Pre-Analysis Plan: Guatemalan Unified Assistance and Resources for Development, Inspiration and Academic Navigation (GUARDIAN)*

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Abstract

This PAP is for AEA registry 13889 (https://www.socialscienceregistry.org/trials/13889). Evidence from developed countries shows that community schools, mentoring, and guidance counseling programs effectively reduce school dropout. This success is attributed to their ability to provide crucial social support and valuable information. Yet, evidence for developing countries remains limited and the key mechanisms driving the success of these programs remain to be disentangled. To answer these questions, the GUARDIAN project will examine two types of interventions in Quiché, Guatemala, through a randomized controlled trial (RCT). The two interventions are a school-based mentoring and information program and an information-only campaign. The trial also includes a control group. By comparing the outcomes of the combined program and the information-only campaign, the project aims to identify the relative importance of social support versus informational content in reducing school dropout rates in a low-income setting.

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1 Introduction

1.1 Motivation

GUARDIAN is being implemented in 15 municipalities in Quiché. Quiché has one of the highest migration rates in Guatemala, with 11% of the country's international migrants originating from this region (International Organization for Migration (IOM) and United Nations Population Fund (UNFPA), 2021). Quiché exhibits one of the lowest school transition rates nationwide, with only 45% of students staying in school after grade 6.[1]

This study aims to understand the determinants of school dropout, child labor, and child migration by providing children with information on how and why to continue in school as well as the risks of child labor and human trafficking. One treatment provides children and their families with information, and a second arm provides children additional mentoring on how to act on this information.

1.2 Research Questions

The research team aims to address the following pivotal questions:

- What are the effects of the mentoring and information programs on the transition from primary to secondary level in sixth-grade students in Quiché?
- What are the effects of the programs on the allocation of time and child labor decisions of sixth-grade students and their families?
- What are the effects of the programs on the migration decision of sixth-grade students and their families?

1.3 Theory of Change

Children whose parents have little or no formal education, living in communities with low educational attainment, often lack exposure to the reasons and pathways for continuing education. In such settings, where those who benefit from higher education tend to migrate, it becomes difficult for children to recognize the value of staying in school or understand how to do so. This study addresses these informational barriers, aiming to equip students with the knowledge necessary to pursue education beyond primary school.

There is substantial evidence supporting the impact of informational interventions in fostering educational persistence. Jensen (2010) demonstrates that providing middle school boys in low-income areas of the Dominican Republic with information on the

[1] Authors' calculations from Ministry of Education data in Haimovich et al. (2021).

returns to education significantly increased their school participation. He attributes the initial lack of awareness to a community dynamic where educated individuals move away, a pattern we expect to see in Guatemala. Similarly, Avitabile and De Hoyos (2018) report positive outcomes from providing educational information in Mexico, though they caution that financial constraints can limit families' ability to act on it. In Chile, Dinkelman and Martínez A (2014) show that correcting misperceptions about the costs of education increases school attendance. In the U.S., Bettinger et al. (2012) highlight the importance of informing students from low-participation backgrounds on *how* to continue their education. We further build on these studies by also offering information on education-to-career pathways, which has been shown to motivate schooling in the U.S. (McGuigan et al., 2016).

Our informational intervention also addresses two key risks: child labor and human trafficking. We provide students and their families with information on Guatemalan laws and the dangers associated with both practices. Research by Margaret Boittin (2016) found that raising awareness about trafficking risks was effective in Nepal, with potential victims absorbing the information. Although many anti-child labor programs incorporate informational campaigns, evidence of their direct impact on children's time use remains scarce. Assessing this impact will be a critical outcome of our study.

The central question remains: Can children and families act on the information they receive? To support this, our study includes a mentoring component, building on the informational intervention by empowering students to apply what they learn. This mentoring effort includes role-playing exercises and life skills development, aiming to influence students' outlooks and agency. Similar life skills programs in Tanzania, Bangladesh, and Ethiopia have improved the mental health of adolescent girls (Shah et al., 2024). Additionally, programs designed to help students advocate for themselves have increased school attendance in Zambia (Ashraf et al., 2020) and India (Edmonds et al., 2023).

Our mentoring program integrates life skills with practical information, mirroring elements of in-school guidance programs common in higher-income countries. Research suggests that such guidance programs have contributed to the expansion of education in those contexts (Carrell and Hoekstra, 2014). Through this combined approach, we aim to provide students with the tools and confidence to navigate educational and career pathways, helping them make informed decisions about their futures.

Figure 1 summarizes how we think these interventions will interact and influence school enrollment, child labor, and migration. We anticipate that the information treatment will increase educational motivation, make the home environment more supportive

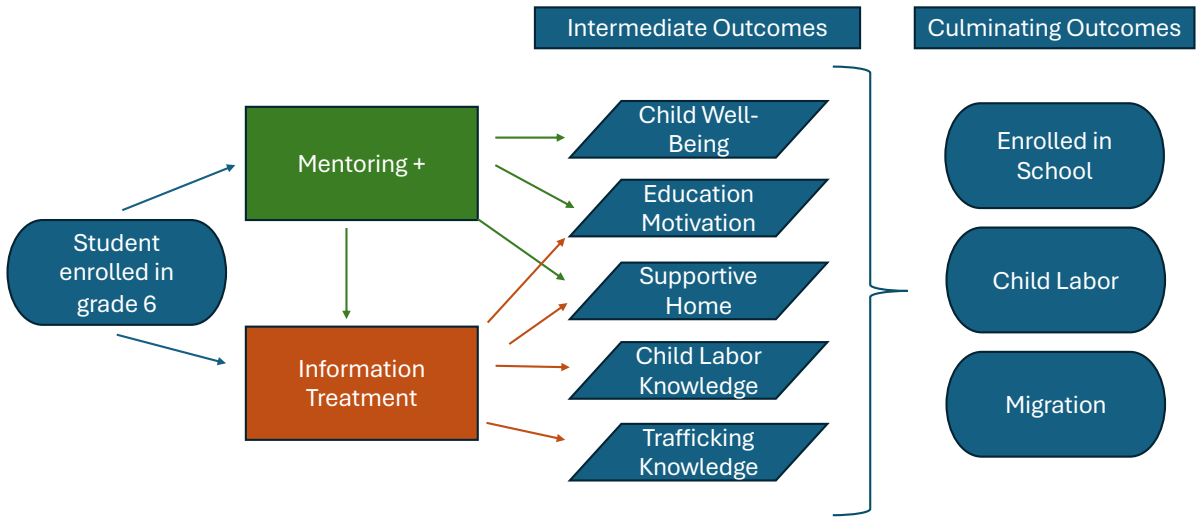

Figure 1: Theory of Change

of education, expand knowledge of child labor and awareness of human trafficking risks. The mentoring intervention should have all the same effects as the information treatment although we anticipate a larger impact on the educational motivation and home environment. This is achieved in the mentoring arm by help children build their life skills which we also expect to have a direct effect on child well-being. These intermediate effects should combine to influence our culminating outcomes: enrollment in lower secondary, avoidance of child labor, and delay of migration.

2 Research Strategy

2.1 Treatment

This study evaluates two closely related treatments.

The first treatment is similar to a guidance counselor program that would be commonplace in many schools in high-income places and shares many characteristics with so-called "community schools" programs that aim to support students holistically. A mentor is provided to each school. The mentor provides students with weekly in-class meetings for four months. Appendix 1 of this document summarizes the sessions contents. This program aims to empower children by providing knowledge and support focused on personal and educational development. As a part of this program, the mentor provides students with information on the value of education, how to enroll in lower secondary

school, and how to recognize child labor and human trafficking. We refer to this first treatment arm as "Mentoring and Information".

The second treatment arm provides the information of the first arm but without the empowerment and mentoring support of the first arm. We refer to this second arm as "Information". It includes 5 specific sessions: one for parents, one for teachers, a joint session for parents and teachers, and two for the students. It provides students, caregivers, and teachers with all the same take home material as the mentoring and information arm, as shown in Appendix 2. The key difference is that the mentors do not accompany students; the advantage is that it is much cheaper to implement.

2.2 Sampling

2.2.1 Sampling Frame

This study is conducted in the Guatemalan department of Quiché. From the list of all government schools in the department with grade 6 students, we eliminated schools from the sampling frame for the following reasons:

- They were in one of six municipalities where USAID was operating to avoid overburdening the schools with different programs and to estimate treatment effects against the prevalent "business-as-usual" in the country.
- In Department of Education enrollment records from 2013-2021, their average dropout rate at grade 6 was below 35 percent. We wanted to target the program to schools with high dropout rates.
- They were not accessible owing to security or transport infrastructure problems.

We then drew 225 schools for the study with a buffer of 2km around each selected school. One of these schools refused to engage with the project and was dropped. Later, an additional 6 schools were added to the study as resources became available. Assuming approximately 10 participants per school, we anticipated a total of 2,310 students enrolled in the evaluation.

In Table 1, we compare schools in Quiché and our study sample to those in the rest of Guatemala. These data are from the school records held by the Ministry of Education. In Column 1, we describe schools in the whole of Guatemala which tend to have larger enrollments and more teachers than schools in Quiché. Compared to other schools in Quiché (Column 2), our study schools (Column 3) are more rural and bilingual with fewer teachers than other schools in Quiché or the rest of Guatemala.

In Column 4, we report results of the hypothesis test that our study sample does not differ from the rest of Quiché. Our sampling rules above should result in different characteristics for our subsample, as we observe.

We follow the same structure in Table 2. We use the same Ministry of Education data as the previous table but look at individual student characteristics. These are not the students in our study as they are student characteristics associated with the schools well before our study. For the 2018 academic year, we have the most detailed data, including a government model designed to predict how at risk the students are for dropping out. Our study population is more male, older, more likely to have repeated a grade, has a lower GPA, and is considerably more at risk of dropping out (with a higher dropout rate) compared to students at other schools in Quiché and in the other parts of Guatemala. In these data, students in our sample schools were more than twice as likely to dropout at the end of grade 6 compared to students in other schools in Guatemala.

During the design of the midline survey, we learned that the baseline data collection team went to the wrong school for two schools (Aldea Xolcuay and Cantón Chitucur III). Random assignment and treatment occurred in the correct school rather than the baseline school. Hence, both schools will be included in the final analysis, but we are missing baseline data for those two schools.

2.2.2 Statistical Power

Power calculations were conducted around detecting an impact of the interventions on dropout. At the design stage, we assumed a significance level of 0.05, power of 0.8, a standard deviation of dropout of 0.5 (which implies a dropout rate of 0.5), and an intra-cluster correlation of 0.3178 (Haimovich et al., 2021). With an initially planned sample size of 150 clusters (75 schools per treatment arm and 75 schools in the control) and 10 students per cluster, we estimated to be able to detect a 0.25 standard deviation effect on dropout. This corresponds to 12.5 percentage points or a 25 percent reduction in dropout.

We were able to increase the sample size to 231 schools. We average 10 students per school. With this sample size and the other assumptions the same, our minimum detectable effect with no control variables is 11 percentage points or 0.23 standard deviations. If we use the actual dropout rate for our study schools (see Table 2), that is 65% with a standard deviation of 0.48. That implies a minimum detectable effect of 11 percentage points or 17 percent. In our baseline data, our regression controls specified below account for 6.64 percent of the variation in the respondent's plans to continue to lower secondary school. Assuming controls reduce variance in dropout by that amount, our minimum detectable effect is then 10.6 percentage points or 16 percent. The intracluster correlation

in plans to dropout at baseline, which importantly is different than that of the dropout rate in the Ministry of Education data, is 0.03. With controls and that ICC of 0.03, our minimum detectable effect is 6 percentage points or 9 percent. If we also use the mean and standard deviation of the plans to dropout variable at baseline, the mean in the data is 0.35 which has the same standard deviation as the dropout rate in the Ministry of Education data and thus the same percentage point MDE.

2.2.3 Assignment to Treatment

The 231 selected schools were grouped into 16 strata. 15 strata were formed based on the dropout rate and number of students enrolled. Schools were blocked into 5 bins for dropout and 3 bins for number of students, forming 15 total strata. An additional stratum was subsequently added to the study when additional schools were added. Within each stratum, schools are assigned to the mentoring treatment, the information treatment, or the control group after sorting by a random number generator. Randomization took place in Bern, Switzerland in May of 2024.

2.3 Data Collection

Figure 2 shows the overall intervention and data collection timeline. In all schools, we planed to conduct a baseline survey before the interventions (wave 1), a midline survey immediately after the interventions at the end of the school year (wave 2), and an endline survey six months later, around the beginning of the new school year (wave 3).

2.3.1 Baseline Data Collection

Baseline ran from April 19 to July 15. This long window reflects a wide array of unanticipated implementation challenges including major flooding events, enumerators resigning and new hires needing to be retrained, and political economy challenges with negotiations between unions and the government. The baseline data collection phase concluded with a final sample of 231 schools and 2,357 students. Schools were not informed about their study status until the baseline survey was concluded.

The survey was conducted with all sixth graders attending schools during our visits of the respective schools and lasted about 30-40 minutes. It covered questions about (i) school dropout and educational aspirations (ii) perceived returns to education (iii) child labor and allocation of the child's time (iv) migration and migrational intentions (v) awareness of child labor and human trafficking risks and (vi) socio-demographic background (only baseline). The baseline and midline surveys are conducted in school, whereas the endline survey is conducted in the child's home.

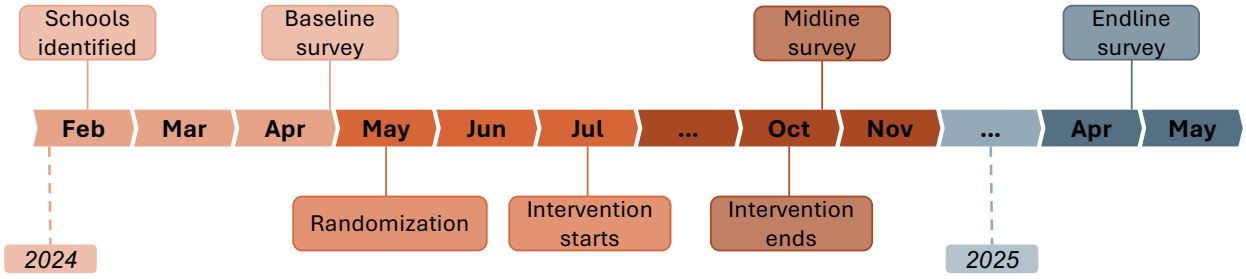

Figure 2: Timeline of data collection and intervention

Innovation for Poverty Action (IPA)'s local data collection partner for baseline was Marketing Insight, who oversaw the recruitment process for the field team and enumerators. The enumerator role required people experienced in survey data collection. The baseline data collection utilized Survey CTO, as it ensures a secure and versatile platform. The data collection firm provided tablets to the field team. The collection instrument was pre-loaded onto the devices, allowing enumerators to conduct surveys offline. At the end of each day, the research team coordinated with the field team to ensure they correctly submitted all forms to a server. Enumerators conducted surveys in private, away from other students. Appendix 3 outlines the data quality efforts at baseline.

