to see which topics will be included in the test; (e) checking a textbook to see which topics will be included in the test; (f) asking the teacher about difficult topics; (g) attending a session with an academic tutor; or (h) attending after-school lessons. The score for each item is a dummy that equals 0 if the student did not do something and 1 if he/she did. The score for the index ranges from 0 to 8.

D.7 Corrective test behavior

This index measures how frequently students have taken certain steps after receiving their graded test, including: (a) asking the teacher why some answers were incorrect; (b) asking the teacher to explain a topic again; (c) asking the teacher to give more credit for correct answers; (d) asking the teacher for opportunities to make up a low grade; (e) asking a relative to explain a related topic; (f) asking a classmate for help

(e.g., looking at their folder); (g) attending a session with an academic tutor; or (h) attending after-school lessons. The score for each item is a dummy that equals 0 if the student did not do something and 1 if he/she did. The score for the index ranges from 0 to 8.

D.8 Corrective failing behavior

This index measures how frequently students have taken certain steps after failing a subject on a given term, including: (a) asking the teacher to explain a topic again; (b) asking the teacher to consider granting a pass based on performance on specific lessons or projects; (c) asking the teacher for opportunities to make up the low grade; (d) asking a relative to explain a related topic; (e) asking a classmate for help (e.g., looking at their folder); (f) attending a session with an academic tutor; or (g) attending after-school lessons. The score for each item is a dummy that equals 0 if the student did not do something and 1 if he/she did. The score for the index ranges from 0 to 8.

D.9 Corrective flunking behavior

This index measures how frequently students have taken certain steps after failing a subject on a given year, including: (a) asking the teacher to explain a topic again; (b) asking the teacher to consider granting a pass based on performance on specific lessons or projects; (c) asking the teacher for opportunities to make up the low grade; (d) asking a relative to explain a related topic; (e) asking the teacher which topics will be covered in the December/March exam; (f) asking the teacher which types

of questions will be included in the December/March exam; (g) asking the teacher which teachers will be present in the December/March exam; (h) asking the teacher for the date of the December/March exam; (i) attending a session with an academic tutor; or (j) attending after-school lessons. The score for each item is a dummy that equals 0 if the student did not do something and 1 if he/she did. The score for the index ranges from 0 to 11.

D.10 Preventive absenteeism behavior

This index measures how frequently students have taken certain steps after missing a schoolday but before returning to school, including: (a) asking a classmate what was covered in class; (b) catching up on reading done in class; (c) asking a classmate for the homework assigned in class; or (d) asking a classmate for his/her folder to copy what was done in class. The score for each item is a dummy that equals 0 if the student did not do something and 1 if he/she did. The score for the index ranges from 0 to 4.

D.11 Corrective absenteeism behavior

This index measures how frequently students have taken certain steps after missing a schoolday once they returned to school, including: (a) asking a classmate what was covered in class; (b) asking the teacher what was covered in class; (c) catching up on reading done in class; (d) asking a classmate for the homework assigned in class; or (e) asking a classmate for his/her folder to copy what was done in class. The score for each item is a dummy that equals 0 if the student did not do something and 1 if

he/she did. The score for the index ranges from 0 to 5.

D.12 Corrective free period behavior

This index measures how frequently students have taken certain steps the last time they had a free period in school, including: (a) doing homework; (b) studying for a test; (c) read for a class; (d) talked to a friend (reverse-coded); or (e) went home (reverse-coded). The score for each item is a dummy that equals 0 if the student did not do something and 1 if he/she did. The score for the index ranges from 0 to 5.