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Bureau of International Labor Affairs**

**Closing the Child Labor and Forced Labor
Evidence Gaps: Impact Evaluations**

**Impact Evaluation of
Young Potential Development Program in Ecuador**

Draft Baseline Data Report

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ABSTRACT

In 2014, the U.S. Department of Labor Bureau of International Labor Affairs selected IMPAQ International, LLC, to design and implement a number of randomized controlled trial evaluations of the effectiveness of child labor interventions in diverse countries, including India, Malawi, Costa Rica, Ecuador, and Rwanda. In Ecuador, IMPAQ is evaluating Young Potential Development (YPD), a program implemented in municipal schools in Quito that targets at-risk youth between 15 and 25 years of age who have dropped out and have missed one to three years of school. These youth often engage in hazardous child labor and face substantial challenges such as teen pregnancy, violence in the home, gang activities, migration, and substance abuse. The objective of the YPD program is to develop youths' interpersonal, career-oriented, and socioemotional skills to prepare them for higher education, productive work, and entrepreneurship. To identify the impact of the intervention, the evaluation will study the effect of the intervention on hazardous child labor and education outcomes among minors. This report describes the baseline data collection activities and presents an analysis of the baseline data. The results indicate that overall baseline equivalence exists between the treatment and control groups.

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EXECUTIVE SUMMARY

IMPAQ International, LLC, was awarded a grant to conduct evaluations of child labor mitigation programs in Ecuador, Costa Rica, India, Rwanda, and Malawi for the U.S. Department of Labor Bureau of International Labor Affairs. This report presents an assessment of baseline characteristics for the evaluation of the Young Potential Development (YPD) program in Ecuador. The YPD program is an add-on school curriculum and teacher professional development initiative implemented in several municipal schools in Quito, Ecuador. YPD is part of the *Ciclo Básico Acelerado* (CBA), a municipal initiative of the Quito Secretariat of Education that targets at-risk youth between 15 and 25 years old who dropped out of middle school. The CBA program is designed to allow at-risk youth to complete middle school, with the goal of encouraging them to continue later with their high school studies. What distinguishes the YPD program from the rest of the CBA curriculum is its focus on strengthening the socioemotional (also known as *social-emotional* or, more broadly, as *noncognitive*) skills of these at-risk youth.

Specifically, YPD's goal is to help CBA teachers innovate in their daily classroom practices by fostering a dynamic learning environment and student interaction. The YPD program trains and supports teachers to adopt interactive teaching methods that foster students' socioemotional skills. As described in detail in this report, this evaluation assesses to what extent focusing on the socioemotional skills of at-risk youth can generate changes in both school and labor outcomes.

To identify the impact of the YPD intervention, the evaluation team will study the effects of the intervention on hazardous child labor, education, and other outcomes. The main confirmatory research question is:

- Does the YPD program affect the likelihood of beneficiaries participating in hazardous child labor?

The exploratory research questions include:

- Does the YPD program affect the likelihood of beneficiaries working or not?
- Does the YPD program affect the likelihood of beneficiaries participating in hazardous labor?
- Does the YPD program affect the beneficiaries' number of hours worked?
- Does the YPD program affect the likelihood of beneficiaries participating in irregular employment?
- Does the YPD program affect the types of activities youth are involved in outside the school, including potentially risky and illicit activities?
- Does the YPD program affect the number of hours working in household chores?
- Does YPD improve beneficiaries' self-efficacy?
- Does YPD improve beneficiaries' social skills (conflict resolution, communication skills, and assertiveness)?

- What is the impact of the YPD program on beneficiaries' education and career aspirations?
- What is the impact of the YPD program on beneficiaries' disciplinary infractions?
- What is the impact of the YPD program on beneficiaries' school attendance/absences?
- Do CBA students exposed to YPD have higher completion rates than regular CBA students?
- What is the impact of the YPD program on beneficiaries' test scores?

The main confirmatory outcome is hazardous child labor. Because the minimum working age in Ecuador is 15, child labor definition does not fully apply to our target population (i.e. child labor other than hazardous child labor). However, since minimum age for working under hazardous conditions is 18, we are studying the prevalence of hazardous child labor among students age 15 to 17. To measure the prevalence of hazardous child labor, the evaluation team used measures based on International Labour Organization (ILO) guidelines that are integrated in Ecuadorian legislation, focusing on minors younger than 18 years of age.

For youth younger than 18, hazardous labor is measured using the same definition of hazardous child labor as described in detail in Appendix A. In other words, hazardous labor for youth younger than 18 is equivalent to hazardous child labor. We also measure hazardous labor for the entire sample of youth including older students (i.e. ages 18 to 25). The main difference in the way we measure hazardous labor for youth 18 years of age or older is that we consider hazardous work if the youth worked more than 43 hours a week instead of 30 hours a week used for the minor population.

To evaluate the YPD program, we implemented a randomized controlled trial study in seven municipal schools in Quito, the capital of Ecuador. We randomized a total of 806 younger students 15–17 years of age to different classrooms within each school, assigning 403 to treatment classrooms and 403 to control classrooms. The treatment group and control group of younger students each included 11 classrooms. We also stratified students by gender, so that we have balanced representation of boys and girls in the treatment and control groups.

Due to their small numbers within school, the random assignment of the 277 older students to different classrooms was not possible in most schools. In fact, we randomly assigned older students to treatment and control classrooms in only one school (Fernandez Madrid) and we assigned all older students into a single classroom in the remaining six schools.

As part of the evaluation activities, IMPAQ, together with our field data collection partner, Opinión Pública Ecuador, conducted a baseline student survey to collect information on students and whether they were involved in hazardous (child) labor. These data collection activities were conducted from August 2016 through May 2017.

The report presents summary baseline characteristics for: (1) the sample of younger students only; (2) the combined sample including all students; (3) the sample of older students (for hazardous labor measure only).

After a careful review of the data, the evaluation team concluded that for the sample of younger students baseline equivalence has been attained for all main demographic and background characteristics and outcomes: hazardous child labor incidence, other youth employment activities, education aspirations, and socioemotional skills. Results for the entire sample including both younger and older students are similar to the ones for the younger students. The main findings are described below.

Student Demographic Characteristics

Younger Students

- The analytic study sample of younger students consists of 634 minor youth (15–17 years of age), 318 in the treatment group and 316 in the control group.
- The average age among youth in the sample is just over 16 years. Females comprise 37 percent of the treatment group and 38 percent of the control group.
- On average, youth in the treatment and control groups dropped out of school two years ago. The most common reason youth reported for dropping out was school disengagement: 43 percent of the treatment group and 36 percent of the control group said that they did not consider school interesting or valuable or that they did not do well in school.
- There were generally no statistically significant differences in student background characteristics, except for the fathers' level of education.

All Students

- The analytic study sample of all students consists of 863 students, 429 in the treatment group and 434 in the control group.
- The average age among youth in the sample is just over 17 years. Females comprise 42 percent of the treatment group and the control group.
- On average, youth in the treatment and control groups dropped out of school three years ago. The most common reason youth reported for dropping out was school disengagement: 39 percent of the treatment group and 33 percent of the control group said that they did not consider school interesting or valuable or that they did not do well in school.
- There were generally no statistically significant differences in student background characteristics, except for the fathers' level of education and the fact that control students are 6.2 percentage points more likely to engage in the family business relative to the treatment students.

Prevalence of Hazardous (Child) Labor

Younger Students

- The data indicate that 39 percent of youth in the treatment group and 43 percent of youth in the control group were engaged in hazardous child labor.
- There are no statistically significant differences between treatment and control groups in the prevalence of hazardous child labor or its components.

All Students

- The data indicate that 44 percent of all students in the treatment group and 48 percent of all students in the control group were engaged in hazardous labor.
- There are no statistically significant differences between treatment and control groups in the prevalence of hazardous labor or its components.

Older students

- We also analyzed the incidence of hazardous labor for the sample of older students only. The results indicate that 55 percent of older students in the treatment group are involved in hazardous labor, compared to 62 percent in the control group.
- The data indicate no statistically significant differences in the prevalence of hazardous labor and its individual components between the treatment and control groups in the older students' sample.

Other Youth Employment Activities

Younger Students

- Almost all youth did some type of household chores in the week before the survey (95 and 96 percent in treatment and control groups, respectively). Treatment youth spent an average of 12 hours and control youth 11 hours a week in chores during the previous week. Chores were performed at night by 24 percent of treatment youth and 28 percent of control youth. There are no statistically significant differences in the incidence of household chores and types between treatment and control groups.
- The data indicate that a substantial proportion of youth were working in conditions that are not stable or conducive to productive employment opportunities. Specifically, 24 percent of treatment youth and 27 percent of control youth were engaged in “irregular employment” as defined by ILO.
- In addition, 15 percent of youth in the treatment group and 18 percent of youth in the control group were currently or had previously been part of a gang. Current or past drug use was reported by 21 percent of treatment youth and 20 percent of control youth.
- There are no statistically significant differences between treatment and control group members in the measures of other youth activities.

All Students

- Almost all students did some type of household chores in the week before the survey (96 and 97 percent in treatment and control groups, respectively). Treatment and control youth spent an average of 12 hours a week in chores during the previous week. Chores were performed at night by 28 percent of treatment youth and 29 percent of control youth. There are no statistically significant differences in the incidence of household chores and types between treatment and control groups.
- The data indicate that a substantial proportion of youth were working in conditions that are not stable or conducive to productive employment opportunities. Specifically, 27 percent of treatment youth and 30 percent of control youth were engaged in “irregular employment” as defined by ILO.
- In addition, 17 percent of youth in the treatment group and 19 percent of youth in the control group were currently or had previously been part of a gang. Current or past drug use was reported by 22 percent of treatment and control youth.
- There are no statistically significant differences between treatment and control group members in the measures of other youth activities except for the incidence of students who prefer not to answer the drug use related question (higher in the control than treatment group).

Socioemotional Skills

Younger Students

- The data indicate that younger students in the treatment and control groups had similar average levels of self-efficacy and social skills. The average level of self-efficacy was 30 out of 40 points for the treatment group and 31 points for the control group. The average level of social skills was 31 out of 48 points for the treatment group and 31 points for the control group. There are no statistically significant differences between treatment and control group members in the measures of socioemotional skills.

All Students

- The data indicate that students in the treatment and control groups had similar average levels of self-efficacy and social skills. The average level of self-efficacy was 31 out of 40 points for the treatment group and 30 points for the control group. The average level of social skills was 31 out of 48 points for both the treatment group and the control group. There are no statistically significant differences between treatment and control group members in the measures of socioemotional skills.

1. OVERVIEW OF THE INTERVENTION

This chapter provides an introduction to the evaluation, an outline of the policy context and prior research (Section 1.2), and a description of the intervention (Section 1.3).

1.1 Introduction

According to the International Labour Organization (ILO), an estimated 168 million children are engaged in child labor worldwide, with more than 85 million performing hazardous forms of work daily.¹ A substantial body of evidence documents the detrimental effects of child labor on children's health, development, education access and attainment, and economic outcomes.² However, there is still not enough evidence on the types of policy interventions that are most effective in mitigating harmful practices and in eliminating child labor. The paucity of rigorous randomized controlled trial studies exacerbates the knowledge gap.