Marketing Insight mistakenly interviewed 2 schools at baseline that were not part of the study in replacement of 2 schools that were part of the study. This resulted in dropping these 2 schools and their 25 students (in total) from the baseline analysis but not from later surveys. We just lack baseline data for these 2 schools.

2.3.2 Midline Data Collection

The midline is scheduled to begin on October 14 at the time of writing and conclude within a month. Midline data collection is timed to be complete before year-end exams begin in schools. IPA has employed a different data sub-contractor for midline data collection, Kantar, but similar systems will be in place to assure the security and accuracy of data.

The baseline and midline surveys are very similar in content with a few minor changes in questions in the midline reflecting the experience of working with the baseline survey.

2.3.3 Endline Data Collection

The endline data collection is scheduled for mid-April 2025 with neither a questionnaire or contractor specified at the time of writing. The endline will be conducted in a home environment since children would have left the primary school they were enrolled in (to either enroll in a secondary school or because they drop out of school).

Furthermore, surveying children in their homes allows for a broader range of questions, including some direct questioning of caregivers.

2.3.4 Attrition from the Sample

The midline survey is being conducted as a snapshot of children attending school on the survey date. As such, there will be no recontact effort, and non-attendance (which is equivalent to attrition in the midline) is a primary outcome of interest.

At endline, we aim to recontact all subjects from baseline. We anticipate attrition to be a major concern in this sample that has high rates of adult and child migration. For each school, we have collected extensive contact information on teachers in order to be able to enlist the teacher's help in locating (former) students. For each student, we have contact information on their immediate family, their extended family, and their friends. That combination of contact information should help facilitate recontact at endline. We have also preserved funding at the endline to track down students who have moved between baseline and endline.

We anticipate an attrition rate of around 10 percent at the endline. We will examine the impact of attrition on the internal validity of random assignment and on the comparability of the endline subsample with the baseline subsample, as discussed in the section on balance below. If attrition invalidates the internal validity of random assignment, we anticipate following conventional approaches for bounding treatment effects to explore the sensitivity of our findings to different assumptions on the selection induced by attrition.

3 Empirical Analysis

3.1 Outcome Variables

The ultimate goal of the interventions evaluated in this study is to promote the transition from primary to lower secondary school. Accordingly, (1) school enrollment in lower secondary (also known as "Basic") constitutes the primary outcome of this study. Moreover, we will analyze effects on two related secondary outcomes that may also be affected by the interventions: (2) child labor and (3) migration.

In addition to these *culminating outcomes*, we will study effects on *intermediate outcomes* to understand the mechanisms behind potential effects. Specifically, we will estimate effects on (1) education-related outcomes such as attendance, educational aspirations, perceived returns to schooling, and parental support for education, (2) socio-emotional outcomes, including well-being in school, soft skills, and child agency, and (3) knowledge about child labor and human trafficking.

Below, when we specify a "standardized index", we will apply the approach of Anderson (2008) to construct that index. When an index below is defined to include another standardized index, we create the (super) index using the variables that went into the input index. When creating these standardized indexes, we replace missing values with the control group mean. When looking at individual components of the indexes themselves, we do not replace missing values.

3.1.1 Culminating Outcomes

1. **Primary outcome: Lower secondary school enrollment.** Indicator that the child is enrolled in lower secondary school at the time of the endline survey. At midline, this is an indicator that the student intends to enroll in lower secondary school. This primary outcome is currently measured in surveys. We hope to also acquire school enrollment data to construct an alternative measure of this primary outcome, but we are not certain about our ability to access school records data at the time of writing.

2. **Secondary outcome: Child labor.** The main outcome here is child labor, which matches the definition of child labor in Guatemalan law. The other listed outcomes are additional outcomes that will be examined to understand the child labor findings.

    - **Paid employment:** Respondent reports working for someone else for pay for one or more hours in the last week.
    - **Employed**: Respondent reports working for someone else for pay, doing any kind of business activity, farming, or other activity to generate income, helping in a business or farm, for one or more hours in the last week.
    - **Economically active:** Employed, temporarily absent from ongoing employment, participates in an unpaid apprenticeship, internship, or similar training, or helped in the production of goods for own consumption.
    - **Unpaid household services:** Participated in unpaid household services in the last week.
    - **Child labor**: Limited to children under 14. Employed unless they have a work permit, work 30 or fewer hours per week, and have not missed school in the last week.[2]
    - **Child labor - EA:** Limited to children under 14. Economically Active unless they have a work permit, work 30 or fewer hours per week, and have not missed school

[2] Article 148 of Labor Code: Children under 14 cannot be employed. Article 149 of Labor Code: Ordinary work day can be diminished for persons under 18 to a maximum of 7 hours per day. Those under 14 with a permit can work a maximum of 6 hours per day. Article 150 of the Labor Code: Children under 14 can get a permit to work if in extreme poverty AND if they are meeting their required education by law.

in the last week. Guatemalan labor law emphasizes employment but standard child labor measures emphasize economic activity, and it is unclear whether the labor code intends to include the production of goods for own subsistence under prohibited employment.

3. **Secondary outcome: Child migration.** The main outcomes here are whether the child has migrated at endline or is planning to do so at midline. However, with a modal age of 12 in our population, it is implausible to detect an effect on actual migration. The other listed additional outcomes will be examined to understand the findings for migration and migration plans.

    - **Migrated:** Indicator that is 1 if the child has migrated out of the community at the time of survey. Undefined in baseline.
    - **Plans to migrate:** Indicator that is one if respondent reports they have plans to migrate and live outside of Guatemala as an adult. Children that have already migrated are coded as planning to migrate.
    - **Desires to migrate:** Indicator that is one if respondent reports they would want to live outside Guatemala as an adult if it were up to them. Children that have already migrated are coded as desiring to do so.
    - **Ideal age to migrate:** Indicator that is one if respondent reports the ideal age to migrate is at 18 years or older.

3.1.2 Intermediate Outcomes

Intermediate outcomes are defined as those directly impacted by treatment. We believe these are the mechanisms that lead to our culminating outcomes.

1. **Education motivation** is a standardized index composed of the following inputs:

    - **Education effort**
        - **Attendance:** Indicator that is one if respondent reports not missing school in the past week. Is coded as 0 if not enrolled. We also hope to have attendance data from school records, but we are not confident in whether we will be able to access that data at the time of writing.
        - **Homework:** Indicator that is 1 if the child reports working on homework an hour or more a day.
        - **Test Scores**: We are hoping to collect scores on year end exams from school administrative records which we would also include within our effort index.

- **Returns to education**
  - **Earnings:** Indicator that is 1 if the child reports earning more money if completing more education than primary.
  - **Effort:** Indicator that is 1 if child reports return to putting effort in school. Not available at baseline.
- **Educational aspirations** is a standardized index composed of the following inputs:
  - **Plans to enroll:** Indicator that is one if respondent reports they plan to enroll in lower secondary in the coming year.
  - **Wants to enroll:** Indicator that is one if respondent reports they would want to attend lower secondary in the coming year if it were only up to them.
  - Logistics are represented by a variable we call **has attendance plan** which is an indicator that is 1 if the child has a specific lower secondary school they intend to attend and know where it is located. It is 0 if they do not know or do not intend to attend a lower secondary school.
  - **Aspires to more education:** Indicator that is one if child reports that if it were up to them, they would like to complete lower secondary education or higher.
  - **Educated profession:** Indicator that is 1 if the child reports aspiring to a profession that requires more education than primary.

2. **Supportive home:** Is a standardized index composed of the following:
   - **Parents want to enroll:** Indicator that is one if respondent reports their parents want them to enroll in lower secondary in the coming year.
   - Responses to four statements measured on a 5-point Likert scale, where respondents indicate how true each statement is for them. The statements are as follows:
     - When I am home, I have enough time to dedicate to my studies and schoolwork.
     - I have a place at home where I can sit down and do my schoolwork when I need to.
     - When I need help with my schoolwork, I can find someone at home to help me.
     - My parents believe that school is important.
3. **Child well-being**

- **Well-being in school:** We measure psychological well-being using an adapted version of the EPOCH Measure of Adolescent Well-Being, which assesses 5 positive psychological characteristics (Engagement, Perseverance, Optimism, Connectedness, and Happiness) that might foster well-being, physical health, and other positive outcomes in adulthood (Kern et al., 2016). Each question asks respondents for a measure of "how true" the statement is on a scale of 1 to 5, where 5 is completely true. We create a standardized index based on the 10-item instrument answers. We use a 10-item instrument specifically adapted to in-school questioning of adolescents.[3]

  To understand and interpret these components of well-being, we follow the EPOCH recommendations for grouping of these 10 questions, and form the following indicators of these components of well-being. Specifically:

  - **Engaged:** Indicator that is one if the respondent answers "completely true" or "very true" to both of these questions: "When I do an activity for school, I enjoy it so much that I lose track of time" and "I get so involved in my school assignments that I forget about everything else."
  - **Perseverant:** Indicator that is one if the respondent answers "completely true" or "very true" to both of these questions: "When I start a school assignment, I finish it" and "I am a person who works hard for school."
  - **Optimistic:** Indicator that is one if the respondent answers "completely true" or "very true" to both of these questions: "I am optimistic about my future in school" and "I believe that things in school will work out, no matter how difficult they seem."
  - **Connected:** Indicator that is one if the respondent answers "completely true" or "very true" to both of these questions: "When I have a problem, there is someone in school who is there for me" and "I have friends in school who are very important to me."
  - **Happy:** Indicator that is one if the respondent answers "completely true" or "very true" to both of these questions: "I feel happy in school" and "I like going to school very much."

- **Friends** is a standardized index based on the following questions:

  - **Number of friends:** The number of friends a respondent reports when asked to name their best friends in the class.

[3]This differs from the standard in the psych literature using EPOCH that just creates a simple average of the responses to the 10 questions (Buerger et al., 2023). We deviate to keep this consistent with our other indexes.

  - **Met friends:** Indicator that is one if respondent reports having met with friends outside of school in the past week.
  - **Someone in school for problems:** Variable that measures how much a respondent agrees with the statement "When I have a problem, there is someone at school that can help me" as measured on a five-point Likert scale.
  - **Has friends who are important to them:** Variable that measures how much a respondent agrees with the statement "I have friends at school that are very important to me" as measured on a five-point Likert scale.

- **Soft skills:** The child's participation in a 30-minute survey with an adult stranger can be very informative about the child's soft skills, and we ask enumerators to assess 4 dimensions of the child's survey engagement. Our soft skills measure is a standardized index of each of the individual competencies assessed by enumerators. As additional outcomes, we will consider each component piece to understand the index findings.
  - **Attentive:** Indicator that is one if the respondent pays close attention the whole interview.
  - **Careful:** Indicator that is one if the respondent takes time to think and make thoughtful choices
  - **Alert:** Indicator that is one if the respondent participates in the survey without turning away or needing to take a break.
  - **Confident:** Indicator that is one if the respondent responds to questions with a confident and clear voice.
- **Child agency:** We create a standardized index to measure whether the child has agency over important decisions in their life. Additionally, we will consider each of the component pieces to understand the index findings.
  - **Agency over time allocation:** Indicator that is one if respondents report they have full or partial agency over how they spend their time outside of school.
  - **Agency over schooling decisions:** Indicator that is one if respondents report having full or partial agency in decisions regarding their continuation of school in the next year.
  - **Agency over work after school:** Indicator that is one if respondents report having full or partial agency in decisions regarding the work they will do after they finish their schooling.

4. **Child labor knowledge** is a standardized index based on:

- **Compulsory primary education:** Indicator that is one if respondent reports knowledge that it is not allowed to stop primary education to work in Guatemala.
- **Compulsory lower secondary education:** Indicator that is one if respondent reports knowledge that it is not allowed to stop lower secondary education to work in Guatemala.
- **Existence of restricted jobs:** Indicator that is one if respondent knows there are certain kinds of jobs you have to be 18 or older to perform.
- **Identification of restricted jobs:** Fraction correctly identified by respondents among the following types of labor as restricted to those 18 or older:
  - Stone crushing
  - Construction
  - Street performers
  - Garbage recycling
  - Fireworks manufacturing
  - Domestic work in private homes
  - Repair of motorcycles and other vehicles

  At midline, the list of restricted jobs is as follows:
  - Stone crushing
  - Street performers
  - Garbage recycling
  - Fireworks manufacturing
  - Domestic work in private homes

  The following data was not collected in baseline but is expected to be available in later rounds:
- **Identifies situations that are child labor**: Indicator that is one if respondent correctly identifies a given scenario as child labor. In the scenario, a student skips school to work until late at night.
- **Identifies situations that are not child labor**: Indicator that is one if respondent correctly identifies a given scenario as not child labor. In the scenario, a student helps their family after school with house chores.