To help close this gap, the U.S. Department of Labor Bureau of International Labor Affairs (ILAB) awarded a grant to IMPAQ International, LLC (IMPAQ) to conduct impact evaluations of programs in Costa Rica, Ecuador, India, Malawi, and Rwanda. These programs are designed to eliminate forced labor, human trafficking, and the worst forms of child labor. The goal of the program evaluations is to generate evidence about the relevance, efficacy, and integrity of these interventions in achieving their intended program outcomes. This report focuses on the evaluation of the Young Potential Development (YPD) program in Ecuador.

1.2 Policy Context and Prior Research

There is no consensus on the main determinants of child labor and, by extension, on the best policies to combat it. One school of thought considers poverty and economic destitution to be the principal drivers of child labor. According to this line of reasoning, poverty alleviation schemes are the most appropriate remedy. Another school of thought attributes equal—if not paramount—importance to social and cultural norms in shaping attitudes and beliefs about the permissibility of child labor practices and low student enrollment. In this view, educational interventions such as compulsory schooling or the provision of quality education and rights awareness training can dramatically alter perceptions about the special protections that should be accorded to children.³

¹ International Labour Organization, International Programme on the Elimination of Child Labour. (2013). *Marking progress against child labour: Global estimates and trends 2000–2012*. Retrieved from http://www.ilo.org/ipec/Informationresources/WCMS_221513/lang--en/index.htm

² Lyon, S. Rosati, F. C., & Guarcello, L. (2008). *Child labour and education for all: An issues paper*. Retrieved from http://www.ucw-project.org/Pages/bib_details.aspx?id=11772&Pag=4&Year=-1&Country=-1&Author=-1

³ Hazarika, G., & Bedi, A. S. (2006). *Child work and schooling costs in rural northern India*. (IZA Working Paper); Basu, K. (1999). Child labor: Cause, consequence, and cure, with remarks on International Labor Standards. *Journal of Economic Literature*, 37(3), 1083–1119; Edmonds, E.V., & Pavcnik, N. (2005). Child labor in the global economy. *Journal of Economic Perspectives*, 19(1), 199–220.

The child labor research offers important insights into the complexities of the child labor problem, but it still leaves many questions unanswered. This evaluation contributes to the evidence base on interventions to alleviate child labor and thus helps to narrow the knowledge gap. Specifically, this study focuses on the role of socioemotional skills in improving youth outcomes. Socioemotional skills are described in the literature as “those attitudes, behaviors, and strategies which facilitate success in school and workplace, such as motivation, perseverance, and self-control.” They are termed *socioemotional skills*—or *social, emotional, and affective skills*—to differentiate them from cognitive or academic skills.⁴

Socioemotional skills have largely been overlooked in international development programming until recently. However, research evidence indicates that socioemotional skills often predict meaningful life outcomes with as much power as cognitive skills do—or more. In fact, socioemotional skills may not only have strong positive effects on improving academic learning; they can also be associated with positive effects later in life, such as improving health and labor outcomes and reducing crime rates.⁵

This impact study of the effectiveness of the YPD program contributes to the research literature in several ways. The evaluation design provides causal evidence of program impacts on youth outcomes. Because YPD targets adolescents, our study helps expand the evidence base on effective adolescent remediation programs. Furthermore, to begin to understand the mechanisms of change, we investigate a much more comprehensive set of outcomes than previous research has examined. These outcomes include cognitive skills, as measured by test scores; self-reported measures of socioemotional skills and behavioral indicators that can be considered proxies for socioemotional development, such as school attendance, program completion, and disciplinary infractions; and labor market outcomes such as likelihood of working, likelihood of participating in hazardous work, number of hours worked, likelihood of participating in irregular employment, and likelihood of participating in other risky activities. (See Section 2.1 for a detailed list of research questions and outcomes.)

1.3 Description of the Program

According to the Quito Secretariat of Education, the main local government office that oversees education programs in municipal schools in the capital city of Ecuador, about 20,000 children and youth are not attending school in Quito.⁶ To address this concern, the Secretariat designed the

⁴ Gutman, L. M. & Schoon, I. (2013). *The impact of noncognitive skills on outcomes for young people: Literature review*. Institute of Education, University of London. Report prepared for the Education Endowment Foundation.

⁵ Kautz, T., et al. (2014). *Fostering and measuring skills: Improving cognitive and non-cognitive skills to promote lifetime success*. NBER Working Paper No. 20749. Cambridge, MA: National Bureau of Economic Research; Farrington, C.A., et al. (2012). *Teaching adolescents to become learners: The role of non-cognitive factors in shaping school performance. A critical literature review*. Chicago: University of Chicago Consortium on Chicago School Research.

⁶ Secretaria de Educación de Quito. *Inclusión educativa*. Retrieved from <http://www.educacion.quito.gob.ec/index.php/direcciones-metropolitanas/inclusion-educativa>

*Ciclo Básico Acelerado (CBA)*⁷—an intensive program in which students complete the eighth, ninth, and tenth grades in just 10 months and obtain a certification allowing them to continue their education in the *Bachillerato General Unificado* (high school).

1.3.1 Ciclo Básico Acelerado

The Quito Secretariat of Education initiated the CBA program in 2009; since then, about 12,000 youth have successfully graduated.⁸ The CBA program recruits students through neighborhood outreach campaigns that target at-risk youth between 15 and 25 years of age who either have dropped out and have missed one to three years of schooling or are lagging more than three years behind in school.⁹ These youth often face substantial challenges such as teen pregnancy, violence in the home, gang activities, migration, and substance abuse.

The CBA program is implemented in selected municipal schools during the afternoon, usually from 2:00 p.m. to 6:45 p.m., when regular students do not use the school buildings. It is free of charge and includes educational materials, school supplies, and uniforms for students. The CBA curriculum includes seven subjects: Spanish language and literature, mathematics, English language, natural sciences, social studies, physical education, and a course called Cultural and Artistic Education. At the end of the school year, students take standardized final exams for each subject. To complete the CBA and graduate, students need at least 7 out of 10 points to pass each subject and must have fewer than 25 unjustified absences.

During the first six weeks of classes, the CBA program coordinator and teachers meet with parents or guardians, when feasible, to explain the program expectations and collect administrative information. During the same time, students take a series of diagnostic tests to assess their educational levels and psychological profiles. Depending on the initial diagnostics, students may receive additional in-depth tests.

During the school year, students attend regular CBA classes five days a week. There are no official data, but conversations with students reveal that the most common out-of-school activities are staying at home, doing homework, taking care of children, performing household chores, helping adults with their jobs, selling goods informally on buses, and working formal jobs as, for example, security guards or cleaning maids.

During the current 2016–2017 school year, the Secretariat of Education is implementing CBA in 15 municipal schools in Quito and surrounding areas, covering approximately 1,800 students (Exhibit 1).¹⁰ The Secretariat recruited about 70 teachers to teach exclusively in the CBA program

⁷ The new name of the program is *Educación Básica Superior Extraordinaria – CBA*.

⁸ <http://www.educacion.quito.gob.ec/index.php/98-inscripciones-extraordinarias-para-el-cba-hasta-el-15-de-septiembre>

⁹ Students who repeat a grade more than three times are unable to enroll in the regular schools for the following year.

¹⁰ <http://educacion.quito.gob.ec/index.php/94-docentes-del-cba-se-preparan-para-inicio-de-clases>

based on their pedagogical and counseling skills.¹¹ These CBA teachers often teach more than one subject, depending on the school size. The number of classrooms in each school ranges from two classrooms for the smaller schools, such as Rafael Alvarado, up to eight classrooms for the largest schools, such as Fernández Madrid. Because students 18 years of age or older are legally adults in Ecuador, the Quito Secretariat of Education requires that students younger than 18 be separated into different classes from students 18 and older.

Exhibit 1. Schools, Teachers, and Students in the CBA Program in 2016–2017

School Name	Number of Teachers	Number of Students	Number of Classrooms
Bicentenario	5	144	4
Calderón	4	111	3
Cotocollao	5	140	4
Eugenio Espejo	5	150	4
Fernández Madrid	11	222	8
Humberto Mata Martínez	4	106	3
José Ricardo Chiriboga	5	141	4
Juan Wisneth	4	108	3
Manuel Cabeza de Vaca	3	72	2
Nueve de Octubre	3	75	2
Oswaldo Lombeyda	3	76	2
Rafael Alvarado	3	72	2
San Francisco de Quito	3	69	2
Sebastián Benalcázar	5	147	4
Sucre	5	141	4

Source: Quito Secretariat of Education (2017).

Over the years, the objectives of the CBA program have expanded beyond the initial goal of reinserting dropout students and at-risk youth into the school system. The program staff at the Quito Secretariat of Education believe that completing the CBA benefits its graduates even if they choose not to continue to *bachillerato* (high school) because students learn life skills in the program. In a continuous effort to improve the effectiveness of the CBA program, the Secretariat of Education contracted in 2014 with Young Potential Development Ecuador (YPDE),¹² a local social enterprise, to pilot a training program for some of its teachers. In the first year of the partnership, four CBA schools received the YPD intervention (Exhibit 2). During the 2015–2016 school year, the Secretariat expanded the YPD intervention to three additional schools, reaching

¹¹ The Secretariat organizes activities called “oxygenation activities” to help CBA teachers manage work-related stress. Unlike regular primary education teachers, who are government appointees, CBA teachers are hired as consultants. This practice poses a problem for teacher retention because many teachers leave the CBA program after being offered appointments as regular primary education teachers. However, many teachers to continue teaching in the CBA program year after year, as they often find the experience personally rewarding, albeit challenging.

¹² To avoid confusion, we refer to the program as YPD and to the implementing organization as YPDE.

about 840 students. In the 2016–2017 school year, the YPD program is reaching about 1,400 students in 11 schools.

Exhibit 2. Schools Implementing the CBA and YPD Program, 2014–2017

Academic Year	CBA Schools	Number of Students in CBA Schools	YPD Schools	Number of Students in YPD Schools
2014–2015	15	1,665	4	480
2015–2016	15	1,831	7	840
2016–2017	15	1,829	11	1,400

Source: Quito Secretariat of Education (2017).

1.3.2 Young Potential Development

The YPD program is an independent initiative that seeks to develop youths’ interpersonal, career-oriented, and socioemotional skills to prepare them for higher education, productive work, and entrepreneurship. The program focuses on building and sustaining productive relationships between students and teachers to help teachers integrate the development of student socioemotional skills into their daily classroom activities and subject matter. The YPD intervention operates within the framework of the CBA program.

The main YPD program goals are to:

- Introduce project-based learning strategies and innovative activities that are career oriented and serve as relevant introductions to higher education and work. This goal is accomplished through training of teachers. Teachers incorporate the program activities into daily school lessons, teaching plans, and classroom activities, thus making school interesting, engaging, and valuable for students; preventing dropout; and improving school climate through improved teacher–student interactions.
- Promote better self-perceptions and positive and proactive attitudes among at-risk youth, so they become empowered to contribute to society through higher education, entrepreneurship, and citizenship.
- Foster a generation of youth who are empathetic and well-equipped problem solvers.
- Promote interaction among trained teachers who are empowered to effect change in the interpersonal relationships in their schools, in the school climate, and in teaching practices in both the short term and the medium term.

To deliver the intervention, the YPD program hires and trains YPD captains who train and support teachers to deliver content in innovative ways and to engage students in interactive exercises aimed at developing competencies for the 21st century. YPD captains are professionals with university degrees in education, psychology, or sociology who are selected after an individual interview and a group exercise in which they demonstrate their problem-solving and teamwork capacities. After being selected for the program, they undergo a weeklong training with the local YPD team and 50 hours of online training and Skype sessions with the YPD Spain team.