5. **Trafficking knowledge** is a standardized index based on:

- **Heard of human trafficking:** Indicator that is one if respondent reports having heard of human trafficking before and correctly identifies what it is.
- **Human trafficking risk:** Indicator that is one if respondent reports both men and women, of any age, can be victims of human trafficking.
- **Domestic risk of human trafficking:** Indicator that is one if respondent reports that human trafficking can be a risk within Guatemala and does not require international travel.
- **Action on human trafficking situation:** Indicator that is one if respondent suggests a response to observing a human trafficking situation. Responses such as doing nothing or not knowing what to do as their only action if they recognized a situation of human trafficking are coded as 0.
- **Appropriate response to human trafficking:** Indicator that is one if respondent reports engaging in any of the following appropriate responses upon recognizing a situation of human trafficking:
  - Call the police
  - Talk to parents or family members
  - Talk to a teacher
  - Contact mayor or local authorities

The following data was not collected in baseline but is expected to be available in later rounds:

- **Identifies human trafficking situations:** Indicator that is one if respondent correctly identifies a given scenario as being at risk of human trafficking. In the scenario, a stranger offers to take a student abroad to learn a new language, but offers no way to stay in touch.
- **Identifies a good decision if at risk of human trafficking:** Indicator that is one if respondent correctly identifies a given scenario as having a correct response to a potential human trafficking situation. In the scenario, a student worries about a friend who is getting a job offer too good to be true, and tells her teacher.
- **Identifies situations that increase risk of human trafficking:** Indicator that is one if respondent correctly identifies all of the following as situations that may increase the risk of being in danger of human trafficking from a given list:
  - Paying someone for a secret or unusual way to travel.
  - Someone promising you a job but not telling you what it is, where you will work, or how much you will earn.

– Traveling alone to another country.

3.2 Balancing Checks

3.2.1 Baseline Sample

Randomization took place in a controlled environment by the PI team. Hence, any differences in baseline characteristics across treatment arms are by chance. We evaluate balance across important background characteristics and primary outcomes at baseline. Specifically:

- Age in years at baseline
- Sex is female
- Spanish is spoken at home
- Household size
- Mother and father are both co-residents
- Household has running water
- Household has electricity
- Household has internet
- Student plans to enroll in lower secondary (basic)
- Student is in child labor
- Student plans to migrate internationally

The last three variables are chosen as baseline proxies for our three primary outcomes specified in our Theory of Change. The background characteristics from age - coresidency are demographic traits that we believe are relevant to our primary outcomes, and the three household characteristics are meant to proxy wealth.

We report means and standard deviations for each outcome variables denoted Y_{iv0} for outcome Y of individual i in school v at baseline (time 0) by treatment status. These summary statistics are in Table 3 after dropping the two schools that were interviewed in error by our baseline data collection firm. Our sample is 12.5 years old, balanced by gender, with a majority of families speaking Spanish at home. 70 percent have both parents present. Most households have running water and electricity with just over a third having

internet access. Roughly two-thirds plan to enroll in lower-secondary, a majority are in child labor, and just under 15 percent plan to eventually migrate outside of Guatemala.

We also conduct a series of hypothesis tests related to evaluating balance.

- For each outcome variable, we report the F-statistic and associated p-value for the null hypothesis that treatment status does not predict each individual outcome variable in the following regression:

$$Y_{iv} = \alpha + \gamma D_v + \lambda_1(A_i, F_i) + \lambda_2(S_v) + v_{iv} \tag{1}$$

  - γ is the vector of differences in Y_{iv0} associated with treatment status, and we report the F-statistic and p-value associated with the null that all of the components of the vector γ_0 is zero
  - $\lambda_1(A_i, F_i)$ is a vector of indicators for the child i's age and sex at baseline
  - $\lambda_2(S_v)$ is a vector of indicators for stratum
  - Standard errors allow for clustering by school in v_{iv}

  The results of these F-tests on γ are reported in Column 4 of Table 3. We fail to reject the null of no difference in means associated with treatment for each of the variables in the table.

- We test the joint orthogonality of all the baseline outcome variable using Seemingly Unrelated Regressions by estimating (1) jointly across all the baseline characteristics listed above and reporting the Chi-Square test statistic and p-value associated with the null that the vector γ is zero across all equations.

  This Chi-Square test statistic is reported in Column 4 of Table 3 in the row labeled "Joint Orthogonality Chi-Square." The Chi-Square test statistic of 20 has an associated p-value of 0.59. We are not close to rejecting balance in these data.

- We also test the validity of randomization for comparing across study arms. For this test, we we evaluate the comparability of baseline attributes in these three comparisons:

  - Mentoring v. Control
  - Information v. Control
  - Mentoring v. Information

  To evaluate comparability of the first listed treatment group against the second listed treatment group, we limit the sample to these two groups, create an indicator that is

one if the subject is in the first group, and regress this indicator on all the baseline variables plus the other components of the control function in (1) excluding age and sex:

$$D_{iv} = \beta_0 + \beta_1 Y_{iv}^1 ... + \beta_n Y_{iv}^n + \lambda_2(S_v) + \epsilon_{iv} \tag{2}$$

We exclude age and sex from the control function, because we want to evaluate compositional differences in age and sex in these tests. We report the F-statistics and p-value associated with the null hypothesis that all the baseline outcomes are jointly zero: $\beta_1 ... \beta_n = 0$. These results are in the last row of Table 3. In Column 1, we test the comparability of the mentoring arm to control at baseline. We have an F-stat of 1 with an associated p-value of 0.416. We are not close to rejecting the null of no difference in mentoring versus control. Column 2 compares the information arm to control. We have an F-stat of 0.5 with a p-value of 0.90. Column 4 compares mentoring to information, and we also fail to reject the null of no difference in background characteristics between those two treatment arms with an F-stat of 1.2 and an associated p-value of 0.28.

3.2.2 Attrition

While any differences in our balance tests at baseline will be by chance, attrition over time can invalidate the randomization. Our midline survey intends to capture snapshots of schools at the end of the school year and will have much higher student attrition than endline where our focus is on following up on baseline subjects.

There are two separate issues raised by attrition. Does attrition invalidate the internal validity of the treatment - control comparison? Does attrition imply that an internally valid comparison is no longer comparable to the original study comparison?

To evaluate the first questions of internal validity, we examine whether attrition is correlated with treatment status and we replicate the balance table described above around (1) on the recaptured sample.

To evaluate the second question of whether the resampled population is comparable to the baseline population, we compare (mean and standard deviation) the baseline characteristics of the original sample to the baseline characteristics of the recaptured sample. We then test with each characteristics differs with attrition in the same way we tested for randomization in 1:

$$Y_{iv} = \alpha + \gamma A_{iv} + \lambda_1(A_i, F_i) + \lambda_2(S_v) + v_{iv} \tag{3}$$

$A_i v$ is an indicator that child i associated with primary school v was not recaptured in the follow-up survey round (midline or endline separately). We also test for joint significance with 2, using A_{iv} as the outcome rather than D_{iv}^{10}.

3.3 Treatment Effects

3.3.1 Intent to Treat

- The basic analysis will be a regression of outcomes (Y) for individual i observed at time t in school v on an indicator for random assignment, a vector of age effects, a control for sex, and stratum fixed effects with standard errors clustered at the school level.

$$Y_{ivt} = \alpha_t + \gamma_t D_v + \lambda_{t1}(A_i, F_i) + \lambda_{t2}(S_v) + v_{ivt} \tag{4}$$

  - We estimate (4) separately at the midline and endline time periods, reflected in the time-varying parameters in (4).
  - D_v is a vector of indicators that indicate treatment assignment which takes place at the school v level
  - $\lambda_{t1}(A_i, F_i)$ is a vector of indicators for the child i's age and sex at baseline
  - $\lambda_{t2}(S_v)$ is a vector of indicators for stratum
  - Standard errors v_{ivt} are clustered by school

- We will also examine specifications that control for the baseline mean of the dependent variable at the school level and separately the baseline individual response for the dependent variable. At midline, where we do not intend to follow up with individual students from the baseline, the school-level baseline mean of the dependent variable is the appropriate specification.

3.3.2 Treatment Effects on the Treated

There are two types of non-compliance issues that we anticipate examining in our analysis.

- Not all schools randomly assigned to treatment implemented the program. There appears to be one school where, after the start of treatment, the principal refused to participate. There also appears to be a group of schools where our implementing partner failed to staff them appropriately. The exact scale of this problem is unclear at the time of writing. One definition of treated will be that the student was associated with a school where the program was implemented. We refer to this a associated with a **treated school**.

- Even in treated schools, not all students choose to attend our program. This might be because of disinterest in the program, a lack of consent, or absence from school. We define a **treated student** as a student who attends a large portion of the courses offered in the school. The exact definition of what "a large portion" is unclear at the time of writing as we do not know attendance rates.

We anticipate adapting (4), replacing treatment assignment with either treated school or treated student and instrumenting for treated with treatment assignment in a two-stage least squares procedure.

3.4 Heterogeneous Effects

3.4.1 Variable Definitions

We intend to look at heterogeneity in treatment effects based on the following variables:

- **Individual characteristics**
  - **Female**: A child is classified as female if the enumerator observes and records their sex as female during the interview.
  - **Older child**: A child is classified as older if they are older than 13 in grade 6. 12 is the modal age for grade 6, but 11-13 are a possibility with standard progression.
  - **Dropout risk**: We create an index of baseline covariates that we believe correlate strongly with dropout risk and split the sample by the median of the resulting index. At the time of writing, we expect the following baseline covariates as predictive of dropout risk. We also will look at heterogeneity separately by each of the components. This analysis will only be conducted for students with completed baseline survey.
    - **Student plans to drop out**. Students who did not report continuing school past primary in the baseline survey
    - **Student had missed school in the past week** at baseline
    - **Student is in child labor** at baseline
    - **Student plans to migrate** outside of Guatemala in the baseline survey.
- **Household wealth**: We ask about household wealth at baseline through enumerating a small list of household assets (TV, computer/laptop, fridge, car, motorcycle, running water, electricity/light, internet). We create a standardized index based on this inventory and split the population at the median of the index.

- **School characteristics**
  - **High dropout school:** High dropout school is defined as a school with above median dropout rates based on the average of the dropout rate in 2021 and the average of 2013-21. 2021 is the most recent dropout record available from the Ministry of Education. Because these data are used in stratification, tests of significance in balance tables will not condition on stratum fixed effects.
  - **Small school:** Small school is defined as below median grade 6 enrollment in 2024 based on Ministry of Education records. Because these data are used in stratification, tests of significance in balance tables will not condition on stratum fixed effects.
  - **Remoteness:** A primary school is classified as remote if it does not have a nearby lower secondary school.

3.4.2 Balance Tests

Because randomization took place in controlled circumstances, we have the null hypothesis that it should be valid within subgroups. However, as some subgroups are small, we may reject this null in some subgroups if we happen to have imbalance across small groups. We evaluate the validity of randomization within subgroup using the same template as in the overall balance tests above.

- **Individual characteristics**
  - **Female**: Evaluations of the validity of randomization within female and male populations are in Tables 4 and 5 respectively. Based on the Joint-Orthogonality tests, we do have any concerns with the validity of the randomization for either sub-population.
  - **Older child**: Evaluations of the validity of randomization within older and younger populations are in Tables 6 and 7 respectively. Based on the Joint-Orthogonality tests, we are not concerned with using the randomization to study the younger population, but we will need to be attentive to covariates in our analysis for the older population. The older population is sufficiently small, that we end up with some differences in background characteristics across treatment arms.
  - **Dropout Risk**: Because the baseline outcomes are included in the dropout index, they are omitted from the balance tests in Tables 8 and 9. Based on the joint orthogonality tests, we are not concerned about the validity of the randomization

in either case even though there are some individual characteristics that merit attention (Spanish and household size in the low dropout risk group).

  - **Student plans to drop out:** The data do not reject our hypothesis that randomization appears balanced for both students that plan to dropout and those that plan to enroll in lower secondary school in Tables 10 and 11.
  - **Student had missed school in the past week** at baseline: Table 12 contains our findings for children that have missed school in the last week. We do not reject our joint null of no difference. Table 13 contains our tests of our null of no difference with treatment for the group that has not missed school in the last week. We do not reject our null of no difference.
  - **Student is in child labor** at baseline: Tables 14 and 15 have our findings for children that are and are not in child labor. We do not find any reason to reject our null.
  - **Student plans to migrate** outside of Guatemala at baseline: Tables 16 and 17 have our findings for children that do and do not eventually plan to migrate internationally at some point in their lives. We do not find any reason to reject our null.

- **Household Wealth**: Tables 18 and 19 have our findings about the validity of randomization for households that are above and below median household wealth. For the below median wealth group in Table 19, we have no concerns about evaluating treatment effects within that sub-population. For wealthier households, we fail to reject orthogonality at 5 percent, but there may be some meaningful differences in plans for enrollment such that we should be attentive to the impact of inclusion of controls for those differences at baseline in our analysis.

- **School characteristics**

  - **High dropout school:** We are concerned about evaluating treatment effects for schools that have high dropout rates. Our analysis of the validity of randomization is in Table 20. The data are more consistent with our null of no difference in the low dropout schools as evident in Table 21.
  - **Small school:** The data are consistent with our null hypothesis of no difference with randomization for both small (Table 22) and large (Table 23) schools.
  - **Remoteness:** The data are consistent with our null hypothesis of no difference with randomization for both remote (Table 24) and not-remote (Table 25) schools.

3.4.3 Intent to Treat

Our analysis of heterogeneity in treatment effects will be limited to our intent-to-treat approach of (4). Specifically, for a given indicator H_{iv0} defined in the previous subsection, we modify (4) as:

$$Y_{ivt} = \alpha_t^0 + \alpha_t^1 H_{iv0} + \gamma_t^0 D_v + \gamma_t^1 D_v * H_{iv0} + \lambda_{t1}(A_i, F_i) + \lambda_{t2}(S_v) + \upsilon_{ivt} \quad (5)$$

γ_t^0 is the impact of treatment assignment on Y_{ivt} when H_{iv0} is 0 and γ_t^1 tests the null that there is no difference in the impact of treatment assignment in the group where $H_{iv0} = 1$ compared to $H_{iv0} = 0$. $\gamma_t^0 + \gamma_t^1$ is how Y_{ivt} differs with treatment assignment compared to control.

For individual or school characteristics that are correlated, we also expect to conduct an analysis where H is a vector of characteristics, jointly estimating the interaction of treatment and the set of indicators.

3.5 Standard Error Adjustments

- Randomization takes place at the school level. All standard errors will be clustered by school.
- To address multiple hypothesis testing associated problems, outcomes are grouped into indexes as described in the data section above.
- In order to understand the meaning of indexes, individual components will be examined. To address concerns about multiple hypothesis testing within the components of indexes, we will report False Discovery Rate adjusted q-statistics in addition to conventional p-values (Anderson, 2008).