The YPD program is implemented during the Cultural and Artistic Education class for two consecutive class periods each week. It complements the Cultural and Artistic Education curriculum with team-building exercises, self-efficacy activities, and communication challenges.¹³ An important classroom preparation instrument is the YPD Box, a series of 50 DVDs with more than 80 hours of content that present the basis for experiential learning. The DVDs contain video sessions targeted at different teacher and student learning styles. Each video session is guided through interactive formats, allowing teachers to use it as introduction to a classroom activity or to guide conclusion exercises with their students. In addition to the DVDs, each teacher receives a handbook that provides clearly defined objectives and methodology for each lesson (also called “challenge”), including practical recommendations on how to set up the classroom for better student–teacher interaction, how to address students’ questions, or how to offer constructive feedback. Through this school-year-long curriculum, supported by weekly one-on-one coaching, teachers implement the YPD curriculum. The curriculum consists of 25 experiential learning topics, such as development of business plans, social issue debates, toy construction, stress management, dance and yoga routines, social responsibility, and community service.

Before each class, the YPD captain meets with the teacher to go over the DVD material and its adaptation to the interests and backgrounds of the specific student group. The captain explains the classroom activity and the goal of the lesson. For example, an activity that involves building a toy in a team might have as its goals developing skills in verbal and nonverbal communication, management of uncomfortable situations, and empathetic communication. Together the teacher and the YPD captain use the videos to introduce the challenge that students will work on for that day. (These introductions include virtual visits to numerous industry events, companies, career fairs, and the like.) Next, the teacher and the YPD captain model what teamwork will look like for the specific challenge and plan enough time for students to work freely on their projects.

During the lesson, the teacher implements the prepared activity with the support of the YPD captain as needed. The YPD captain observes and guides the teacher’s levels of energy, questioning, and direct student interaction. The captain also develops the teacher’s and the students’ capacity to give constructive feedback, communicate efficiently in the classroom, and voice their concerns in their school. The relationship between the teacher and the YPD captain reflects a co-teaching model in the classroom, producing individualized learning experiences for each student along the way. The teacher may use the DVD directly in the classroom as a teaching aid to promote discussion about the skills students developed, the talents they discovered, and the obstacles they faced in the learning process.

¹³ The Cultural and Artistic Education class covers a range of topics (music history, theater, and the like) in lecture style. During the first two years of implementation, the YPD intervention was implemented during the Citizenship Education class, which covers diverse topics at the discretion of teachers and to some extent in an ad-hoc fashion. Topics might include sexuality, intra-family violence, ethics and values, human rights and democracy, political participation, and civic engagement.

In summary, the YPD intervention consists of the following components:

1. Teachers selected for the program participate in an introductory seminar, during which they receive the YPD Box and guidance on how to use it. The seminar is held prior to the beginning of the school year.
2. One YPD captain is assigned to each teacher. The YPD captain meets with each teacher once a week to review the DVD material and prepare lesson plans.¹⁴
3. The YPD captain attends each class and collaborates with the teacher during class. The captain provides live feedback and practical advice regarding the implementation of the methodology. The captain helps the teacher during the diverse activities as “extra hands” to identify students’ individual talents and needs.
4. The YPD captain interacts directly with the students, serving as a role model and acting as a close peer.
5. All YPD captains and teachers across all schools meet five times during the school year to exchange experiences and discuss difficulties, best practices, and achievements.

1.3.3 Implementation in 2016–2017

The Quito Secretariat of Education recruited students for the current school year by conducting neighborhood outreach campaigns during the summer. To allow more students to enroll in the program and ensure a larger sample size for the evaluation, the Secretariat extended the school registration period until September 15, 10 days later than the official school start date for the CBA program.

In September and October, enrolled students participated in orientation and diagnostic activities, including a behavioral test. The first six weeks of the academic year were focused on leveling or preparatory courses (“*período propedéutico*”) in all the main subjects. Because the CBA program accepts students aged 15 to 25 years old, school coordinators initially organized classrooms according to students’ ages, with the understanding that students would be reassigned after the preparatory period to comply with the experimental study design.

In previous years, the YPD program started right after the completion of the preparatory period. This year, the program was delayed until mid-November due to delays in implementation activities and accommodations for the impact evaluation. The delay in starting YPD implementation will be compensated by a longer school year. The Quito Secretariat of Education decided to extend the school year until August 2017. This development allows the YPD intervention to be implemented with fidelity.

During the 2016– 2017 school year, the Secretariat of Education decided to create two versions of the curriculum of the Cultural and Artistic Education class: a regular curriculum and an

¹⁴ Each YPD captain supports no more than four teachers so that he or she can devote one day per week to each teacher.

abridged version to accommodate the impact evaluation. As the next section discusses in more detail, in each participating school, one group of students will receive the regular Cultural and Artistic Education class taught by a traditionally prepared teacher, and another group of students will receive the abridged curriculum plus YPD curriculum taught by a YPD-trained teacher.

Mutual understanding and frequent communication among the school authorities, the program implementer, and the evaluation team led to a productive collaboration fulfilling the requirements of all parties involved. We ensured that schools faced no major hurdles because of the study while we secured the cleanest possible evaluation experiment.

2. EVALUATION METHODOLOGY AND BASELINE DATA COLLECTION

This chapter presents the research questions and key outcomes of the study (Section 2.1) and provides details on the evaluation methodology we used (Section 2.2). We then describe the baseline data collection (Section 2.3) and discuss the statistical methods we applied (Section 2.4). We conclude the chapter with a discussion of the study limitations (Section 2.5).

2.1 Research Questions and Key Outcomes

The main goal of this study is to determine whether the YPD intervention is successful in curbing hazardous child labor among at-risk youth enrolled in the remedial program in Quito. Moreover, we will study the program's effects on additional outcomes beyond the prevalence of hazardous child labor, such as education outcomes, socioemotional skills, youths' aspirations, and types of activities in which youth are involved. Exhibit 3 presents the specific research questions for this evaluation and the key outcomes of interest.

Exhibit 3. Research Questions and Outcomes of Interest

Research Question	Outcome	Outcome Type	Population
LABOR OUTCOMES			
1. Does the YPD program affect the likelihood of beneficiaries working or not?	Prevalence of youth in employment	Exploratory	All youth
2. Does the YPD program affect the likelihood of beneficiaries 15 to 17 participating in hazardous child labor?	Prevalence of youth in hazardous child labor	Confirmatory	Youth 15-17
3. Does the YPD program affect the beneficiaries' number of hours worked?	Average hours worked last week	Exploratory	All youth
4. Does the YPD program affect the likelihood of beneficiaries participating in hazardous work?	Prevalence of youth in hazardous labor	Exploratory	All youth
5. Does the YPD program affect the likelihood of beneficiaries participating in irregular employment?	Prevalence of youth in irregular employment	Exploratory	All youth
6. Does the YPD program affect the types of activities youth are involved in outside the school, including potentially risky and illicit activities?	Prevalence of youth participating in gangs, using drugs	Exploratory	All youth
7. Does the YPD program affect the number of hours working in household chores?	Average hours spent on household chores last week	Exploratory	All youth
SOCIOEMOTIONAL SKILLS			
8. Does YPD improve beneficiaries' self-efficacy?	Average self-efficacy scores	Exploratory	All youth
9. Does YPD improve beneficiaries' social skills (conflict resolution, communication skills, and assertiveness)?	Average social skills scores	Exploratory	All youth
EDUCATION AND CAREER ASPIRATIONS			
10. What is the impact of the YPD program on beneficiaries' education and career aspirations?	Prevalence of youth with lower, equal, and higher expectations	Exploratory	All youth
SCHOOL OUTCOMES			

Research Question	Outcome	Outcome Type	Population
11. <i>What is the impact of the YPD program on beneficiaries' disciplinary infractions?</i>	Prevalence of youth with disciplinary infractions	Exploratory	All youth
12. <i>What is the impact of the YPD program on beneficiaries' school attendance/absences?</i>	Average school attendance	Exploratory	All youth
13. <i>Do CBA students exposed to YPD have higher completion rates than regular CBA students?</i>	Prevalence of youth completing the program	Exploratory	All youth
14. <i>What is the impact of the YPD program on beneficiaries' test scores?</i>	Average test scores	Exploratory	All youth

The confirmatory outcome is participation in hazardous child labor. Because the minimum working age in Ecuador is 15, child labor definition (i.e. child labor other than hazardous child labor) does not apply fully to our target population as minors younger than 18 are not prohibited from working. However, since minimum age for hazardous work is set to 18, we are studying the prevalence of hazardous child labor among students age 15 to 17 (Details are in Appendix A).

All the other outcomes are exploratory. This baseline report includes exploratory outcomes related to socioemotional skills and youths' aspirations because the YPD program emphasizes these aspects. All of these outcomes will be measured through primary data collection. We have excluded school outcomes, such as test scores, attendance, behavior, and drop out and graduation rates, because they were not available at baseline. These outcomes will be obtained at the end of the school year from school administrative records provided by the Secretariat of Education.

2.2 Evaluation Methodology

2.2.1 Study Location and Participants

The study participants are students enrolled in seven of the 11 schools that are implementing the YPD program in 2016–2017. The evaluation focuses on the largest schools because they each have two teachers teaching Cultural and Artistic Education, whereas smaller schools have only one teacher in that subject. In the schools with two teachers, the YPDE will always train one teacher but not the second one.

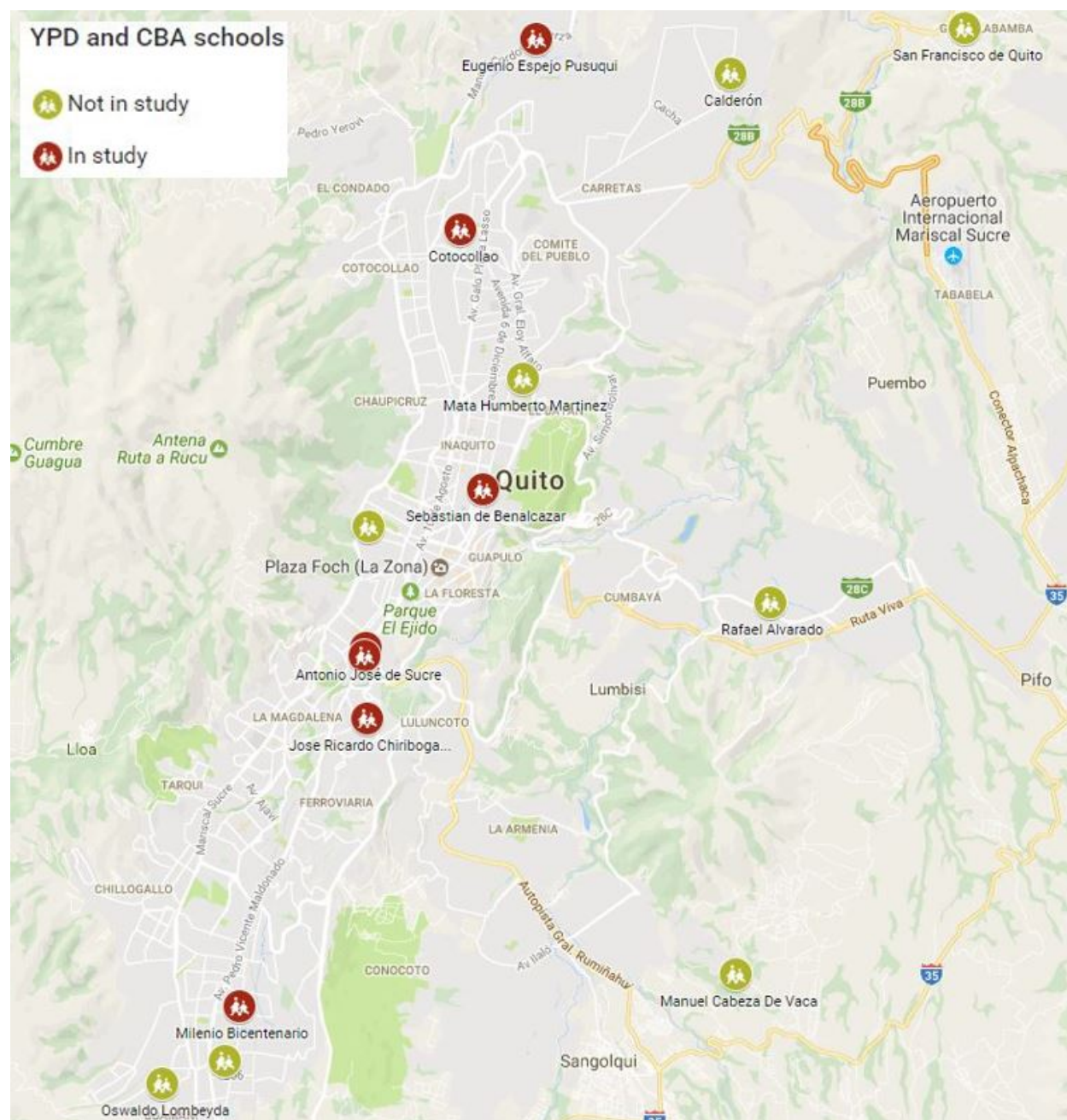
The seven schools included in the evaluation are geographically spread out across Quito, which sits high in the Andean foothills. Exhibit 4 shows the location of the seven YPD schools that are part of the study in red and the rest of the YPD schools not included in the evaluation plus the reminder of the CBA schools not receiving the intervention in green. The location of the seven municipal schools suggests that at-risk youth from all parts of Quito could potentially find a geographically close school to attend and could be included in the study.

2.2.2 Randomization Design and Implementation

We implemented the randomization process during the last two weeks of October 2016. We first received tentative lists of student names with gender and birth date on October 12, 2016, but we did not receive the final lists until the end of the month, so the start of the study was delayed.

During the last two weeks of October, the schools continued to check and update their student lists in order to provide us with accurate lists of enrolled students. When we received the final lists, we documented several changes from the earlier lists due to incorrect birth dates, early dropouts, and enrollment of late arrivals. Together with the Secretariat, school coordinators agreed to wait until the official closure of the CBA registry on November 1, 2016, before assigning students into classrooms based on the randomized lists provided by the evaluation team.

Exhibit 4. Location of YPD and CBA Schools in Quito

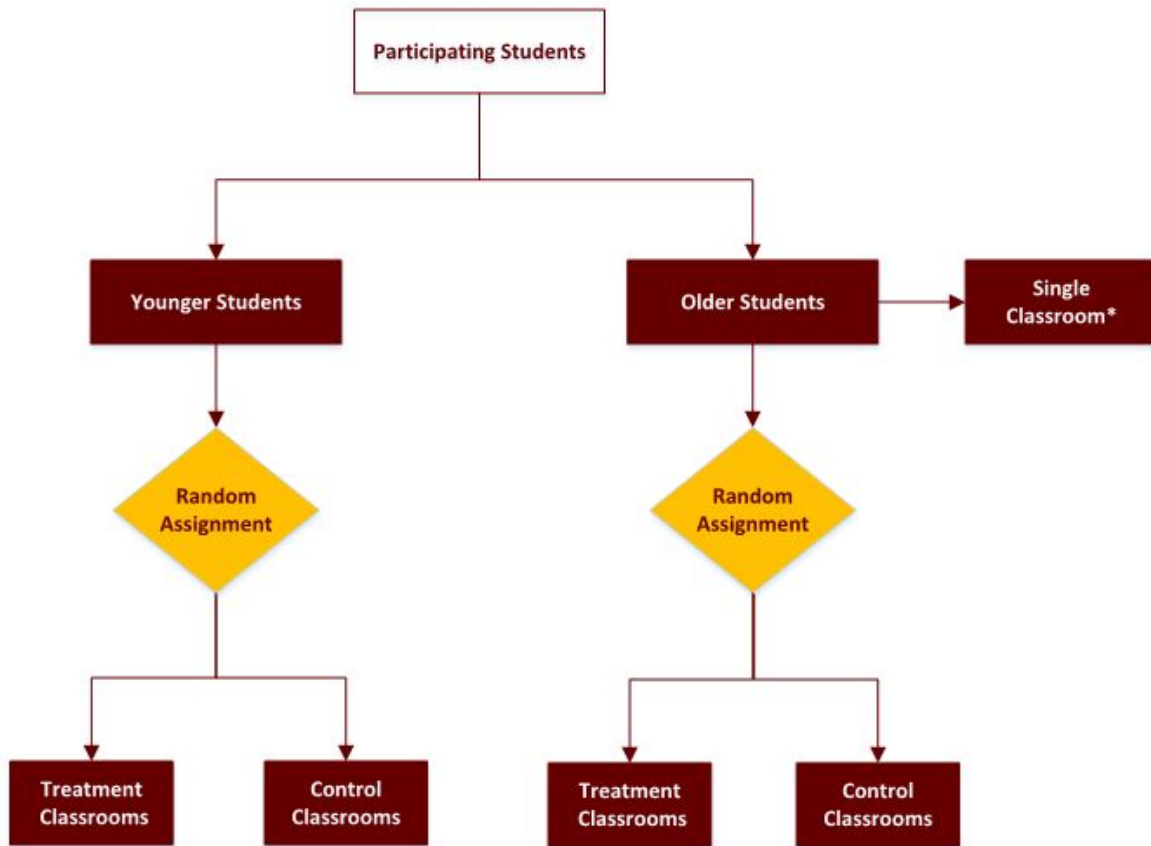


Using the student lists, we randomly assigned students into classrooms using a computerized lottery, ensuring that students were assigned to classes without prejudice. (See Appendix B for detailed steps.) Students in the treatment group were assigned to classrooms in which Cultural and Artistic Education was taught by a YPD-trained teacher, while students in the control group were assigned to classrooms in which Cultural and Artistic Education was taught by a teacher not trained in YPD. We stratified the student lists by student age because, according to Ecuador law, minors cannot be in the same classroom as older students. We stratified by gender because the Secretariat required a balanced number of boys and girls in classrooms.

As the evaluation team worked on the randomization process using these criteria, it became clear that school capacity constraints were also a determinant: each school had a student capacity limit per classroom, with maximums ranging from 35 to 40 students. Several classrooms for minor children exceeded the maximum capacity at their schools. Therefore, with the approval of the Secretariat, 17-year-olds who were about to turn 18 were grouped into classrooms with the students over 18. Thirty-three students younger than 18 were grouped with the older students (18 in the treatment group and 15 in the control group). Their average age was 17.7 years.

Exhibit 5 diagrams the evaluation design. Using the received student rosters, we first computed the exact age for each student and then grouped students into younger (15–17 years of age) and older (18–25 years of age) cohorts. Our initial assumption was that the two groups would be of equal size, but the student lists indicated instead that 77.5 percent of the enrolled students were under 18 years of age. We randomly assigned these younger students to treatment and control classrooms within each school. However, due to their small numbers, older students were placed into a single classroom in most schools. In fact, we randomly assigned 70 older students (i.e. 25 percent of all older students) to treatment and control classrooms in the largest school (Fernandez Madrid) and we assigned all older students into a single classroom in the remaining six schools.

Exhibit 5. Evaluation Design



Note: *in 6 out of the 7 schools.

Because random assignment was not possible for the majority of older students we present results separately for: (1) younger classrooms only; (2) all youth (younger and older together); (3) older students only (hazardous labor measure only).

In addition to stratifying students by age, we also stratified by gender, so that the representation of boys and girls in the treatment and control groups was balanced. Exhibit 6 presents the distribution of younger and older students by school, and the number of classrooms that each school could accommodate.

Exhibit 6. Number of Students and Classrooms per School

School	Total Number of Students	Number of Older Students 18* 25	Number of Older Classrooms	Number of Younger Students 15 17	Number of Younger Classrooms	Total Number of Classrooms
Fernandez Madrid	222	70	2	152	4	6
Jose Ricardo Chiriboga	141	32	1	109	3	4
Sucre	141	36	1	105	3	4
Cotocollao	139	35	1	104	3	4
Benalcazar	147	37	1	110	3	4
Espejo	150	36	1	114	3	4

Bicentenario	143	31	1	112	3	4
Total	1,083	277	8	806	22	30

*At the Secretariat's request, this number excludes 33 17-year-olds who would turn 18 during the school year.

Source: Secretariat of Education Student Rosters, November 11, 2016

To balance the number of treatment and control classrooms across all schools, we worked with the Secretariat of Education and the school coordinators to assign schools and classrooms to arrive at a total of 15 treatment classrooms and 15 control classrooms (11T + 11C younger classrooms and 4T + 4C older classrooms). Except for Fernández Madrid, the study schools had three classrooms of younger students apiece, so there could not be an equal number of treatment (T) and control (C) classrooms in each school.

Instead, in Bicentenario, J.R. Chiriboga and Cotocollao we assigned one younger classroom to the treatment group and we assigned two younger classrooms to the control group. In these three schools, the older cohort classroom was determined to serve as a treatment group in order to have 2 treatment and 2 control classrooms in each school (see Exhibit 7). In Benalcazar, Espejo, and Sucre we assigned two younger classrooms to the treatment group and we assigned one younger classroom to the control group. In these three schools, the older cohort classroom was assigned to serve as a control group in order to have a total of 2 treatment and 2 control classrooms in each school. In Fernandez Madrid, we assigned two younger classrooms and one older classroom to the treatment group and we assigned two younger classrooms and one older classroom to the control group.

Exhibit 7. Treatment and Control Assignment of Classrooms by School

	Older students: Ages 18 25		Younger students: Ages 15 17		All Students
School	Number of Older Classrooms	T/C Older Classroom Assignment	Number of Younger Classrooms	T/C Younger Classroom Assignment	Total Classrooms
Bicentenario	1	1T	3	1T+2C	2T + 2C
Jose Ricardo Chiriboga	1	1T	3	1T+2C	2T + 2C
Cotocollao	1	1T	3	1T+2C	2T + 2C
Benalcazar	1	1C	3	2T+1C	2T + 2C
Espejo	1	1C	3	2T+1C	2T + 2C
Sucre	1	1C	3	2T+1C	2T + 2C
Fernandez Madrid	2	1T + 1C	4	2T+2C	3T + 3C
TOTAL	8	4T + 4C	22	11T + 11C	15T+15C

The specific choice of which school had the 2T+1C younger classrooms and 1C older classroom assignment versus the 1T+2C younger classrooms and 1T older classroom was determined in coordination with the Secretariat of Education. Specifically, at the time of random assignment, teacher schedules and classroom schedules had already been determined. Teachers of the Cultural and Artistic Education class knew whether they had classroom A, B, or C and on which

day of the week, though they did not know which students would be assigned to which classrooms.