4 Research Team

- All PIs were involved in project development and design, survey instrument design, analysis of the data, and academic presentation of findings.
- Innovation for Poverty Action was the primary contractor for this project and was responsible for all contracting, sub-contracting, and award management. The IPA team included Sergio de Marco (Project Director), Laura Rodriguez (Research Manager for first two months of project), Daniel Hernandez Aldaco (Research Manager from month 3 through conclusion), Aurora Salvador Durand (Senior Research Associate until July 2023), Rosa Miranda Santa Cruz (Senior Research Associate from July 2023 on), Dalma Villanueva, and Victor Herencia.

- Prodessa implemented both programs. They were responsible for training all mentors and handling their employment.
- Marketing Insight was the data collection sub-contractor for IPA for the baseline data collection. They oversaw the recruitment process for the field team and enumerators, supervised their work, and handled their employment.
- Kantar was the data collection sub-contractor for IPA for midline data collection. They oversaw the recruitment process for the field team and enumerators, supervised their work, and handled their employment. Their data collection work is on-going at the time of this document.
- The contract for data collection at endline is subject to a competitive bidding process and has not been awarded at the time of this document.
- This project was funded in part as a cooperative agreement with the United States Department of Labor, and Tina Faulkner provided feedback on all aspects of this project.

5 Budget

This study is funded by a cooperative agreement between IPA and the U.S. Department of Labor for $1.5 million and a $200,000 award from the U.S. Department of State to Prodessa through IPA's HTRI initiative.

6 Tables

Table 1: Differences between schools in the experiment and those not participating (in 2018)

	Other schools in the country (1)	Other schools in Quiché (2)	In the experiment (3)	Difference (3)-(2) (4)
% rural	90.98	95.12	100.00	4.88***
	(28.65)	(21.56)	(0.00)	(0.62)
	[15,419]	[1,229]	[231]	
% morning shift	94.57	97.72	98.70	0.98
	(22.67)	(14.93)	(11.35)	(0.86)
	[15,419]	[1,229]	[231]	
% bilingual	46.88	81.18	88.74	7.56***
	(49.90)	(39.10)	(31.67)	(2.36)
	[15,699]	[1,254]	[231]	
Total enrollment	135.95	118.80	115.02	-3.78
	(135.38)	(124.70)	(48.32)	(4.77)
	[15,363]	[1,226]	[231]	
Grd 6 enrollment	16.99	13.94	13.02	-0.92
	(19.34)	(16.03)	(6.00)	(0.60)
	[15,699]	[1,254]	[231]	
Number of teachers	5.68	4.90	4.57	-0.33*
	(4.95)	(4.63)	(1.91)	(0.18)
	[15,363]	[1,226]	[231]	
% with a school board	85.65	94.78	96.97	2.19*
	(35.06)	(22.24)	(17.18)	(1.30)
	[15,377]	[1,227]	[231]	

Notes: Column 1 displays the mean, standard deviation (in parentheses), and number of observations (in square brackets) for schools not in the experimental sample. Column 2 displays the mean, standard deviation (in parentheses), and number of observations (in square brackets) for schools not in the experimental sample, but in Quiché. Column 3 shows the mean, standard deviation (in parentheses), and number of observations (in square brackets) for schools in the sample. Column 4 reports the differences between the other schools in Quiché and those in the experimental sample, as well as the standard error of the difference (in parentheses). This data comes from Ministry of Education administrative records collected for Haimovich et al. (2021). Standard errors, clustered at the school level, are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 2: Students enrolled in grade 6 in experimental vs. non-experimental schools

	Other schools in the country (1)	Other schools in Quiché (2)	In the experiment (3)	Difference (3)-(2) (4)
Panel A: 2018 academic year				
% male	51.26	52.03	52.69	0.66
	(49.98)	(49.96)	(49.94)	(1.05)
	[266,718]	[17,482]	[3,008]	
Age (Jan 1st, 2018)	12.83	13.01	13.14	0.13***
	(1.25)	(1.34)	(1.31)	(0.04)
	[264,439]	[17,338]	[2,998]	
GPA	7.61	7.40	7.35	-0.05
	(0.87)	(0.82)	(0.81)	(0.04)
	[260,656]	[17,279]	[2,984]	
% repeat grade	1.41	1.81	1.93	0.11
	(11.77)	(13.34)	(13.75)	(0.40)
	[266,661]	[17,480]	[3,008]	
% at-risk (statistical model)	41.44	66.55	86.89	20.33***
	(49.26)	(47.18)	(33.76)	(2.97)
	[248,695]	[16,229]	[2,837]	
% dropout	31.38	51.48	65.43	13.95***
	(46.40)	(49.98)	(47.57)	(2.02)
	[266,718]	[17,482]	[3,008]	
Panel B: 2021 academic year				
% male	51.10	52.14	50.91	-1.23
	(49.99)	(49.96)	(50.00)	(1.10)
	[282,955]	[18,349]	[3,204]	
% dropout	37.67	55.04	69.41	14.37***
	(48.46)	(49.75)	(46.08)	(1.96)
	[282,955]	[18,349]	[3,204]	

Notes: Column 1 displays the mean, standard deviation (in parentheses), and number of observations (in square brackets) for schools not in the experimental sample. Column 2 displays the mean, standard deviation (in parentheses), and number of observations (in square brackets) for schools not in the experimental sample, but in Quiché. Column 3 shows the mean, standard deviation (in parentheses), and number of observations (in square brackets) for schools in the sample. Column 4 reports the differences between the other schools in Quiché and those in the experimental sample, as well as the standard error of the difference (in parentheses). This data comes from Ministry of Education administrative records collected for Haimovich et al. (2021). Standard errors, clustered at the school level, are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 3: Balance of Baseline Variables (Full sample)

Variable	Mentoring Mean (1)	Information Mean (2)	Control Mean (3)	F-Stat (p-value) (4)
Age	12.525	12.571	12.454	1.184
	(1.097)	(1.096)	(1.042)	(0.308)
Female	0.516	0.488	0.491	0.689
	(0.500)	(0.500)	(0.500)	(0.503)
Spanish	0.652	0.581	0.642	1.280
	(0.477)	(0.494)	(0.480)	(0.280)
Household Size	7.071	7.286	7.452	1.634
	(3.060)	(3.120)	(3.342)	(0.197)
Mom and dad coresidents	0.715	0.694	0.698	0.361
	(0.452)	(0.461)	(0.459)	(0.697)
Household has running water	0.798	0.776	0.801	0.269
	(0.402)	(0.417)	(0.400)	(0.764)
Household has electricity	0.865	0.878	0.885	0.103
	(0.342)	(0.328)	(0.319)	(0.902)
Household has internet	0.373	0.346	0.373	0.456
	(0.484)	(0.476)	(0.484)	(0.634)
Plans to enroll in lower secondary	0.688	0.625	0.652	2.327
	(0.464)	(0.485)	(0.477)	(0.100)
Student is in child labor	0.558	0.583	0.583	0.548
	(0.497)	(0.493)	(0.493)	(0.579)
Plans to migrate outside Guatemala	0.143	0.134	0.147	0.156
	(0.350)	(0.341)	(0.355)	(0.856)
Joint Orthogonality Chi-Square				19.869
				(0.591)
Bivariate Orthogonality F-Stat	1.038 [a]	0.487 [b]		1.218 [c]
	(0.416)	(0.909)		(0.280)
Observations	762	762	808	

Notes: Columns 1-3 report the mean of each variable for the mentoring, information, and control groups, respectively, with standard deviations shown in parentheses. Column 4 reports the F-statistic and its associated p-value (in parentheses) for the null hypothesis that treatment status does not predict each individual outcome variable, controlling for age, gender, and stratum fixed effects, except for Age (does not include age fixed effects) and Female (does not include gender fixed effects). The chi-square joint orthogonality tests the null that treatment assignment does not predict baseline characteristics. [a] The bivariate test in Column 1 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and control arms. [b] The bivariate test in Column 2 tests the hypothesis that there are no differences in baseline characteristics between the information and control arms. [c] The bivariate test in Column 4 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and information arms. Orthogonality tests include stratum fixed effects. All standard errors are clustered at the school level.

Table 4: Balance of Baseline Variables (Female sample)

Variable	Mentoring Mean (1)	Information Mean (2)	Control Mean (3)	F-Stat (p-value) (4)
Age	12.511	12.513	12.423	0.640
	(1.057)	(1.075)	(1.014)	(0.528)
Spanish	0.641	0.565	0.652	1.606
	(0.480)	(0.496)	(0.477)	(0.203)
Household Size	7.112	7.282	7.479	0.945
	(3.100)	(2.998)	(3.154)	(0.390)
Mom and dad coresidents	0.687	0.715	0.688	0.371
	(0.464)	(0.452)	(0.464)	(0.690)
Household has running water	0.779	0.758	0.788	0.205
	(0.416)	(0.429)	(0.409)	(0.815)
Household has electricity	0.850	0.884	0.884	0.563
	(0.358)	(0.320)	(0.320)	(0.570)
Household has internet	0.392	0.358	0.370	0.344
	(0.489)	(0.480)	(0.483)	(0.710)
Plans to enroll in lower secondary	0.690	0.621	0.645	1.945
	(0.463)	(0.486)	(0.479)	(0.145)
Student is in child labor	0.514	0.514	0.530	0.080
	(0.500)	(0.500)	(0.500)	(0.923)
Plans to migrate outside Guatemala	0.127	0.116	0.149	0.346
	(0.334)	(0.320)	(0.356)	(0.708)
Joint Orthogonality Chi-Square				15.731
				(0.733)
Bivariate Orthogonality F-Stat	0.627 [a]	0.546 [b]		1.018 [c]
	(0.789)	(0.855)		(0.431)
Observations	393	372	397	

Notes: Columns 1-3 report the mean of each variable for the mentoring, information, and control groups, respectively, with standard deviations shown in parentheses. Column 4 reports the F-statistic and its associated p-value (in parentheses) for the null hypothesis that treatment status does not predict each individual outcome variable, controlling for age, gender, and stratum fixed effects, except for Age (does not include age fixed effects). The chi-square joint orthogonality tests the null that treatment assignment does not predict baseline characteristics. [a] The bivariate test in Column 1 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and control arms. [b] The bivariate test in Column 2 tests the hypothesis that there are no differences in baseline characteristics between the information and control arms. [c] The bivariate test in Column 4 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and information arms. Orthogonality tests include stratum fixed effects. All standard errors are clustered at the school level.

Table 5: Balance of Baseline Variables (Male sample)

Variable	Mentoring Mean (1)	Information Mean (2)	Control Mean (3)	F-Stat (p-value) (4)
Age	12.539	12.626	12.484	1.330
	(1.139)	(1.115)	(1.069)	(0.266)
Spanish	0.664	0.597	0.633	0.652
	(0.473)	(0.491)	(0.483)	(0.522)
Household Size	7.027	7.290	7.426	1.170
	(3.021)	(3.235)	(3.517)	(0.312)
Mom and dad coresidents	0.745	0.674	0.708	1.697
	(0.436)	(0.469)	(0.455)	(0.185)
Household has running water	0.818	0.792	0.813	0.167
	(0.386)	(0.406)	(0.391)	(0.846)
Household has electricity	0.881	0.872	0.886	0.118
	(0.325)	(0.335)	(0.319)	(0.889)
Household has internet	0.352	0.336	0.375	0.842
	(0.478)	(0.473)	(0.485)	(0.432)
Plans to enroll in lower secondary	0.686	0.628	0.659	1.182
	(0.465)	(0.484)	(0.474)	(0.308)
Student is in child labor	0.605	0.650	0.633	0.984
	(0.490)	(0.478)	(0.483)	(0.375)
Plans to migrate outside Guatemala	0.160	0.151	0.146	0.120
	(0.367)	(0.359)	(0.354)	(0.887)
Joint Orthogonality Chi-Square				20.054
				(0.455)
Bivariate Orthogonality F-Stat	0.927 [a]	0.666 [b]		1.242 [c]
	(0.510)	(0.754)		(0.269)
Observations	369	390	411	

Notes: Columns 1-3 report the mean of each variable for the mentoring, information, and control groups, respectively, with standard deviations shown in parentheses. Column 4 reports the F-statistic and its associated p-value (in parentheses) for the null hypothesis that treatment status does not predict each individual outcome variable, controlling for age, gender, and stratum fixed effects, except for Age (does not include age fixed effects). The chi-square joint orthogonality tests the null that treatment assignment does not predict baseline characteristics. [a] The bivariate test in Column 1 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and control arms. [b] The bivariate test in Column 2 tests the hypothesis that there are no differences in baseline characteristics between the information and control arms. [c] The bivariate test in Column 4 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and information arms. Orthogonality tests include stratum fixed effects. All standard errors are clustered at the school level.

Table 6: Balance of Baseline Variables (14 and older)

Variable	Mentoring Mean (1)	Information Mean (2)	Control Mean (3)	F-Stat (p-value) (4)
Age	14.444	14.435	14.393	0.386
	(0.844)	(0.795)	(0.694)	(0.681)
Female	0.492	0.458	0.427	0.435
	(0.502)	(0.500)	(0.497)	(0.648)
Spanish	0.548	0.496	0.564	0.424
	(0.500)	(0.502)	(0.498)	(0.655)
Household Size	8.198	7.389	7.479	1.607
	(3.564)	(3.042)	(3.581)	(0.204)
Mom and dad coresidents	0.738	0.595	0.658	3.680
	(0.441)	(0.493)	(0.476)	(0.027)
Household has running water	0.762	0.748	0.752	0.268
	(0.428)	(0.436)	(0.434)	(0.765)
Household has electricity	0.794	0.908	0.803	4.318
	(0.406)	(0.290)	(0.399)	(0.015)
Household has internet	0.333	0.313	0.385	1.295
	(0.473)	(0.465)	(0.489)	(0.277)
Plans to enroll in lower secondary	0.690	0.511	0.556	2.648
	(0.464)	(0.502)	(0.499)	(0.074)
Student is in child labor	0.656	0.682	0.655	0.613
	(0.477)	(0.467)	(0.477)	(0.543)
Plans to migrate outside Guatemala	0.127	0.160	0.145	0.382
	(0.334)	(0.368)	(0.354)	(0.683)
Joint Orthogonality Chi-Square				46.580
				(0.002)
Bivariate Orthogonality F-Stat	1.374 [a]	2.806 [b]		2.354 [c]
	(0.197)	(0.003)		(0.012)
Observations	126	131	117	

Notes: Columns 1-3 report the mean of each variable for the mentoring, information, and control groups, respectively, with standard deviations shown in parentheses. Column 4 reports the F-statistic and its associated p-value (in parentheses) for the null hypothesis that treatment status does not predict each individual outcome variable, controlling for age, gender, and stratum fixed effects, except for Age (does not include age fixed effects) and Female (does not include gender fixed effects). The chi-square joint orthogonality tests the null that treatment assignment does not predict baseline characteristics. [a] The bivariate test in Column 1 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and control arms. [b] The bivariate test in Column 2 tests the hypothesis that there are no differences in baseline characteristics between the information and control arms. [c] The bivariate test in Column 4 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and information arms. Orthogonality tests include stratum fixed effects. All standard errors are clustered at the school level.

Table 7: Balance of Baseline Variables (Under 14)

Variable	Mentoring Mean (1)	Information Mean (2)	Control Mean (3)	F-Stat (p-value) (4)
Age	12.145	12.184	12.126	0.882
	(0.653)	(0.670)	(0.666)	(0.415)
Female	0.520	0.494	0.502	0.558
	(0.500)	(0.500)	(0.500)	(0.573)
Spanish	0.673	0.599	0.656	1.388
	(0.470)	(0.490)	(0.476)	(0.252)
Household Size	6.847	7.265	7.447	3.764
	(2.902)	(3.137)	(3.302)	(0.025)
Mom and dad coresidents	0.711	0.715	0.705	0.176
	(0.454)	(0.452)	(0.456)	(0.839)
Household has running water	0.805	0.781	0.809	0.288
	(0.396)	(0.414)	(0.393)	(0.750)
Household has electricity	0.879	0.872	0.899	0.579
	(0.326)	(0.335)	(0.302)	(0.561)
Household has internet	0.381	0.353	0.370	0.295
	(0.486)	(0.478)	(0.483)	(0.745)
Plans to enroll in lower secondary	0.687	0.648	0.669	1.114
	(0.464)	(0.478)	(0.471)	(0.330)
Student is in child labor	0.539	0.563	0.571	0.597
	(0.499)	(0.496)	(0.495)	(0.551)
Plans to migrate outside Guatemala	0.146	0.128	0.148	0.301
	(0.354)	(0.335)	(0.355)	(0.740)
Joint Orthogonality Chi-Square				19.345
				(0.624)
Bivariate Orthogonality F-Stat	1.133 [a]	0.614 [b]		0.790 [c]
	(0.339)	(0.815)		(0.650)
Observations	636	631	691	

Notes: Columns 1-3 report the mean of each variable for the mentoring, information, and control groups, respectively, with standard deviations shown in parentheses. Column 4 reports the F-statistic and its associated p-value (in parentheses) for the null hypothesis that treatment status does not predict each individual outcome variable, controlling for age, gender, and stratum fixed effects, except for Age (does not include age fixed effects) and Female (does not include gender fixed effects). The chi-square joint orthogonality tests the null that treatment assignment does not predict baseline characteristics. [a] The bivariate test in Column 1 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and control arms. [b] The bivariate test in Column 2 tests the hypothesis that there are no differences in baseline characteristics between the information and control arms. [c] The bivariate test in Column 4 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and information arms. Orthogonality tests include stratum fixed effects. All standard errors are clustered at the school level.

Table 8: Balance of Baseline Variables (Above dropout index median)

Variable	Mentoring Mean (1)	Information Mean (2)	Control Mean (3)	F-Stat (p-value) (4)
Age	12.589	12.681	12.519	1.439
	(1.092)	(1.148)	(1.082)	(0.239)
Female	0.509	0.464	0.489	1.416
	(0.501)	(0.499)	(0.500)	(0.245)
Spanish	0.541	0.540	0.606	1.711
	(0.499)	(0.499)	(0.489)	(0.183)
Household Size	7.439	7.466	7.549	0.068
	(3.170)	(3.214)	(3.469)	(0.934)
Mom and dad coresidents	0.707	0.678	0.683	0.309
	(0.456)	(0.468)	(0.466)	(0.734)
Household has running water	0.779	0.737	0.791	1.077
	(0.415)	(0.441)	(0.407)	(0.342)
Household has electricity	0.872	0.880	0.881	0.011
	(0.334)	(0.326)	(0.324)	(0.989)
Household has internet	0.358	0.344	0.349	0.038
	(0.480)	(0.475)	(0.477)	(0.963)
Joint Orthogonality Chi-Square				13.834
				(0.611)
Bivariate Orthogonality F-Stat	0.608 [a]	0.846 [b]		0.937 [c]
	(0.770)	(0.564)		(0.488)
Observations	399	457	470	

Notes: Columns 1-3 report the mean of each variable for the mentoring, information, and control groups, respectively, with standard deviations shown in parentheses. Column 4 reports the F-statistic and its associated p-value (in parentheses) for the null hypothesis that treatment status does not predict each individual outcome variable, controlling for age, gender, and stratum fixed effects, except for Age (does not include age fixed effects) and Female (does not include gender fixed effects). The chi-square joint orthogonality tests the null that treatment assignment does not predict baseline characteristics. [a] The bivariate test in Column 1 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and control arms. [b] The bivariate test in Column 2 tests the hypothesis that there are no differences in baseline characteristics between the information and control arms. [c] The bivariate test in Column 4 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and information arms. Orthogonality tests include stratum fixed effects. All standard errors are clustered at the school level.

Table 9: Balance of Baseline Variables (Below dropout index median)

Variable	Mentoring Mean (1)	Information Mean (2)	Control Mean (3)	F-Stat (p-value) (4)
Age	12.455	12.407	12.364	0.524
	(1.100)	(0.993)	(0.978)	(0.593)
Female	0.523	0.525	0.494	0.364
	(0.500)	(0.500)	(0.501)	(0.695)
Spanish	0.774	0.643	0.692	3.464
	(0.419)	(0.480)	(0.462)	(0.033)
Household Size	6.667	7.016	7.317	3.878
	(2.885)	(2.957)	(3.157)	(0.022)
Mom and dad coresidents	0.725	0.718	0.719	0.096
	(0.447)	(0.451)	(0.450)	(0.909)
Household has running water	0.818	0.833	0.814	0.104
	(0.386)	(0.374)	(0.390)	(0.901)
Household has electricity	0.857	0.875	0.891	0.384
	(0.351)	(0.331)	(0.313)	(0.681)
Household has internet	0.388	0.351	0.405	1.022
	(0.488)	(0.478)	(0.492)	(0.362)
Joint Orthogonality Chi-Square				21.189
				(0.171)
Bivariate Orthogonality F-Stat	1.921 [a]	0.775 [b]		1.586 [c]
	(0.061)	(0.625)		(0.134)
Observations	363	305	338	

Notes: Columns 1-3 report the mean of each variable for the mentoring, information, and control groups, respectively, with standard deviations shown in parentheses. Column 4 reports the F-statistic and its associated p-value (in parentheses) for the null hypothesis that treatment status does not predict each individual outcome variable, controlling for age, gender, and stratum fixed effects, except for Age (does not include age fixed effects) and Female (does not include gender fixed effects). The chi-square joint orthogonality tests the null that treatment assignment does not predict baseline characteristics. [a] The bivariate test in Column 1 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and control arms. [b] The bivariate test in Column 2 tests the hypothesis that there are no differences in baseline characteristics between the information and control arms. [c] The bivariate test in Column 4 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and information arms. Orthogonality tests include stratum fixed effects. All standard errors are clustered at the school level.

Table 10: Balance of Baseline Variables (Plans to enroll)

Variable	Mentoring Mean (1)	Information Mean (2)	Control Mean (3)	F-Stat (p-value) (4)
Age	12.485	12.504	12.370	1.346
	(1.117)	(1.059)	(0.997)	(0.262)
Female	0.517	0.485	0.486	0.318
	(0.500)	(0.500)	(0.500)	(0.728)
Spanish	0.714	0.620	0.668	1.939
	(0.452)	(0.486)	(0.471)	(0.146)
Household Size	6.899	7.208	7.446	2.982
	(3.135)	(2.932)	(3.434)	(0.053)
Mom and dad coresidents	0.700	0.710	0.712	0.015
	(0.459)	(0.454)	(0.453)	(0.986)
Household has running water	0.800	0.807	0.814	0.019
	(0.401)	(0.395)	(0.389)	(0.981)
Household has electricity	0.859	0.874	0.886	0.347
	(0.349)	(0.332)	(0.318)	(0.707)
Household has internet	0.389	0.357	0.391	0.401
	(0.488)	(0.480)	(0.488)	(0.670)
Student is in child labor	0.577	0.586	0.593	0.417
	(0.495)	(0.493)	(0.492)	(0.660)
Plans to migrate outside Guatemala	0.134	0.139	0.144	0.089
	(0.341)	(0.346)	(0.352)	(0.915)
Joint Orthogonality Chi-Square				16.900
				(0.659)
Bivariate Orthogonality F-Stat	1.189 [a]	0.511 [b]		0.801 [c]
	(0.303)	(0.880)		(0.628)
Observations	524	476	527	

Notes: Columns 1-3 report the mean of each variable for the mentoring, information, and control groups, respectively, with standard deviations shown in parentheses. Column 4 reports the F-statistic and its associated p-value (in parentheses) for the null hypothesis that treatment status does not predict each individual outcome variable, controlling for age, gender, and stratum fixed effects, except for Age (does not include age fixed effects) and Female (does not include gender fixed effects). The chi-square joint orthogonality tests the null that treatment assignment does not predict baseline characteristics. [a] The bivariate test in Column 1 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and control arms. [b] The bivariate test in Column 2 tests the hypothesis that there are no differences in baseline characteristics between the information and control arms. [c] The bivariate test in Column 4 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and information arms. Orthogonality tests include stratum fixed effects. All standard errors are clustered at the school level.

Table 11: Balance of Baseline Variables (Plans to dropout)

Variable	Mentoring Mean (1)	Information Mean (2)	Control Mean (3)	F-Stat (p-value) (4)
Age	12.613	12.682	12.612	0.175
	(1.048)	(1.149)	(1.106)	(0.839)
Female	0.513	0.493	0.502	0.432
	(0.501)	(0.501)	(0.501)	(0.650)
Spanish	0.517	0.517	0.594	1.963
	(0.501)	(0.501)	(0.492)	(0.143)
Household Size	7.450	7.416	7.463	0.003
	(2.857)	(3.411)	(3.168)	(0.997)
Mom and dad coresidents	0.748	0.668	0.673	2.489
	(0.435)	(0.472)	(0.470)	(0.086)
Household has running water	0.794	0.724	0.776	0.717
	(0.405)	(0.448)	(0.418)	(0.489)
Household has electricity	0.878	0.885	0.883	0.015
	(0.328)	(0.320)	(0.323)	(0.986)
Household has internet	0.336	0.329	0.338	0.076
	(0.473)	(0.471)	(0.474)	(0.927)
Student is in child labor	0.517	0.580	0.564	0.822
	(0.501)	(0.495)	(0.497)	(0.441)
Plans to migrate outside Guatemala	0.164	0.126	0.153	0.788
	(0.371)	(0.332)	(0.361)	(0.456)
Joint Orthogonality Chi-Square				24.756
				(0.211)
Bivariate Orthogonality F-Stat	1.092 [a]	0.706 [b]		1.331 [c]
	(0.373)	(0.717)		(0.220)
Observations	238	286	281	

Notes: Columns 1-3 report the mean of each variable for the mentoring, information, and control groups, respectively, with standard deviations shown in parentheses. Column 4 reports the F-statistic and its associated p-value (in parentheses) for the null hypothesis that treatment status does not predict each individual outcome variable, controlling for age, gender, and stratum fixed effects, except for Age (does not include age fixed effects) and Female (does not include gender fixed effects). The chi-square joint orthogonality tests the null that treatment assignment does not predict baseline characteristics. [a] The bivariate test in Column 1 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and control arms. [b] The bivariate test in Column 2 tests the hypothesis that there are no differences in baseline characteristics between the information and control arms. [c] The bivariate test in Column 4 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and information arms. Orthogonality tests include stratum fixed effects. All standard errors are clustered at the school level.

Table 12: Balance of Baseline Variables (Has missed school in past week)

Variable	Mentoring Mean (1)	Information Mean (2)	Control Mean (3)	F-Stat (p-value) (4)
Age	12.682	12.688	12.529	1.495
	(1.142)	(1.155)	(1.070)	(0.227)
Female	0.489	0.486	0.514	0.224
	(0.501)	(0.501)	(0.501)	(0.799)
Spanish	0.583	0.567	0.616	0.302
	(0.494)	(0.496)	(0.487)	(0.740)
Household Size	7.364	7.805	7.982	1.777
	(3.307)	(3.277)	(3.712)	(0.172)
Mom and dad coresidents	0.701	0.688	0.707	0.107
	(0.459)	(0.464)	(0.456)	(0.899)
Household has running water	0.765	0.738	0.786	0.480
	(0.425)	(0.441)	(0.411)	(0.619)
Household has electricity	0.879	0.872	0.880	0.028
	(0.327)	(0.334)	(0.325)	(0.973)
Household has internet	0.352	0.390	0.370	0.432
	(0.479)	(0.489)	(0.484)	(0.650)
Plans to enroll in lower secondary	0.663	0.567	0.627	2.874
	(0.474)	(0.496)	(0.485)	(0.059)
Student is in child labor	0.672	0.771	0.766	2.821
	(0.470)	(0.421)	(0.424)	(0.062)
Plans to migrate outside Guatemala	0.193	0.135	0.145	2.319
	(0.396)	(0.342)	(0.353)	(0.101)
Joint Orthogonality Chi-Square				28.731
				(0.153)
Bivariate Orthogonality F-Stat	1.747 [a]	0.675 [b]		1.567 [c]
	(0.069)	(0.760)		(0.115)
Observations	264	282	276	

Notes: Columns 1-3 report the mean of each variable for the mentoring, information, and control groups, respectively, with standard deviations shown in parentheses. Column 4 reports the F-statistic and its associated p-value (in parentheses) for the null hypothesis that treatment status does not predict each individual outcome variable, controlling for age, gender, and stratum fixed effects, except for Age (does not include age fixed effects) and Female (does not include gender fixed effects). The chi-square joint orthogonality tests the null that treatment assignment does not predict baseline characteristics. [a] The bivariate test in Column 1 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and control arms. [b] The bivariate test in Column 2 tests the hypothesis that there are no differences in baseline characteristics between the information and control arms. [c] The bivariate test in Column 4 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and information arms. Orthogonality tests include stratum fixed effects. All standard errors are clustered at the school level.