Furthermore, the Secretariat knew at the time of randomization which of the two Cultural and Artistic Education teachers would receive the YPD training. In other words, the choice of which classrooms were in the treatment or control conditions was not random, because classroom assignment had to reflect the teacher assignment. Once the schools had established teacher and classroom schedules, changing that allocation in late October would have led to disruptions for the students and schools and to potential conflicts in teacher schedules. Though we were unable to assign teachers to classrooms randomly (a study limitation discussed in Section 2.5), we did assign all younger students (and the older students in FM) randomly to classrooms.

Random assignment of students to the younger classrooms enables us to estimate the effects of the YPD program on students in the younger cohort by comparing the average student outcomes of the treatment classrooms with the average student outcomes of the control classrooms. The estimated effects will reflect the marginal effect, for a representative CBA student, of being exposed to an YPD teacher and receiving the YPD curriculum during the Cultural and Artistic Education class.

While being able to assign only 25 percent of all older students randomly to different classrooms within school (in FM), IMPAQ worked with the Secretary so that we had an overall balanced sample of treatment and control older classrooms across schools, so that we could have a comparison group also for the older students (although not as rigorous as the one generated by the randomization). In the end, we were able to obtain 4 older treatment classrooms and 4 older control classrooms across the 7 schools (see Exhibit 7). Because random assignment of older students was possible only for part of the older sample, the difference between treatment and control older classrooms could be biased by differences in underlying observable and unobservable student characteristics.

2.2.3 Teacher Assignments

Usually, in order to be accepted to participate in the YPD program, teachers need to express their interest in receiving YPD to the school coordinator before the school year begins. Then the school coordinator proposes teachers to the Secretariat for inclusion in the program. During the 2016–2017 school year, however, the voluntary selection of teachers was modified to accommodate the impact evaluation and minimize contamination. Though we were not able to assign teachers to treatment and control classrooms randomly, we have taken all possible precautions, jointly with YPDE and the Secretariat of Education, to limit the sources of contamination.

In fact, three of the seven schools included in the evaluation—Cotacollao, Espejo, and Fernández Madrid—had participated in the YPD program in one or more previous years. This prior participation in the YPD program and the fact that teachers often teach multiple subjects can lead to contamination. Specifically, students in the control classrooms could have been affected by the YPD training in one of the following ways:

1. During the study year, the Secretariat of Education can require YPD-trained teachers to teach another subject, such as social studies, to both treatment and control students. Although the YPD teachers would not have the support of the YPD captain in the social studies classes, they could still use some YPD skills and techniques, partially contaminating the control condition.
2. Teachers assigned to the control classrooms in the study year, whether they teach Cultural and Artistic Education or other subjects, might have received YPD training during previous years. Their use of YPD skills could potentially contaminate the control classrooms.

In the seven study schools, it was not possible address the first source of contamination. The schools had too few teachers to allow us to ensure that YPD and non-YPD teachers taught fully separated sets of classes. However, the teacher assignments in 2016–2017 did avoid the second source of contamination. We verified with the Secretariat of Education and with YPDE records from prior years that no control teachers had previously been exposed to YPD. Moreover, we verified that none of the other teachers (excluding the treatment and control teachers) at the study schools had been exposed to YPD in the past.

To indicate the extent of possible contamination, Exhibit 8 lists the teacher assignments to treatment and control groups and the subjects, in addition to Cultural and Artistic Education that each teacher taught. The treatment teachers implementing the YPD intervention are in gray. All YPD teachers also taught one or two additional subjects to both treatment and control students.

Exhibit 8. Teacher Assignments to Treatment and Control Classrooms and to Other Classes, 2016–2017

School	Teacher Assignment	Subjects Taught			
		YPD to Treatment Students	Abridged CAE* to Treatment Students	Regular CAE* to Control Students	Additional Subjects to Both Treatment and Control Students
Sebastián Benalcázar	Treatment [†]	✓	✓	✓	Natural Sciences
	Control			✓	Physical Education
Bicentenario	Treatment	✓	✓		Social Studies
	Control			✓	Natural Sciences
Cotocollao	Treatment	✓	✓		Natural Sciences
	Control			✓	Social Studies
Eugenio Espejo	Treatment [†]	✓	✓		Social Studies
	Control			✓	Natural Sciences
Fernández Madrid	Treatment [†]	✓			Natural Sciences, Social Studies
	Control		✓	✓	None
José Ricardo Chiriboga	Treatment	✓			Natural Sciences, Physical Education
	Control		✓	✓	Social Studies
Sucre	Treatment [†]	✓	✓		Social Studies
	Control			✓	Natural Sciences, Physical Education

* Cultural and Artistic Education

[†] Treatment teachers had received YPD training in 2014–2015 or 2015–2016.

Another issue, which we will address in the final evaluation report, is variation in implementation across schools. In response to teacher availability and Secretariat's needs, the intervention is implemented with varying dosage at the seven participating schools. In Bicentenario, Cotocollao, Espejo, and Sucre, the YPD-trained teacher teaches the YPD curriculum plus the abridged Cultural and Artistic Education curriculum to the treatment students, as shown by the two checkmarks in the gray rows in Exhibit 8. We consider this situation to be the full dosage. In these four schools, the control teacher teaches the regular Cultural and Artistic Education curriculum to the control students. In Fernández Madrid and José Ricardo Chiriboga, the YPD-trained teacher teaches only the YPD curriculum, while the control teacher teaches both the abridged Cultural and Artistic Education curriculum to the treatment students and the regular curriculum to the control students. In these two schools, the treatment students spend less time with their YPD teacher and YPD captain, thus receiving a smaller intervention dosage. Finally, in Benalcázar, the YPD-trained teacher teaches the YPD curriculum plus the abridged Cultural and Artistic Education curriculum to the treatment students, but she also teaches the core Cultural and Artistic Education curriculum in one control classroom. Though the treatment students are getting the full dosage of the intervention, the fact that the YPD teacher has a control classroom can lead to possible contamination.

To assess the extent of the contamination coming from teacher assignments and attempt to control for it in our analysis, we are collecting information about all the subjects that each teacher teaches, which classrooms they teach, and whether they received YPD training in previous years (including in which year and in which school). We are also collecting information on various teacher characteristics, such as age, gender, number of years teaching, and highest educational degree, to use as covariates in the regression analysis.

2.2.4 Sample Size

We received lists of 1,083 students which we assigned into classrooms as described in the previous section, about half in treatment and half in control group (see Exhibit 9).¹⁵ We documented about 20 percent attrition early on, arising from students refusing to participate in the study, neglecting to submit their consent form, or dropping out of the program. The remaining analytical sample for the baseline is 863 students; 634 of them are in younger classrooms and 229 in older classrooms.

Exhibit 9. Sample Size in Treatment and Control Groups

	Treatment	Control	Total
All Youth (Ages 15 – 25)			
Number of assigned students	536	547	1,083
Analytical sample (% of initial sample)	429 (80.04%)	434 (79.34%)	863 (79.69%)

¹⁵ We apply the term *control* group (which is typically employed to describe groups created by randomization) also when describing the entire sample (younger and older students) even though not everyone in the entire sample was randomized to different classrooms within school.

Younger Classroom (Ages 15 – 17)			
Number of randomized students	403	403	806
Analytical sample (% of initial sample)	318 (78.91%)	316 (78.41%)	634 (78.66%)

To ensure a high survey participation rate and minimize attrition, our data collection partner Opinión Pública Ecuador (OPE) went to the schools to introduce the study and the research team the week before data collection took place. They distributed consent forms and contact sheets to all 1,083 students and instructed the minor students to take the forms home to fill out with their parents and to bring them back next week for collection.

Although we had the full support of the Secretariat of Education to collect the surveys from students, we lost students from the sample for two main reasons. First, on the day of the survey, 98 students (9 percent of the initial sample) were absent or refused to take the survey.¹⁶ The school coordinators and our data collection partner were willing to administer the survey to every student as if it were mandatory, but we insisted on the voluntary nature of the survey and gave students the right to opt out. Our data collection partner, OPE, administered the survey to the remaining 985 students.

Second, though those remaining students were interested in and willing to take the survey, many forgot to return the consent form. These students nevertheless were invited to fill out the survey. With the help of school coordinators and YPD implementers, the data collection team made several attempts in the following weeks to collect the missing consent forms. In the end, the team was able to retrieve consent forms for 863 students (634 are younger).¹⁷ Following the protocol approved by our institutional review board as listed in Appendix C, we included only students who returned their signed consent form in the computations for this baseline report; that is, those 863 students form the analytical sample.

In order to minimize the attrition that occurred at baseline because of the lack of consent forms and students being absent/refusing to take baseline survey, for the follow-up survey we will encourage the students who did not return the consent forms at baseline to return them at that time in order to include them in our analytic sample for impact estimates. In addition, we will

¹⁶ The data indicate that among the 98 students (younger and older combined) who did not take the survey, 45 were in the treatment group and 53 were in the control group (these represent 8.4 and 9.7 percent of the initial treatment and control samples, respectively). By looking at the younger students only, a total of 69 students did not take the survey (8.6 percent of the initial younger students randomized sample); 34 of them were in the treatment group and 35 in the control group. These represent about 8.4 and 8.7 percent of the younger treatment and control group initial samples, respectively.

¹⁷ After dropping the 98 students who did not take the survey, we are left with 985 students with baseline data information (1,083 minus 98, older and younger combined); 122 out of 985 (12.4 percent) did not return the consent form and are excluded from the analytical sample. The percentage of students who completed the survey but did not return the consent form is similar between treatment and control group (12.6 percent and 12.2 percent, respectively). By looking at the younger group only, the data indicate that among the 737 younger students who took the baseline survey (806 in the initial student sample minus 69), a total of 103 students (about 14 percent) did not return the consent form. The percentage of students not returning the consent form was similar between the younger treatment and control groups (13.8 and 14.1 percent, respectively).

also administer the follow-up survey to students who were absent at baseline or who refused to take the baseline survey but are willing to take the follow-up survey. Finally, preliminary administrative data from school coordinators indicate that about 15 percent of students dropped out of the CBA program during the school year and will therefore not be in the classrooms at the time of the follow-up data collection at the end of the school year. IMPAQ will be tracking separately these drop-out students and administer the follow-up survey to as many of them who can be found in order to minimize additional attrition that can occur between the baseline and follow-up and maximize the power of the impact analysis.

2.3 Baseline Data Collection

This section describes the activities of preparing for the baseline survey, fielding it, and cleaning the data. Appendix D provides a timeline of the main survey administration activities.

2.3.1 Instrument Development

Prior to developing the survey questionnaire, we held several meetings with YPDE and Secretariat staff to understand which research topics were of most interest to them, what type of information they were already collecting, and what survey formats they had been using, if any. After these discussions, our evaluation team concluded that an in-class, self-administered survey would be the optimal method to collect the information all partners required. The survey would be administered to the entire population in both control and treatment groups. In addition, both YPDE and the Secretariat agreed to share administrative and educational data, such as attendance and disciplinary records, student grades, program implementation information, and the like.

We next conducted a detailed review of the current international framework for defining and measuring child labor, including the ILO's Statistical Information Monitoring Programme on Child Labour (SIMPOC), current Ecuadorean legislation, and the National Statistics Office Survey on Child Labor. We used the definitions of child labor and hazardous child labor in Appendix A to determine the hazardous child labor status of each student. The age range for target beneficiaries of the YPD program is 15 to 25 years, but, for all definitions, a child is considered to be any person under 18 years old. These definitions also guided the development of the survey questions.