Table 13: Balance of Baseline Variables (Has not missed school in past week)

Variable	Mentoring Mean (1)	Information Mean (2)	Control Mean (3)	F-Stat (p-value) (4)
Age	12.442	12.502	12.415	0.615
	(1.064)	(1.056)	(1.026)	(0.541)
Female	0.530	0.490	0.479	1.433
	(0.500)	(0.500)	(0.500)	(0.241)
Spanish	0.689	0.590	0.656	1.580
	(0.463)	(0.492)	(0.475)	(0.208)
Household Size	6.916	6.981	7.177	0.589
	(2.912)	(2.985)	(3.101)	(0.556)
Mom and dad coresidents	0.723	0.698	0.694	0.618
	(0.448)	(0.460)	(0.461)	(0.540)
Household has running water	0.815	0.798	0.808	0.139
	(0.388)	(0.402)	(0.394)	(0.870)
Household has electricity	0.857	0.881	0.887	0.214
	(0.350)	(0.324)	(0.317)	(0.808)
Household has internet	0.384	0.321	0.374	1.828
	(0.487)	(0.467)	(0.484)	(0.163)
Plans to enroll in lower secondary	0.701	0.658	0.665	1.133
	(0.458)	(0.475)	(0.472)	(0.324)
Student is in child labor	0.498	0.474	0.489	0.129
	(0.501)	(0.500)	(0.500)	(0.879)
Plans to migrate outside Guatemala	0.116	0.133	0.148	0.550
	(0.321)	(0.340)	(0.356)	(0.578)
Joint Orthogonality Chi-Square				20.206
				(0.570)
Bivariate Orthogonality F-Stat	0.980 [a]	0.566 [b]		1.474 [c]
	(0.468)	(0.854)		(0.147)
Observations	498	480	532	

Notes: Columns 1-3 report the mean of each variable for the mentoring, information, and control groups, respectively, with standard deviations shown in parentheses. Column 4 reports the F-statistic and its associated p-value (in parentheses) for the null hypothesis that treatment status does not predict each individual outcome variable, controlling for age, gender, and stratum fixed effects, except for Age (does not include age fixed effects) and Female (does not include gender fixed effects). The chi-square joint orthogonality tests the null that treatment assignment does not predict baseline characteristics. [a] The bivariate test in Column 1 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and control arms. [b] The bivariate test in Column 2 tests the hypothesis that there are no differences in baseline characteristics between the information and control arms. [c] The bivariate test in Column 4 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and information arms. Orthogonality tests include stratum fixed effects. All standard errors are clustered at the school level.

Table 14: Balance of Baseline Variables (Students in child labor)

Variable	Mentoring Mean (1)	Information Mean (2)	Control Mean (3)	F-Stat (p-value) (4)
Age	12.603	12.646	12.498	1.506
	(1.168)	(1.107)	(1.070)	(0.224)
Female	0.475	0.431	0.447	0.762
	(0.500)	(0.496)	(0.498)	(0.468)
Spanish	0.622	0.596	0.620	0.107
	(0.486)	(0.491)	(0.486)	(0.899)
Household Size	7.251	7.576	7.628	0.992
	(3.184)	(3.156)	(3.551)	(0.373)
Mom and dad coresidents	0.704	0.696	0.718	0.079
	(0.457)	(0.460)	(0.450)	(0.924)
Household has running water	0.811	0.769	0.806	0.628
	(0.392)	(0.422)	(0.396)	(0.535)
Household has electricity	0.872	0.880	0.876	0.023
	(0.334)	(0.326)	(0.330)	(0.977)
Household has internet	0.371	0.365	0.363	0.007
	(0.484)	(0.482)	(0.481)	(0.993)
Plans to enroll in lower secondary	0.709	0.628	0.662	2.211
	(0.455)	(0.484)	(0.473)	(0.112)
Plans to migrate outside Guatemala	0.170	0.145	0.139	0.729
	(0.376)	(0.353)	(0.346)	(0.484)
Joint Orthogonality Chi-Square				14.701
				(0.793)
Bivariate Orthogonality F-Stat	0.639 [a]	0.481 [b]		1.065 [c]
	(0.779)	(0.900)		(0.393)
Observations	423	441	468	

Notes: Columns 1-3 report the mean of each variable for the mentoring, information, and control groups, respectively, with standard deviations shown in parentheses. Column 4 reports the F-statistic and its associated p-value (in parentheses) for the null hypothesis that treatment status does not predict each individual outcome variable, controlling for age, gender, and stratum fixed effects, except for Age (does not include age fixed effects) and Female (does not include gender fixed effects). The chi-square joint orthogonality tests the null that treatment assignment does not predict baseline characteristics. [a] The bivariate test in Column 1 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and control arms. [b] The bivariate test in Column 2 tests the hypothesis that there are no differences in baseline characteristics between the information and control arms. [c] The bivariate test in Column 4 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and information arms. Orthogonality tests include stratum fixed effects. All standard errors are clustered at the school level.

Table 15: Balance of Baseline Variables (Students not in child labor)

Variable	Mentoring Mean (1)	Information Mean (2)	Control Mean (3)	F-Stat (p-value) (4)
Age	12.433	12.448	12.394	0.227
	(0.991)	(1.056)	(0.994)	(0.797)
Female	0.567	0.571	0.552	0.155
	(0.496)	(0.496)	(0.498)	(0.857)
Spanish	0.690	0.565	0.678	3.465
	(0.463)	(0.497)	(0.468)	(0.033)
Household Size	6.836	6.914	7.212	1.275
	(2.861)	(3.036)	(3.014)	(0.281)
Mom and dad coresidents	0.731	0.689	0.672	1.580
	(0.444)	(0.464)	(0.470)	(0.208)
Household has running water	0.779	0.790	0.797	0.047
	(0.415)	(0.408)	(0.403)	(0.954)
Household has electricity	0.854	0.886	0.896	0.429
	(0.354)	(0.319)	(0.306)	(0.652)
Household has internet	0.376	0.324	0.382	1.367
	(0.485)	(0.469)	(0.487)	(0.257)
Plans to enroll in lower secondary	0.657	0.622	0.636	0.922
	(0.476)	(0.486)	(0.482)	(0.399)
Plans to migrate outside Guatemala	0.110	0.121	0.155	0.686
	(0.314)	(0.326)	(0.363)	(0.505)
Joint Orthogonality Chi-Square				25.544
				(0.181)
Bivariate Orthogonality F-Stat	1.192 [a]	1.381 [b]		1.668 [c]
	(0.301)	(0.194)		(0.094)
Observations	335	315	335	

Notes: Columns 1-3 report the mean of each variable for the mentoring, information, and control groups, respectively, with standard deviations shown in parentheses. Column 4 reports the F-statistic and its associated p-value (in parentheses) for the null hypothesis that treatment status does not predict each individual outcome variable, controlling for age, gender, and stratum fixed effects, except for Age (does not include age fixed effects) and Female (does not include gender fixed effects). The chi-square joint orthogonality tests the null that treatment assignment does not predict baseline characteristics. [a] The bivariate test in Column 1 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and control arms. [b] The bivariate test in Column 2 tests the hypothesis that there are no differences in baseline characteristics between the information and control arms. [c] The bivariate test in Column 4 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and information arms. Orthogonality tests include stratum fixed effects. All standard errors are clustered at the school level.

Table 16: Balance of Baseline Variables (Plans to migrate)

Variable	Mentoring Mean (1)	Information Mean (2)	Control Mean (3)	F-Stat (p-value) (4)
Age	12.459	12.735	12.387	3.567
	(1.014)	(1.160)	(1.042)	(0.031)
Female	0.459	0.422	0.496	0.345
	(0.501)	(0.496)	(0.502)	(0.709)
Spanish	0.532	0.480	0.605	0.988
	(0.501)	(0.502)	(0.491)	(0.375)
Household Size	7.092	7.235	6.798	0.763
	(3.406)	(3.286)	(3.323)	(0.468)
Mom and dad coresidents	0.596	0.627	0.555	1.738
	(0.493)	(0.486)	(0.499)	(0.180)
Household has running water	0.807	0.804	0.832	0.387
	(0.396)	(0.399)	(0.376)	(0.680)
Household has electricity	0.844	0.882	0.908	1.178
	(0.364)	(0.324)	(0.291)	(0.311)
Household has internet	0.376	0.382	0.412	0.094
	(0.487)	(0.488)	(0.494)	(0.910)
Plans to enroll in lower secondary	0.642	0.647	0.639	0.285
	(0.482)	(0.480)	(0.482)	(0.752)
Student is in child labor	0.661	0.627	0.556	1.239
	(0.476)	(0.486)	(0.499)	(0.293)
Joint Orthogonality Chi-Square				25.946
				(0.168)
Bivariate Orthogonality F-Stat	0.742 [a]	1.636 [b]		1.471 [c]
	(0.683)	(0.109)		(0.162)
Observations	109	102	119	

Notes: Columns 1-3 report the mean of each variable for the mentoring, information, and control groups, respectively, with standard deviations shown in parentheses. Column 4 reports the F-statistic and its associated p-value (in parentheses) for the null hypothesis that treatment status does not predict each individual outcome variable, controlling for age, gender, and stratum fixed effects, except for Age (does not include age fixed effects) and Female (does not include gender fixed effects). The chi-square joint orthogonality tests the null that treatment assignment does not predict baseline characteristics. [a] The bivariate test in Column 1 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and control arms. [b] The bivariate test in Column 2 tests the hypothesis that there are no differences in baseline characteristics between the information and control arms. [c] The bivariate test in Column 4 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and information arms. Orthogonality tests include stratum fixed effects. All standard errors are clustered at the school level.

Table 17: Balance of Baseline Variables (Does not plan to migrate)

Variable	Mentoring Mean (1)	Information Mean (2)	Control Mean (3)	F-Stat (p-value) (4)
Age	12.536	12.545	12.466	0.734
	(1.111)	(1.085)	(1.042)	(0.481)
Female	0.525	0.498	0.491	0.841
	(0.500)	(0.500)	(0.500)	(0.433)
Spanish	0.672	0.597	0.649	1.299
	(0.470)	(0.491)	(0.478)	(0.275)
Household Size	7.067	7.294	7.565	2.703
	(3.001)	(3.096)	(3.334)	(0.069)
Mom and dad coresidents	0.735	0.705	0.723	0.702
	(0.442)	(0.457)	(0.448)	(0.497)
Household has running water	0.796	0.771	0.795	0.279
	(0.403)	(0.420)	(0.404)	(0.757)
Household has electricity	0.868	0.877	0.881	0.015
	(0.338)	(0.328)	(0.324)	(0.985)
Household has internet	0.372	0.341	0.366	0.489
	(0.484)	(0.474)	(0.482)	(0.614)
Plans to enroll in lower secondary	0.695	0.621	0.655	2.474
	(0.461)	(0.485)	(0.476)	(0.087)
Student is in child labor	0.541	0.576	0.587	1.123
	(0.499)	(0.494)	(0.493)	(0.327)
Joint Orthogonality Chi-Square				22.407
				(0.319)
Bivariate Orthogonality F-Stat	1.503 [a]	0.482 [b]		1.549 [c]
	(0.143)	(0.900)		(0.127)
Observations	653	660	689	

Notes: Columns 1-3 report the mean of each variable for the mentoring, information, and control groups, respectively, with standard deviations shown in parentheses. Column 4 reports the F-statistic and its associated p-value (in parentheses) for the null hypothesis that treatment status does not predict each individual outcome variable, controlling for age, gender, and stratum fixed effects, except for Age (does not include age fixed effects) and Female (does not include gender fixed effects). The chi-square joint orthogonality tests the null that treatment assignment does not predict baseline characteristics. [a] The bivariate test in Column 1 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and control arms. [b] The bivariate test in Column 2 tests the hypothesis that there are no differences in baseline characteristics between the information and control arms. [c] The bivariate test in Column 4 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and information arms. Orthogonality tests include stratum fixed effects. All standard errors are clustered at the school level.

Table 18: Balance of Baseline Variables (Above median household wealth index)

Variable	Mentoring Mean (1)	Information Mean (2)	Control Mean (3)	F-Stat (p-value) (4)
Age	12.364	12.503	12.347	2.204
	(1.018)	(1.051)	(1.012)	(0.113)
Female	0.520	0.481	0.457	1.805
	(0.500)	(0.500)	(0.499)	(0.167)
Spanish	0.720	0.641	0.658	1.941
	(0.449)	(0.480)	(0.475)	(0.146)
Household Size	6.984	7.620	7.653	2.322
	(3.210)	(3.619)	(3.482)	(0.101)
Mom and dad coresidents	0.728	0.707	0.711	0.279
	(0.445)	(0.456)	(0.454)	(0.757)
Household has running water	0.929	0.939	0.955	0.815
	(0.258)	(0.240)	(0.209)	(0.444)
Household has electricity	0.992	0.984	0.986	0.730
	(0.089)	(0.125)	(0.119)	(0.483)
Household has internet	0.623	0.551	0.557	1.427
	(0.485)	(0.498)	(0.497)	(0.242)
Plans to enroll in lower secondary	0.728	0.644	0.682	3.600
	(0.445)	(0.480)	(0.466)	(0.029)
Student is in child labor	0.561	0.583	0.588	0.206
	(0.497)	(0.494)	(0.493)	(0.814)
Plans to migrate outside Guatemala	0.129	0.141	0.165	0.726
	(0.336)	(0.348)	(0.372)	(0.485)
Joint Orthogonality Chi-Square				32.104
				(0.076)
Bivariate Orthogonality F-Stat	1.721 [a]	0.677 [b]		2.160 [c]
	(0.074)	(0.758)		(0.020)
Observations	379	376	418	

Notes: Columns 1-3 report the mean of each variable for the mentoring, information, and control groups, respectively, with standard deviations shown in parentheses. Column 4 reports the F-statistic and its associated p-value (in parentheses) for the null hypothesis that treatment status does not predict each individual outcome variable, controlling for age, gender, and stratum fixed effects, except for Age (does not include age fixed effects) and Female (does not include gender fixed effects). The chi-square joint orthogonality tests the null that treatment assignment does not predict baseline characteristics. [a] The bivariate test in Column 1 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and control arms. [b] The bivariate test in Column 2 tests the hypothesis that there are no differences in baseline characteristics between the information and control arms. [c] The bivariate test in Column 4 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and information arms. Orthogonality tests include stratum fixed effects. All standard errors are clustered at the school level.