Drafting of the questionnaire was an iterative process lead by the evaluation team with feedback from ILAB, YPDE, the Secretariat, and OPE. For the socioemotional skills section, the evaluation team selected questions from a survey administered to students enrolled in the YPD program during previous years. These questions had been previously validated in other research studies. Questions on aspirations and educational background were developed using national education and household surveys. Since these sections were of special interest to YPDE and the Secretariat, the questions were shared in advance with the implementing partners, and their feedback was incorporated. We also shared the questionnaire with ILAB staff for feedback and incorporated their suggestions. The questionnaire was developed in English and then translated into Spanish. All enumerator training materials and protocols were developed by the local data

collection agency in Spanish and reviewed by a native Spanish-speaking member of the core evaluation team.

2.3.2 Cognitive Testing

We cognitively tested the first draft of the questionnaire to assess whether survey instructions and question wording were clear and understandable and that response options were adequate. The cognitive interviews evaluated whether respondents interpreted the questions as intended and whether the questions measured the constructs of interest.

We relied on YPDE to recruit the participants and arrange logistics for the cognitive testing. The interviews were conducted in Spanish with nine recent CBA graduates (five men and four women, ranging from 16 to 25 years old) who had received the YPD training. YPD staff solicited volunteers for the interviews during the CBA graduation ceremony and offered two movie tickets as an incentive for their participation. The interviews were conducted from August 23 to 25, 2016, in the Quito office of YPD. Most interviews were conducted by an IMPAQ lead interviewer and a note taker;¹⁸ the interviews were audio-recorded with participants' consent.

Each interview consisted of two components. First, the interviewer explained the purpose of the interview and allowed respondents sufficient time to complete the questionnaire independently. Then the interviewer reviewed each question with each respondent, engaging the respondents in a conversation that explored the meaning of the item and how the respondents came up with their answer. The cognitive interviews identified some comprehension issues in the survey. During the cognitive testing, the interviewer debriefed the evaluation team continuously and adjusted the language and format of some questions so that the new wording could be tested during the next day's interviews. The final versions of questions that required several modifications could not be tested because we had run out of interviewees. Once the interviews were concluded, the interviewer produced a report using both the audio recordings and notes taken during the interviews. The report included a question-by-question analysis of any issues found during the interviews, any changes made to the wording of the question, and recommendations for further changes. The team then edited the instrument accordingly. The updated instrument was used to pilot the surveys (Section 2.3.4). Appendix E describes examples of the issues uncovered by the cognitive testing and the resulting resolutions.

2.3.3 Enumerator Training

OPE organized a one-day training with all enumerators¹⁹ to cover the following topics: an overview of the CBA program, the YPD intervention and the purpose of the evaluation, survey data collection protocols, and the survey instrument. Secretariat staff joined the first hour of the training to give an overview of the CBA program and ensure that the enumerators were aware of the target population of the study and particularly of the sources of vulnerability. In addition,

¹⁸ The last two respondents scheduled for different times arrived simultaneously and could not reschedule. To avoid losing an interview, the lead interviewer and the note taker each conducted an interview separately.

¹⁹ All enumerators recruited had at minimum a master's degree in a relevant topic such as education, political science, or psychology.

a representative from YPDE attended to answer any questions about the intervention. An IMPAQ representative attended the entire training and provided feedback as necessary.

In preparation for the training, OPE developed two detailed training manuals and a one-page instruction sheet in Spanish.²⁰ To review the survey instrument, enumerators received a copy of the finalized paper survey. Each enumerator was asked to read out loud a question from the survey while the coordinator checked to see if the enumerator had any comprehension questions. Although the survey was self-administered, reading questions out loud helped the enumerators check their tone when speaking to students and better assimilate each question. In addition, enumerators were proactive in asking questions and highlighting potential issues with certain questions and protocols. For example, the enumerators were concerned that the snack break in the middle of the survey, which was meant to let students rest after filling out a long section, would be too disruptive. Although no changes were made at the time, the coordinator asked the enumerators to make note of these potential issues and report back after the pilot test. In addition to this one-day training, the OPE coordinator also arranged for a debriefing session after the enumerators piloted the instrument.

2.3.4 Pilot Test

In collaboration with the Secretariat, OPE organized a survey pilot at two CBA schools that were not part of the evaluation to test the final version of the survey, the survey protocols, and the logistics with school coordinators and teachers. During the pilot, the entire survey protocol was deployed just as it would be if the survey were being fielded. The schools were selected to reflect some geographical diversity: One school was located in the northern part of Quito and the second one in the southern part of the city. The enumerators were divided into two groups to conduct the pilot at the two schools simultaneously.

The pilot survey was administered to 24 respondents chosen through purposive sampling, based on their willingness to participate. At each school, enumerators selected two men and two women from three classrooms for a total of 12 volunteer respondents per school. An IMPAQ representative oversaw the pilot in one of the schools and attended the enumerator debriefing session afterward. After the pilot, OPE staff prepared a brief report summarizing their main observations and suggestions regarding the pilot. Appendix E offers examples of the issues uncovered by the pilot test and the resulting resolutions.

²⁰ These were not translated into English but were reviewed and approved by IMPAQ in Spanish. The first training manual covered the protocol for the baseline data collection, including how to approach respondents, handle respondents' questions and problems, minimize refusal, protect confidentiality, distribute incentives, and manage other logistics. Since Ecuadorean law requires all researchers to follow certain safety protocols, the second training manual covered how enumerators should respond if students approached them regarding sensitive issues such as harassment or abuse. An OPE coordinator reviewed all of the material included in the protocols with the assistance of a multimedia projector.

2.3.5 Field Work

In preparation for the baseline data collection and the start of the YPD intervention, the Secretariat organized a meeting with all school coordinators and CBA teachers to introduce all relevant partners and inform the schools of the upcoming evaluation activities.²¹ Enumerators from the data collection agency OPE also attended to meet their assigned school coordinators, gather more logistical information for each school, and plan their upcoming school visit. The week before data collection, two enumerators visited each school for a “socialization day” to introduce the study and the research team to the students and to distribute the consent forms and contact information sheets, explaining that these needed to be returned the following week. During data collection, all students who expressed an interest in participating in the study were given the opportunity to complete the baseline survey, even if they forgot to bring back their signed consent form. Enumerators agreed to return at a later date to collect missing forms. All students who completed the baseline survey were given a small incentive for their participation (a snack and a pizza voucher).

Baseline data collection took place during November 11–18, 2016. During the following week, the data collection team returned to the schools to administer the survey to students who were absent the first time around. An IMPAQ representative monitored the first day of data collection.

Ideally, baseline data collection would have taken place before randomization to prevent treatment assignment status from influencing either the enumerators’ interactions with students or the students’ survey responses; however, this timing was not feasible. The evaluation team’s biggest priority was to ensure that the schools complied with the random assignment of students to classrooms and to have full buy-in and support throughout the year from staff at all levels. Delaying the assignment of students to classrooms until after data collection would have been disruptive for the schools, teachers, and students.²² The students had already been attending school for several weeks for the diagnostic period described above and were forming friendships, so the goal was to avoid reshuffling them.

Baseline data collection might be biased if, at the time the baseline survey was administered, students or enumerators knew which classrooms would be in the treatment condition, with a YPD-trained teacher, and which would be in the control condition. As explained in Section 2.2.2, at the time the randomization was implemented, the teacher schedules and classroom assignments had been finalized, and randomization had to reflect those assignments. Thus, when the baseline data collection took place a few days later, students may have been aware of the assignment of their teachers if, for example, word-of-mouth spread in the school about YPD and which teachers would go into the training. However, we believe this possibility would introduce minimal bias. All students were newly back in school after being out for one to three years, so they probably had few expectations about subjects and teachers. The possibility of bias in data

²¹<http://educacion.quito.gob.ec/index.php/127-estudiantes-del-cba-realizaran-emprendimientos-a-traves-del-programa-ypde>

²² The evaluation team could not go into the school earlier, during the diagnostic period, because YPDE and the Secretariat had not officially signed the agreements to start the implementation of the YPD program.

collection is minimized by the fact that the enumerators did not know the treatment-control assignments; even if they had, the surveys were self-administered, so enumerators did not interview students and so would not be likely to influence them.

Throughout the fielding period, the IMPAQ evaluation team was in constant communication with the data collection team to address any potential issues as they came up; however, no problems were reported during this time. The main challenge we faced after the survey administration was collecting missing consent forms for students who had agreed to take the survey but forgot to bring their signed consent forms. It took a concerted effort from the data collection team, the school coordinators, and YPDE to collect the missing forms.

2.3.6 Data Entry and Processing

After all paper surveys were collected, OPE programmed the instrument using the LimeSurveys online survey tool to begin the data entry. We tested the computerized questionnaire, including the skip patterns, to ensure that it matched the paper instrument.

Before entering the student responses, OPE staff checked the paper data for logical consistencies. During this back-end quality check of the data, OPE staff discovered some inconsistencies in some of the responses. To tackle this issue, OPE supervisors were instructed to cross-validate the responses. For example, OPE staff made every effort to correct self-reported birth dates on the surveys with birth dates reported by the Secretariat of Education. In addition, initial observations of the paper surveys showed some inconsistencies in how students followed the skip patterns, so we requested the LimeSurveys data entry program to allow for these inconsistent entries.

After discussing and agreeing with OPE on identified inconsistencies, IMPAQ staff performed additional data checks, including identifying outliers, performing logic checks, and making all necessary corrections to the data. Frequency distributions were examined for each survey question to ensure that all data were within a valid range and consistent with the question's response options. Data were checked carefully for coding errors, misapplied ranges, inconsistent answers, or other illogical results. As part of the data cleaning process, some inconsistent responses in some variables were corrected based on information from other variables where appropriate; variables with extreme outliers, such as respondents indicating that they worked 24 hours a day, were set to "missing."

2.4 Statistical Methods

Although randomization balances treatment and control groups in respect to observed and unobserved characteristics, the two groups may still have some differences. We tested for baseline equivalences using summary measures (and confidence intervals) of the variables from the treatment group and from the control group using cluster-adjusted *t*-tests.²³ In the findings

²³ Because of the small number of classrooms in all-youth sample (30) and minor sample (22), we ran cluster tests using both regression-adjusted cluster-robust standard errors and a Moulton correction factor (see Angrist, J. D., &

section we first present point estimates and confidence intervals for individual student characteristics and hazardous child labor measures for the sample of younger students, followed by results for individual student characteristics and hazardous labor measures for the entire sample that includes both younger and older students. Separate results for the older students are presented only for the hazardous labor measure. Based on the analysis of the baseline data, the evaluation team will control for pre-treatment covariates in the regression analysis to improve the precision of the estimated program impacts.

2.5 Study Limitations

This study benefits from the robustness of a randomized controlled trial design, which randomly assigns younger students to treatment and control groups. However, a few potential limitations should be noted. A key challenge for this study could be the possibility of spillover effects from the treatment classrooms to the control classrooms due to the fact that treatment teachers often teach additional subjects to control students. Though schools provided two teachers for the Cultural and Artistic Education class, school capacity dictates that YPD-trained teachers also teach social studies or natural sciences to control students; they could transfer some of their program-induced innovative teaching skills to those classes. It is difficult to gauge in advance the extent of contamination. Social studies and natural sciences are quite different from cultural education, so there may be little reason for concern about spillover effects; teachers may not have time to introduce new techniques. However, if there is any contamination from the treatment condition to the control classrooms, it could lead to an underestimation of the true effects of the treatment. In that case, the estimated impact could be viewed as the lower bound of the true effects.