Table 19: Balance of Baseline Variables (Below median household wealth index)

Variable	Mentoring Mean (1)	Information Mean (2)	Control Mean (3)	F-Stat (p-value) (4)
Age	12.684	12.637	12.569	0.607
	(1.150)	(1.136)	(1.063)	(0.546)
Female	0.512	0.495	0.528	0.350
	(0.501)	(0.501)	(0.500)	(0.705)
Spanish	0.585	0.523	0.626	1.424
	(0.493)	(0.500)	(0.485)	(0.243)
Household Size	7.157	6.961	7.236	0.641
	(2.905)	(2.502)	(3.175)	(0.528)
Mom and dad coresidents	0.702	0.681	0.685	0.103
	(0.458)	(0.467)	(0.465)	(0.902)
Household has running water	0.668	0.617	0.636	0.472
	(0.471)	(0.487)	(0.482)	(0.625)
Household has electricity	0.739	0.775	0.777	0.185
	(0.440)	(0.418)	(0.417)	(0.831)
Household has internet	0.125	0.148	0.174	2.066
	(0.332)	(0.355)	(0.380)	(0.129)
Plans to enroll in lower secondary	0.648	0.606	0.621	0.446
	(0.478)	(0.489)	(0.486)	(0.641)
Student is in child labor	0.555	0.584	0.577	0.534
	(0.498)	(0.494)	(0.495)	(0.587)
Plans to migrate outside Guatemala	0.157	0.127	0.128	1.233
	(0.364)	(0.333)	(0.335)	(0.293)
Joint Orthogonality Chi-Square				23.307
				(0.385)
Bivariate Orthogonality F-Stat	1.407 [a]	0.769 [b]		0.944 [c]
	(0.175)	(0.670)		(0.500)
Observations	383	386	390	

Notes: Columns 1-3 report the mean of each variable for the mentoring, information, and control groups, respectively, with standard deviations shown in parentheses. Column 4 reports the F-statistic and its associated p-value (in parentheses) for the null hypothesis that treatment status does not predict each individual outcome variable, controlling for age, gender, and stratum fixed effects, except for Age (does not include age fixed effects) and Female (does not include gender fixed effects). The chi-square joint orthogonality tests the null that treatment assignment does not predict baseline characteristics. [a] The bivariate test in Column 1 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and control arms. [b] The bivariate test in Column 2 tests the hypothesis that there are no differences in baseline characteristics between the information and control arms. [c] The bivariate test in Column 4 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and information arms. Orthogonality tests include stratum fixed effects. All standard errors are clustered at the school level.

Table 20: Balance of Baseline Variables (High dropout school)

Variable	Mentoring Mean (1)	Information Mean (2)	Control Mean (3)	F-Stat (p-value) (4)
Age	12.601	12.542	12.431	1.500
	(1.055)	(1.092)	(1.018)	(0.227)
Female	0.506	0.473	0.486	0.400
	(0.501)	(0.500)	(0.500)	(0.671)
Spanish	0.550	0.504	0.629	2.909
	(0.498)	(0.501)	(0.484)	(0.058)
Household Size	7.225	7.175	7.770	2.529
	(2.904)	(3.030)	(3.618)	(0.084)
Mom and dad coresidents	0.743	0.689	0.687	1.441
	(0.438)	(0.464)	(0.464)	(0.241)
Household has running water	0.749	0.802	0.776	0.368
	(0.435)	(0.399)	(0.417)	(0.693)
Household has electricity	0.858	0.859	0.871	0.039
	(0.350)	(0.349)	(0.336)	(0.962)
Household has internet	0.402	0.321	0.378	1.938
	(0.491)	(0.468)	(0.485)	(0.148)
Plans to enroll in lower secondary	0.583	0.553	0.541	0.486
	(0.494)	(0.498)	(0.499)	(0.616)
Student is in child labor	0.564	0.616	0.582	0.707
	(0.497)	(0.487)	(0.494)	(0.495)
Plans to migrate outside Guatemala	0.154	0.116	0.159	1.078
	(0.361)	(0.320)	(0.366)	(0.344)
Joint Orthogonality Chi-Square				49.231
				(0.001)
Bivariate Orthogonality F-Stat	1.458 [a]	2.127 [b]		2.384 [c]
	(0.164)	(0.027)		(0.013)
Observations	338	389	434	

Notes: Columns 1-3 report the mean of each variable for the mentoring, information, and control groups, respectively, with standard deviations shown in parentheses. Column 4 reports the F-statistic and its associated p-value (in parentheses) for the null hypothesis that treatment status does not predict each individual outcome variable, controlling for age and gender, except for Age (does not include age fixed effects) and Female (does not include gender fixed effects). The chi-square joint orthogonality tests the null that treatment assignment does not predict baseline characteristics. [a] The bivariate test in Column 1 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and control arms. [b] The bivariate test in Column 2 tests the hypothesis that there are no differences in baseline characteristics between the information and control arms. [c] The bivariate test in Column 4 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and information arms. All standard errors are clustered at the school level.

Table 21: Balance of Baseline Variables (Low dropout school)

Variable	Mentoring Mean (1)	Information Mean (2)	Control Mean (3)	F-Stat (p-value) (4)
Age	12.465	12.601	12.481	0.580
	(1.127)	(1.102)	(1.070)	(0.562)
Female	0.524	0.504	0.497	0.318
	(0.500)	(0.501)	(0.501)	(0.728)
Spanish	0.733	0.662	0.658	1.024
	(0.443)	(0.474)	(0.475)	(0.363)
Household Size	6.948	7.402	7.083	0.755
	(3.177)	(3.210)	(2.952)	(0.473)
Mom and dad coresidents	0.693	0.700	0.711	0.047
	(0.462)	(0.459)	(0.454)	(0.954)
Household has running water	0.837	0.748	0.829	1.430
	(0.370)	(0.435)	(0.377)	(0.244)
Household has electricity	0.870	0.898	0.901	0.257
	(0.336)	(0.303)	(0.299)	(0.774)
Household has internet	0.349	0.373	0.366	0.174
	(0.477)	(0.484)	(0.482)	(0.840)
Plans to enroll in lower secondary	0.771	0.700	0.781	1.361
	(0.421)	(0.459)	(0.414)	(0.261)
Student is in child labor	0.553	0.549	0.584	0.294
	(0.498)	(0.498)	(0.494)	(0.746)
Plans to migrate outside Guatemala	0.134	0.153	0.134	0.249
	(0.342)	(0.360)	(0.341)	(0.780)
Joint Orthogonality Chi-Square				16.829
				(0.773)
Bivariate Orthogonality F-Stat	0.446 [a]	1.101 [b]		0.801 [c]
	(0.929)	(0.374)		(0.638)
Observations	424	373	374	

Notes: Columns 1-3 report the mean of each variable for the mentoring, information, and control groups, respectively, with standard deviations shown in parentheses. Column 4 reports the F-statistic and its associated p-value (in parentheses) for the null hypothesis that treatment status does not predict each individual outcome variable, controlling for age and gender, except for Age (does not include age fixed effects) and Female (does not include gender fixed effects). The chi-square joint orthogonality tests the null that treatment assignment does not predict baseline characteristics. [a] The bivariate test in Column 1 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and control arms. [b] The bivariate test in Column 2 tests the hypothesis that there are no differences in baseline characteristics between the information and control arms. [c] The bivariate test in Column 4 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and information arms. All standard errors are clustered at the school level.

Table 22: Balance of Baseline Variables (Small school)

Variable	Mentoring Mean (1)	Information Mean (2)	Control Mean (3)	F-Stat (p-value) (4)
Age	12.530	12.530	12.396	1.091
	(1.104)	(1.092)	(1.010)	(0.339)
Female	0.503	0.461	0.465	0.720
	(0.501)	(0.499)	(0.500)	(0.489)
Spanish	0.624	0.622	0.639	0.009
	(0.485)	(0.486)	(0.481)	(0.991)
Household Size	7.058	7.037	7.307	0.492
	(2.924)	(2.887)	(3.430)	(0.613)
Mom and dad coresidents	0.715	0.702	0.661	1.026
	(0.452)	(0.458)	(0.474)	(0.361)
Household has running water	0.785	0.791	0.820	0.286
	(0.412)	(0.407)	(0.385)	(0.752)
Household has electricity	0.870	0.860	0.877	0.073
	(0.337)	(0.348)	(0.329)	(0.930)
Household has internet	0.376	0.344	0.386	0.361
	(0.485)	(0.476)	(0.488)	(0.698)
Plans to enroll in lower secondary	0.655	0.599	0.696	1.429
	(0.476)	(0.491)	(0.461)	(0.243)
Student is in child labor	0.576	0.607	0.613	0.402
	(0.495)	(0.489)	(0.488)	(0.670)
Plans to migrate outside Guatemala	0.144	0.123	0.142	0.235
	(0.351)	(0.329)	(0.350)	(0.791)
Joint Orthogonality Chi-Square				17.694
				(0.724)
Bivariate Orthogonality F-Stat	0.927 [a]	1.070 [b]		0.486 [c]
	(0.518)	(0.394)		(0.908)
Observations	362	349	316	

Notes: Columns 1-3 report the mean of each variable for the mentoring, information, and control groups, respectively, with standard deviations shown in parentheses. Column 4 reports the F-statistic and its associated p-value (in parentheses) for the null hypothesis that treatment status does not predict each individual outcome variable, controlling for age and gender, except for Age (does not include age fixed effects) and Female (does not include gender fixed effects). The chi-square joint orthogonality tests the null that treatment assignment does not predict baseline characteristics. [a] The bivariate test in Column 1 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and control arms. [b] The bivariate test in Column 2 tests the hypothesis that there are no differences in baseline characteristics between the information and control arms. [c] The bivariate test in Column 4 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and information arms. All standard errors are clustered at the school level.

Table 23: Balance of Baseline Variables (Larger school)

Variable	Mentoring Mean (1)	Information Mean (2)	Control Mean (3)	F-Stat (p-value) (4)
Age	12.520	12.605	12.492	0.420
	(1.092)	(1.100)	(1.061)	(0.658)
Female	0.527	0.511	0.508	0.173
	(0.500)	(0.500)	(0.500)	(0.841)
Spanish	0.678	0.547	0.644	1.721
	(0.468)	(0.498)	(0.479)	(0.185)
Household Size	7.082	7.496	7.545	1.530
	(3.182)	(3.292)	(3.284)	(0.222)
Mom and dad coresidents	0.715	0.688	0.722	0.376
	(0.452)	(0.464)	(0.449)	(0.688)
Household has running water	0.810	0.763	0.789	0.334
	(0.393)	(0.426)	(0.409)	(0.717)
Household has electricity	0.860	0.893	0.890	0.325
	(0.347)	(0.309)	(0.313)	(0.723)
Household has internet	0.370	0.349	0.364	0.039
	(0.483)	(0.477)	(0.482)	(0.962)
Plans to enroll in lower secondary	0.717	0.646	0.624	1.747
	(0.451)	(0.479)	(0.485)	(0.180)
Student is in child labor	0.542	0.563	0.563	0.118
	(0.499)	(0.497)	(0.496)	(0.889)
Plans to migrate outside Guatemala	0.142	0.143	0.150	0.034
	(0.350)	(0.350)	(0.358)	(0.966)
Joint Orthogonality Chi-Square				17.138
				(0.756)
Bivariate Orthogonality F-Stat	0.605 [a]	0.755 [b]		0.916 [c]
	(0.817)	(0.682)		(0.532)
Observations	400	413	492	

Notes: Columns 1-3 report the mean of each variable for the mentoring, information, and control groups, respectively, with standard deviations shown in parentheses. Column 4 reports the F-statistic and its associated p-value (in parentheses) for the null hypothesis that treatment status does not predict each individual outcome variable, controlling for age and gender, except for Age (does not include age fixed effects) and Female (does not include gender fixed effects). The chi-square joint orthogonality tests the null that treatment assignment does not predict baseline characteristics. [a] The bivariate test in Column 1 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and control arms. [b] The bivariate test in Column 2 tests the hypothesis that there are no differences in baseline characteristics between the information and control arms. [c] The bivariate test in Column 4 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and information arms. All standard errors are clustered at the school level.

Table 24: Balance of Baseline Variables (Lower Secondary Distant)

Variable	Mentoring Mean (1)	Information Mean (2)	Control Mean (3)	F-Stat (p-value) (4)
Age	12.547	12.570	12.421	1.692
	(1.100)	(1.089)	(0.983)	(0.188)
Female	0.523	0.464	0.506	2.027
	(0.500)	(0.499)	(0.500)	(0.135)
Spanish	0.650	0.554	0.638	1.463
	(0.477)	(0.498)	(0.481)	(0.235)
Household Size	7.134	7.430	7.470	1.663
	(2.958)	(3.100)	(3.277)	(0.193)
Mom and dad coresidents	0.717	0.713	0.692	0.323
	(0.451)	(0.453)	(0.462)	(0.724)
Household has running water	0.814	0.780	0.842	1.131
	(0.390)	(0.415)	(0.365)	(0.325)
Household has electricity	0.836	0.857	0.895	1.331
	(0.371)	(0.351)	(0.307)	(0.267)
Household has internet	0.371	0.318	0.352	0.373
	(0.483)	(0.466)	(0.478)	(0.689)
Plans to enroll in lower secondary	0.685	0.619	0.601	2.072
	(0.465)	(0.486)	(0.490)	(0.130)
Student is in child labor	0.567	0.607	0.599	1.158
	(0.496)	(0.489)	(0.491)	(0.317)
Plans to migrate outside Guatemala	0.147	0.148	0.136	0.258
	(0.355)	(0.355)	(0.343)	(0.773)
Joint Orthogonality Chi-Square				36.785
				(0.025)
Bivariate Orthogonality F-Stat	2.790 [a]	0.733 [b]		1.946 [c]
	(0.003)	(0.704)		(0.042)
Observations	537	446	494	

Notes: Columns 1-3 report the mean of each variable for the mentoring, information, and control groups, respectively, with standard deviations shown in parentheses. Column 4 reports the F-statistic and its associated p-value (in parentheses) for the null hypothesis that treatment status does not predict each individual outcome variable, controlling for age, gender, and stratum fixed effects, except for Age (does not include age fixed effects) and Female (does not include gender fixed effects). The chi-square joint orthogonality tests the null that treatment assignment does not predict baseline characteristics. [a] The bivariate test in Column 1 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and control arms. [b] The bivariate test in Column 2 tests the hypothesis that there are no differences in baseline characteristics between the information and control arms. [c] The bivariate test in Column 4 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and information arms. Orthogonality tests include stratum fixed effects. All standard errors are clustered at the school level.

Table 25: Balance of Baseline Variables (Lower Secondary Close)

Variable	Mentoring Mean (1)	Information Mean (2)	Control Mean (3)	F-Stat (p-value) (4)
Age	12.471	12.573	12.506	0.166
	(1.090)	(1.109)	(1.128)	(0.847)
Female	0.498	0.522	0.468	0.530
	(0.501)	(0.500)	(0.500)	(0.591)
Spanish	0.658	0.620	0.650	0.154
	(0.476)	(0.486)	(0.478)	(0.858)
Household Size	6.920	7.082	7.424	0.453
	(3.293)	(3.140)	(3.446)	(0.637)
Mom and dad coresidents	0.711	0.668	0.707	0.497
	(0.454)	(0.472)	(0.456)	(0.610)
Household has running water	0.760	0.769	0.736	0.422
	(0.428)	(0.422)	(0.442)	(0.657)
Household has electricity	0.933	0.908	0.869	0.789
	(0.250)	(0.289)	(0.337)	(0.458)
Household has internet	0.378	0.386	0.404	0.294
	(0.486)	(0.488)	(0.492)	(0.746)
Plans to enroll in lower secondary	0.693	0.633	0.732	3.748
	(0.462)	(0.483)	(0.443)	(0.028)
Student is in child labor	0.536	0.550	0.558	0.260
	(0.500)	(0.498)	(0.497)	(0.772)
Plans to migrate outside Guatemala	0.133	0.114	0.166	0.642
	(0.341)	(0.318)	(0.372)	(0.529)
Joint Orthogonality Chi-Square				26.746
				(0.221)
Bivariate Orthogonality F-Stat	1.037 [a]	1.144 [b]		0.709 [c]
	(0.430)	(0.347)		(0.724)
Observations	225	316	314	

Notes: Columns 1-3 report the mean of each variable for the mentoring, information, and control groups, respectively, with standard deviations shown in parentheses. Column 4 reports the F-statistic and its associated p-value (in parentheses) for the null hypothesis that treatment status does not predict each individual outcome variable, controlling for age, gender, and stratum fixed effects, except for Age (does not include age fixed effects) and Female (does not include gender fixed effects). The chi-square joint orthogonality tests the null that treatment assignment does not predict baseline characteristics. [a] The bivariate test in Column 1 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and control arms. [b] The bivariate test in Column 2 tests the hypothesis that there are no differences in baseline characteristics between the information and control arms. [c] The bivariate test in Column 4 tests the hypothesis that there are no differences in baseline characteristics between the mentoring and information arms. Orthogonality tests include stratum fixed effects. All standard errors are clustered at the school level.

7 Appendix 1: Syllabus of Mentoring Sessions

7.1 Sessions with students

The following sessions are conducted in groups. After each group session, two individual 30-minute sessions are conducted. During these sessions, the mentor focuses on the particular situation of each student and provides personalized mentoring. Each student will have a minimum of two individual sessions as part of the program. The remaining individual sessions will be assigned to students who need them most as determined by the mentor.

7.1.1 Session 1: What do I want to be?

- Students become familiar with the program and the objective of the project
- Students reflect on their life plans and whether education will help them realize them

7.1.2 Session 2: Self-Esteem

- Children recognize that they have inner value and that they are important
- I can be wrong or make mistakes: Making mistakes is a normal part of life and does not make us bad or less valuable people
- Children recognize that they have the qualities to succeed in school and achieve their goals

7.1.3 Session 3: Getting to know professions and careers

- Children identify which professions and careers they could choose according to their tastes, preferences, goals, and dreams
- Children learn the routes of the educational system to become a professional

7.1.4 Session 4: Children's rights in the family context

- Explanation of children's rights: right to education, reproductive rights
- Discussion of the risks and consequences of dropping out of school
- Discussion of the risks, consequences, and prevention of teenage pregnancies

7.1.5 Session 5: Child Labor in Guatemala and Quiché

- Children learn about what is child labor and what is not, discussing consequences and risks
- Reflection on the distribution of each student's time in and out of school
- Life stages and priorities at each stage: Prioritizing school over work in childhood and adolescence

7.1.6 Session 6: Migration and Human Trafficking

- Children learn to identify types of migration and its causes
- Develop an understanding of independent migration and the risks faced by children and adolescents
- Definition and types of human trafficking
- Children learn about the frequent discourses used by traffickers and reflect on the risks faced by children and adolescents who become victims
- Learn about institutions and resources available for help

7.1.7 Session 7: Importance of lower secondary education for a better future

- Develop awareness of the impact that education in general, and lower secondary education in particular, can have on their lives
- Students recognize that learning is a beautiful thing that can help them grow and achieve their goals

7.1.8 Session 8: Getting to know my lower secondary school

- This session was actually conducted as the next to last session in all schools
- Mentors show students a video of a visit to a lower secondary school that is similar to a neighboring school (urban/rural)
- Mentors discuss with students how to enroll, attend, and transport themselves to the nearest lower secondary school

7.1.9 Session 9: Growth Mindset

- Children learn that skills and attitudes can be learned and developed with effort and practice, and are not fixed or determined.
- Children recognize that they can develop the qualities they still lack to succeed in school and in life

7.1.10 Session 10: Looking for alternatives to study

- Children learn alternatives to continue studying if their families' resources limit these possibilities
- Invite NGOs that provide scholarships or CCTs to inform about their programs

7.1.11 Session 11: Perseverance and effort

- Children understand the importance of completing homework assignments
- Children learn to be self-motivated to achieve their goals and do good quality tasks

7.1.12 Session 12: Making decisions

- Children understand the steps of decision-making and goal-setting, developing independence and initiative skills to make decisions.

7.1.13 Session 13: Communication and conflict resolution

- Children learn strategies for resolving conflicts or coping with problems
- Children can listen to and consider the opinions, views, and feelings of others

7.1.14 Session 14: My life project

- Children learn to differentiate between short-term and long-term goals
- Children make a life plan with their long-term goals
- Children define their short-term goals, which could help them realize their life project

7.1.15 Session Delivery Adjustments

Some schools experienced session delays due to local holidays or school activities. To ensure all schools in the mentoring arm received every session before the school year ended, sessions 12 and 13 were merged into a single session for 41 schools, covering the content of both sessions. Other schools received double sessions—two full sessions in one day—and only one school received three full sessions in a single day. The table below shows the number of schools receiving double sessions.

Table 26: Number of Schools Experiencing Multiple Mentoring Sessions in One Day

Sessions Given in the Same Day	Number of schools
2 and 3	4
3 and 4	1
4 and 5	5
5 and 7	2
6 and 7	8
7 and 9	2
9 and 10	1
9, 10 and 11	1
9 and 11	1
10 and 11	7
13 and 14	1

These are sessions delivered in the same day. Each session is delivered in full.

7.2 Sessions with caregivers

Work with caregivers involves three meetings with all caregivers, and individual meetings with prioritized caregivers in their home or a place of their choice (like a school) in case it was more convenient for them. A prioritized caregiver is the person in charge of a student with a higher risk of dropping out of school (low grades, lack of motivation, lack of parental support).

7.2.1 Initial meeting with caregivers

- Presentation of the program: issues, objectives, program activities aimed at teachers, caregivers, and students
- Describe role of caregivers in program development
- Basic information on returns to education, dropout rates, risks associated with child labor and human trafficking

7.2.2 Second meeting with caregivers

- Conducted after the first eleven weeks of mentoring with students
- Provide information on the transition to lower secondary
- Highlight benefits of education for the future of students, and the importance of lower secondary school for subsequent education opportunities
- Provide information on scholarships for different education levels

- Introduce locally famous people and their professions
- Discussion of progress made, challenges faced, proposals for the future and the role of caregivers in the continuity of the program
- Receive caregiver suggestions

7.2.3 Third meeting with caregivers

- Highlight children's rights, like access to education
- Discuss causes and consequences of school dropout, and provide information on returns to education and salary ranges by career and education level in Guatemala
- Describe child labor, its consequences, and how to report situations of child labor
- Discuss migration and risks related to unaccompanied child migration, including types of human trafficking and where to report potential human trafficking situations

7.2.4 Individual visits at home

- Talk with caregivers about the importance of education for the student's future. The student's presence was optional in these discussions
- Listen to caregiver suggestions and alternatives are proposed to continue with the student's education
- General tips for parents to support the student's education as provided by the mentor. Tailored advice was provided depending on the family/student situation
- At the end of the talk, the agreed commitments are highlighted

7.3 Sessions with teachers

7.3.1 Initial Session with teachers and director

- Presentation of the program: issues, objective, program activities aimed at teachers, caregivers and students
- Teacher suggestions for improving the program
- Discussion of each student's situation to focus on individual sessions
- Basic information on returns from education, school dropout rates, risks associated with child labor and human trafficking
- Role and commitment of teachers during the development of the program

7.3.2 Mid-term evaluation session

Note: This session was merged with the second caregiver session. Only the follow-up for each student detailed below happened only with teachers, without the parents' presence.

- Discussion of progress made, challenges faced, proposals for the future after the first eleven student sessions
- Role and commitment of teachers for program continuity
- Teacher feedback and suggestions
- Follow up of each student's progress and challenges (this was not part of the merged session with caregivers)

7.3.3 Final evaluation session

Note: This session was merged with the last caregiver session per teachers' request.

- Final presentation of program progress
- Role of teachers beyond the project, including agreements with teachers on how to promote the transition process to lower secondary education
- Final thanks to the teachers

7.4 Closing activity

After all sessions were completed, each school had a closing activity in which children, caregivers and teachers were awarded a diploma for completion of the sessions. Students were also gifted a student kit of school supplies (geometry tools, pencils, notebooks) and the caregivers were given a bag of groceries and supplies worth 20 Guatemalan Quetzales.

8 Appendix 2: Syllabus of Information Sessions

For the information treatment, two sessions were designed to align with the information covered in the mentoring sessions. Students received two separate sessions, while caregivers and teachers each had one session, followed by a joint session for both groups, totaling five scheduled sessions. Each session included a presentation followed by a discussion, with time for questions after each topic. The lack of computers and projectors in schools made it infeasible to have PowerPoint presentations. Instead, posters were printed to be explained and shown to the participants. At the end of each session, participants were given a leaflet summarizing the information covered.

8.1 Session 1

- Session content corresponds to student sessions 3, 7, 8, 10
- Leaflet includes information on returns to schooling, professions and educational opportunities, alternatives to study, etc.

8.2 Session 2

- Session content corresponds to student sessions 4, 5, 6, 7
- Leaflet includes information sheet on child labor, migration, human trafficking and returns to education (salaries).

8.3 Closing activity

After all sessions were completed, each school had a closing activity in which children, caregivers and teachers were awarded a diploma for completion of the sessions. Students were also gifted a student kit of school supplies (geometry tools, pencils, notebooks) and the caregivers were given a bag of groceries and supplies worth 20 Guatemalan Quetzales.

9 Appendix 3: Monitoring strategies and data quality at Baseline

Several strategies were employed to assure data quality in the baseline survey.

- *WhatsApp chat groups:* First line of field monitoring and coordination, facilitating the communication between supervisors, enumerators, and the research team. Three separate groups were made:
    1. Enumerators' daily reports: The first group included field enumerators and the research team. The group's primary purpose was for enumerators to make daily productivity reports and notify the research team of any problems encountered during data collection. The research team used the group to make announcements of form updates and global feedback based on responses received during data collection.
    2. Supervisors' monitoring: The second group included the field supervisors and the research team. Its purpose was to inform supervisors of anything they should monitor closely with the enumerators, such as errors the research team could notice in the usage of the collection instrument by an enumerator or pending submissions from one of the teams.

3. Coordination: The third group included the field coordinator, the data collection administrative team, and the research team. This group coordinated how the visits would be conducted during each week of the collection and inform of problems that could arise with the principals or locals around the schools that were visited.

- *High Frequency Checks (HFC):* HFCs are a series of programmed checks that the research team runs at least twice a day on the collected data. The HFCs are meant to ensure the quality of collected data and monitor closely the forms submitted to the server. The checks were useful in determining whether enumerators submitted all surveys each day, checking for duplicate submissions or errors, and checking the latest collection instrument was being used. The outputs obtained via the HFC were used to provide feedback to the enumerators and to contrast the productivity reported by the supervisors

- *Power BI dashboard:* To maintain all parties involved updated on the progress of the baseline collection, a Power BI dashboard was used to summarize the relevant statistics, such as total number of schools surveyed and the average percentage of respondents. The dashboard also included information on the daily productivity of each enumerator, allowing supervisors to compare the information received by the database with the information reported by each enumerator.

- *Audits:* IPA programmed the surveys to record audio of certain sections to evaluate and ensure the correct application of survey protocols. IPA recorded the enumerator's application of some relevant questions in the sections of Child consent, Household, Education, Work, Migration, Human Trafficking and Recontact information. IPA audited a total of 200 surveys (8.5% of the total sample). The survey audit results indicated 92% were executed with no errors, 7% with few minor errors, and 1% had some audio problems that prevented the audit from being completed.

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