A related limitation of the study is the difficulty of separating the effect of the program from the effect of the teacher, since we could not assign teachers randomly to classrooms. Random assignment of students ensures that the average baseline characteristics of students in the treatment and control group classrooms are similar. However, this design does not remove differences in the quality of individual teachers. We are collecting detailed background information on the participating teachers to allow us to control for characteristics such as years of experience and highest education level completed during analysis.

That minor students can “age out” during the intervention also presents a limitation of the study. Random assignment was possible only for the group of students age 15 to 17. During the school year, some 17-year-olds will turn 18 and will no longer be considered minors. They therefore will not be subject to the same regulations limiting hazardous child labor. As described above, some 17-year-olds who would turn 18 during the school year were already grouped with the older students, thus reducing the number of students who will age out. The aging out of students should not be a major concern for this study.

Pischke, J. (2009). *Mostly harmless econometrics: An empiricist's companion*. Princeton: Princeton University Press.). Results were consistent across both options.

Finally, as described previously, because random assignment of older students was possible only for part of the older sample, impact estimates based on the entire sample could be biased by differences in underlying observable and unobservable student characteristics.

3. BASELINE FINDINGS

In this chapter, we present detailed baseline data collected from respondents on key indicators, including demographic and household background characteristics, educational history and aspirations, employment activities, prevalence of hazardous (child) labor, and other youth outcomes. We highlight the main differences between the treatment and control groups. To protect the confidentiality of respondents, we present only those variables that had at least five respondents.²⁴

3.1 Youth Characteristics

Each section is structured as follows. We first present results for the 634 younger students who have been randomized between treatment (318) and control (316) classrooms (i.e. the younger analytical sample). Each exhibit describes the variables mean, coefficient of variation (CV), sample size for the treatment and control groups, the difference between the treatment and control group means, together with the confidence interval (CI) of the difference with the upper bound (UB) and lower bound (LB). We then present the same results for the entire analytical sample of 863 students (429 in treatment and 434 in control group).

3.1.1 Demographics and Household Characteristics

We begin with description of the background characteristics of the younger youth in our sample. As shown in Exhibit 10, their average age is just over 16 years. Females comprise 37.4 percent of the younger youth in the treatment group and 38.3 percent in the control group. The overwhelming majority of the sample (81.3 percent of the treatment group and 84.8 percent of the control group) identified as mestizo. The younger youth in the sample came from households with approximately five members, and over 80 percent of these households had Spanish-speaking parents. The only significant difference between the treatment and control groups was related to the fathers' levels of education. Thirty-one percent of the treatment group reported that their father had graduated from high school, as compared with 23.8 percent of the control group. This difference is significant at the 5 percent level.

Exhibit 10. Demographic Characteristics – Younger Students

	Treatment		Control		Difference	
	Mean (CV)	N	Mean (CV)	N	Mean	CI (LB, UB)
Age						
Age on Sept 30, 2016	16.170 (0.046)	318	16.079 (0.047)	316	0.091	(-.076, .258)
Sex						
Female	0.374 (1.295)	318	0.383 (1.271)	316	-0.009	(-.072, .055)
Gender identity						
Male	0.623 (0.780)	318	0.620 (0.784)	316	0.002	(-.061, .066)

²⁴ Seastrom, M. (2017). *Best practices for determining subgroup size in accountability systems while protecting personally identifiable student information*. (IES 2017-147). Washington, DC: U.S. Department of Education, Institute of Education Sciences. Retrieved from <http://ies.ed.gov/pubsearch>.

Female	0.368 (1.313)	318	0.373 (1.297)	316	-0.005	(-.067, .056)
Transgender [†]						
Race/ethnicity						
White	0.079 (3.417)	316	0.073 (3.569)	315	0.006	(-.037, .050)
Mestizo	0.813 (0.480)	316	0.848 (0.425)	315	-0.034	(-.109, .040)
Afro-descendent, black, or mulatto	0.073 (3.575)	316	0.035 (5.265)	315	0.038	(-.014, .090)
Montubio [†]						
Indigenous	0.025 (6.215)	316	0.032 (5.531)	315	-0.006	(-.027, .014)
Household composition						
Household size	5.360 (0.455)	314	5.465 (0.385)	314	-0.105	(-.520, .310)
Has children of his/her own	0.079 (3.411)	315	0.093 (3.129)	312	-0.014	(-.067, .040)
Married or living with partner	0.038 (5.041)	316	0.048 (4.464)	313	-0.010	(-.049, .029)
Mother's native language						
Spanish	0.890 (0.352)	318	0.889 (0.355)	314	0.001	(-.040, .043)
Indigenous language	0.038 (5.058)	318	0.038 (5.025)	314	0	(-.029, .028)
Other [†]						
Do not know	0.066 (3.767)	318	0.073 (3.563)	314	-0.007	(-.052, .037)
Father's native language						
Spanish	0.855 (0.412)	318	0.832 (0.450)	315	0.024	(-.046, .093)
Indigenous language	0.035 (5.291)	318	0.038 (5.033)	315	-0.004	(-.028, .021)
Other [†]						
Do not know	0.107 (2.895)	318	0.124 (2.664)	315	-0.017	(-.087, .054)
Mother completed high school						
Yes	0.263 (1.678)	316	0.225 (1.861)	316	0.038	(-.065, .141)
No	0.566 (0.876)	316	0.617 (0.789)	316	-0.051	(-.181, .079)
Do not know	0.171 (2.206)	316	0.158 (2.310)	316	0.013	(-.037, .063)
Father completed high school						
Yes	0.306 (1.508)	317	0.238 (1.792)	315	0.068*	(.011, .125)
No	0.448 (1.112)	317	0.508 (0.986)	315	-0.060	(-.146, .026)
Do not know	0.246 (1.753)	317	0.254 (1.717)	315	-0.008	(-.073, .057)

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

[†] Results are suppressed because there were fewer than five respondents.

Exhibit 11 presents statistics for the same demographic characteristics for all students. Compared to the younger sample, the full sample has a higher percentage of females (about 42 percent in both treatment and control groups) and higher percentage of students with own kids (16.9 percent in treatment and 17.9 percent in control group) and students are more likely to be married (10 percent in treatment and 9.5 percent in control). The only significant difference between the treatment and control groups was related to the fathers' levels of education. There is a 5.5 percentage point difference in the likelihood of father's high school completion that is significant at the 5 percent level.

Exhibit 11. Demographic Characteristics – All Students

	Treatment		Control		Difference	
	Mean (CV)	N	Mean (CV)	N	Mean	CI (LB, UB)
Age						
Age on Sept 30, 2016	17.278 (0.132)	429	17.114 (0.121)	434	0.164	(-1.202, 1.53)
Sex						
Female	0.417 (1.183)	429	0.422 (1.172)	434	-0.004	(-.081, .072)
Gender Identity						
Male	0.580 (0.851)	429	0.578 (0.855)	434	0.002	(-.076, .08)
Female	0.413 (1.195)	429	0.412 (1.195)	434	0	(-.076, .076)
Transgender [†]						
Race/Ethnicity						
White race/ethnicity	0.075 (3.517)	427	0.072 (3.601)	432	0.003	(-.031, .037)
Mestizo race/ethnicity	0.824 (0.462)	427	0.829 (0.455)	432	-0.004	(-.065, .057)
Afro-descendent, black, or mulatto race/ethnicity	0.063 (3.854)	427	0.044 (4.668)	432	0.019	(-.026, .064)
Montubio race/ethnicity	0.014 (8.386)	427	0.021 (6.864)	432	-0.007	(-.023, .01)
Indigenous race/ethnicity	0.023 (6.465)	427	0.035 (5.279)	432	-0.011	(-.033, .011)
Household Composition						
Household size	5.266 (0.450)	425	5.425 (0.393)	431	-0.159	(-.489, .171)
Has children of his/her own	0.169 (2.220)	426	0.179 (2.144)	430	-0.01	(-.132, .112)
Married or living with partner	0.101 (2.992)	427	0.095 (3.088)	431	0.006	(-.075, .086)
Mother's mother language						
Spanish	0.904 (0.325)	429	0.875 (0.378)	432	0.029	(-.008, .067)
Native language	0.030 (5.663)	429	0.044 (4.668)	432	-0.014	(-.042, .014)
Other language [†]						
Does not know	0.058 (4.025)	429	0.081 (3.372)	432	-0.023	(-.059, .014)
Father's mother language						
Spanish	0.874 (0.380)	428	0.822 (0.466)	432	0.052	(-.005, .109)
Native language	0.030 (5.657)	428	0.044 (4.668)	432	-0.014	(-.041, .014)
Other language [†]						
Does not know	0.093 (3.118)	428	0.130 (2.594)	432	-0.036	(-.09, .018)
Mother completed high school						
Yes	0.260 (1.689)	427	0.205 (1.971)	434	0.055	(-.024, .133)
No	0.597 (0.822)	427	0.654 (0.728)	434	-0.057	(-.167, .053)
Do not know	0.143 (2.452)	427	0.141 (2.476)	434	0.002	(-.049, .054)
Father completed high school						
Yes	0.290 (1.565)	427	0.236 (1.803)	433	.055*	(.003, .106)
No	0.478 (1.047)	427	0.522 (0.958)	433	-0.044	(-.116, .028)
Do not know	0.232 (1.822)	427	0.242 (1.769)	433	-0.011	(-.064, .042)

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

[†] Results are suppressed because there were fewer than five respondents.

Exhibit 12 describes youths' school enrollment histories. Over 80 percent of younger students reported entering primary school at the same age as their classmates; on average, the younger students in the control and treatment groups dropped out of school two years ago. The most common reason the younger youth reported for dropping out was feeling disengaged from school: 42.5 percent of the treatment group and 35.9 percent of the control group said that they did not consider school interesting or valuable or that they did not do well in school. The next most common reason was not feeling safe at school, cited by 17.8 percent of the treatment group and 15.3 percent of the control group. There were no significant differences between the treatment and control groups for any of the school enrollment variables.

Exhibit 12. School Enrollment Histories – Younger Students

	Treatment		Control		Difference	
	Mean (CV)	N	Mean (CV)	N	Mean	CI (LB, UB)
Age at first time of enrollment in primary school						
Same age as classmates in first grade	0.820 (0.469)	317	0.838 (0.440)	315	-0.018	(-.070, .034)
Younger than classmates in first grade	0.088 (3.218)	317	0.086 (3.271)	315	0.003	(-.024, .029)
Older than classmates in first grade	0.091 (3.156)	317	0.076 (3.488)	315	0.015	(-.030, .061)
School drop out						
Years since last dropped out of school	1.978 (0.757)	293	2.027 (0.699)	303	-0.048	(-.426, .329)
Reasons for dropping out						
I did not consider school interesting or valuable, or I did not do well in school.	0.425 (1.165)	301	0.359 (1.338)	309	0.066	(-.028, .160)
I did not feel safe at school (due either to other students or to teachers).	0.178 (2.155)	304	0.153 (2.360)	308	0.025	(-.045, .095)
My family did not consider school valuable.	0.137 (2.518)	300	0.126 (2.640)	310	0.011	(-.066, .088)
I could not afford it or did not have enough money.	0.125 (2.645)	303	0.120 (2.716)	309	0.006	(-.055, .066)
I had to work or support my family financially.	0.106 (2.910)	302	0.119 (2.721)	310	-0.013	(-.081, .054)
I temporarily migrated.	0.092 (3.139)	303	0.097 (3.055)	309	-0.005	(-.054, .045)
I had to help with domestic chores or take care of a family member.	0.069 (3.671)	303	0.106 (2.902)	310	-0.037	(-.077, .003)
I had a romantic relationship or pregnancy.	0.063 (3.879)	304	0.094 (3.112)	309	-0.031	(-.076, .014)
School was too far away, or I did not have the means to get there.	0.063 (3.879)	304	0.058 (4.034)	310	0.004	(-.045, .054)
I had a drug or alcohol addiction.	0.053 (4.250)	304	0.058 (4.027)	309	-0.006	(-.042, .031)
I felt I was too old for school.	0.046 (4.551)	303	0.039 (4.991)	310	0.007	(-.035, .050)
I had an illness or disability.	0.023 (6.514)	303	0.023 (6.579)	309	0	(-.025, .026)
Other reason	0.144 (2.439)	298	0.173 (2.192)	301	-0.028	(-.119, .062)

* p<0.05, ** p<0.01, *** p<0.001

Results are similar for the entire sample (Exhibit 13). The most common reason youth reported for dropping out was feeling disengaged from school (39.1 percent of the treatment group and 33.3 percent of the control group) followed by not feeling safe at school, about 17 percent in both groups. The results for the number of years since dropping out of school suggest that older students have been out of school for longer, as expected, almost 3 years on average. Overall, there were no significant differences between the treatment and control groups for any of the school enrollment variables.

Exhibit 13. School Enrollment Histories – All Students

	Treatment		Control		Difference	
	Mean (CV)	N	Mean (CV)	N	Mean	CI (LB, UB)
Age at first time of enrollment in primary school						
Same age as classmates in first grade	0.818 (0.473)	428	0.831 (0.451)	433	-0.014	(-.058, .03)
Younger than classmates in first grade	0.089 (3.207)	428	0.088 (3.228)	433	0.001	(-.027, .029)
Older than classmates in first grade	0.093 (3.118)	428	0.081 (3.376)	433	0.013	(-.023, .049)
School drop out						
Years since last dropped out of school	3.034 (0.883)	403	2.762 (0.830)	418	0.272	(-.92, 1.464)
Reasons for dropping out						
I did not consider school interesting or valuable or I did not do well in school	0.391 (1.250)	407	0.333 (1.418)	424	0.058	(-.028, .144)
I did not feel safe at school (either due to other students or teachers)	0.173 (2.188)	410	0.168 (2.229)	423	0.005	(-.05, .061)
I had to work or support my family financially	0.174 (2.181)	408	0.156 (2.332)	424	0.018	(-.075, .112)
I could not afford it/Lack of money	0.154 (2.346)	409	0.125 (2.649)	424	0.029	(-.03, .088)
My family did not consider school valuable	0.143 (2.449)	405	0.120 (2.711)	425	0.023	(-.044, .091)
Due to a romantic relationship or pregnancy	0.117 (2.750)	410	0.132 (2.567)	424	-0.015	(-.088, .058)
I temporarily migrated	0.108 (2.884)	409	0.113 (2.802)	424	-0.006	(-.054, .043)
I had to help with domestic chores or take care of a family member	0.108 (2.884)	409	0.106 (2.909)	425	0.002	(-.058, .062)
School was too far away or I did not have the means to get there	0.071 (3.629)	410	0.061 (3.922)	425	0.01	(-.029, .048)
Due to a drug or alcohol addiction	0.063 (3.848)	410	0.054 (4.180)	424	0.009	(-.021, .04)
I felt I was too old for school	0.056 (4.102)	409	0.035 (5.234)	425	0.021	(-.012, .054)
Due to illness or disability	0.024 (6.324)	409	0.028 (5.866)	424	-0.004	(-.026, .018)
Other reason	0.136 (2.519)	403	0.168 (2.226)	410	-0.032	(-.101, .037)

* p<0.05, ** p<0.01, *** p<0.001

3.1.2 Employment

In this section, we present summary statistics about the prevalence of employment among sample youth. Children in employment are those engaged in any productive economic activity falling within the production boundary in the System of National Accounts, which excludes household chores. Following this criterion, employed youth are those who worked, for pay or

not, during the last week. Employment includes running or engaging in any kind of business, such as selling goods, driving a taxi or other form of transport, shining shoes, and so on; working for a wage, salary, or commission in either a regular job or casual work; serving as a domestic worker; helping with the family business; or performing any other work activity, whether for pay or not for pay.

Exhibit 14 displays the percentage of younger students in our sample who worked in any type of economic activity, the percentage of younger students involved in the broad types of economic activities, and the average number of hours worked in the previous week. The data indicate that 38.1 percent of younger students in the treatment group and 45.5 percent of those in the control group were working the week before the survey. The 7.4 percentage point difference is not statistically significant. There are also no statistically significant differences in the broad types of economic activities younger youth performed.²⁵ For example, 13.5 percent of treatment group and 11.2 percent of control group ran or helped in any kind of business. The average number of hours among the working younger students was almost 17 hours a week in both treatment and control groups.

Exhibit 14. Working Status – Younger Students

	Treatment		Control		Difference	
	Mean (CV)	N	Mean (CV)	N	Mean	CI (LB, UB)
Younger Students employment last week						
Any work activity	0.381 (1.277)	315	0.455 (1.097)	310	-0.074	(-.177, .029)
Run or help in any kind of business	0.135 (2.540)	312	0.112 (2.818)	312	0.022	(-.024, .069)
Work for wage or salary	0.134 (2.549)	314	0.129 (2.607)	311	0.005	(-.047, .058)
Serve as domestic worker	0.073 (3.557)	313	0.081 (3.382)	310	-0.007	(-.044, .030)
Help in the household business without pay	0.156 (2.329)	314	0.210 (1.945)	310	-0.054	(-.120, .012)
Catch animals or fish for sale	0.032 (5.504)	312	0.032 (5.486)	310	0	(-.032, .032)
Work on household's plot to grow produce for sale	0.035 (5.257)	314	0.042 (4.787)	310	-0.007	(-.041, .027)
Do construction or repairs on household business or plot	0.098 (3.037)	316	0.093 (3.123)	311	0.005	(-.042, .052)
Perform any other work activity, for pay or not	0.263 (1.677)	312	0.313 (1.484)	310	-0.050	(-.141, .041)
Temporarily absent from work	0.117 (2.758)	309	0.105 (2.920)	304	0.011	(-.035, .057)
Number of hours						
Hours worked in the past week	16.712 (0.865)	80	16.913 (0.860)	103	-0.200	(-4.949, 4.549)

* p<0.05, ** p<0.01, *** p<0.001

Exhibit 15 present the result for the entire sample. Compared to the younger sample, the percentage of students working is higher both in the treatment and control groups (42.6 percent versus 49.8 percent, respectively). There are generally no statistically significant differences

²⁵ The percentages presented are out of the entire sample of minor youth, not only those working.

between treatment and control groups except that the control students are 6.2 percentage points more likely to engage in the family business relative to the treatment students. The difference is significant at 5 percent level.

Exhibit 15. Working Status – All Students

	Treatment		Control		Difference	
	Mean (CV)	N	Mean (CV)	N	Mean	CI (LB, UB)
Youth employment last week						
Any work activity	0.426 (1.162)	425	0.498 (1.006)	428	-0.072	(-.17, .026)
Run or help in any kind of business	0.154 (2.346)	422	0.144 (2.439)	430	0.01	(-.043, .063)
Work for wage, salary	0.160 (2.291)	424	0.145 (2.436)	429	0.016	(-.036, .068)
Domestic worker	0.085 (3.283)	423	0.084 (3.304)	428	0.001	(-.034, .036)
Help the household business without pay	0.167 (2.236)	425	0.229 (1.837)	428	-.062*	(-.121, -.003)
Catch animals or fish for sale	0.028 (5.852)	422	0.037 (5.074)	427	-0.009	(-.037, .019)
Work on household's plot for sale	0.047 (4.500)	424	0.042 (4.778)	428	0.005	(-.023, .033)
Do construction or repairs on own family business or plot	0.096 (3.068)	426	0.103 (2.961)	429	-0.006	(-.043, .03)
Perform other work activity for pay or not	0.290 (1.565)	420	0.334 (1.413)	428	-0.044	(-.126, .039)
Temporarily absent from work	0.143 (2.456)	414	0.119 (2.725)	412	0.024	(-.027, .074)
Number of Hrs. Worked Past Week						
Hours worked	19.007 (0.785)	134	16.913 (0.835)	160	2.095	(-1.924, 6.113)

* p<0.05, ** p<0.01, *** p<0.001

The next exhibit describes in more detail the specific types of jobs performed by the younger students in the sample. The most prevalent occupation is street work (6.6 percent of treatment group youth and 6.3 percent of control group youth) including shoe shiner, market vendor, and the like; the next most common is serving as a cook or waiter in a restaurant (5.9 percent of treatment youth and 6.3 percent of control youth).²⁶ There are no statistically significant differences between treatment and control groups in any type of occupation. The second panel of Exhibit 16 outlines sectors of employment. Again, no statistically significant differences emerge between treatment and control groups.

Exhibit 16. Types of Jobs and Sector of Employment – Younger Students

	Treatment		Control		Difference	
	Mean (CV)	N	Mean (CV)	N	Mean	CI (LB, UB)
Type of job						
Miner [†]						
Bread and pastry maker [†]						
Car repair shop mechanic	0.042 (4.787)	286	0.049 (4.432)	288	-0.007	(-.044, .030)

²⁶ The percentages presented are out of the entire sample of minor youth, not only those who are working.

Carpenter	0.031 (5.557)	286	0.031 (5.577)	288	0	(-.030, .030)
Cleaner/janitor [†]						
Construction worker	0.031 (5.557)	286	0.063 (3.880)	288	-0.031	(-.074, .012)
Domestic worker (living in the house)	0.021 (6.843)	286	0.038 (5.027)	288	-0.017	(-.044, .010)
Domestic worker (living outside the house) [†]						
Packer loading and unloading goods in a market	0.045 (4.591)	286	0.031 (5.577)	288	0.014	(-.018, .046)
Street worker, including shoe shining, selling in a market, or other street work	0.066 (3.755)	286	0.063 (3.880)	288	0.004	(-.045, .053)
Cook or waiter in a restaurant	0.059 (3.985)	286	0.063 (3.880)	288	-0.003	(-.039, .033)
Waiter or bartender in a bar/cantina serving alcoholic beverages [†]						
Taxi/motorcar driver [†]						
Custodian or security guard [†]						
Social club worker (in places featuring gambling, alcohol, nudity) [†]						
Recycler of waste, scrap metal, and nonmetallic waste [†]						
Garbage worker/collector [†]						
Brick maker [†]						
Other	0.091 (3.168)	286	0.142 (2.459)	288	-0.051	(-.123, .020)
Sector of employment						
Agriculture [†]						
Mining and quarrying [†]						
Manufacturing	0.025 (6.290)	283	0.029 (5.798)	276	-0.004	(-.029, .020)
Construction or brick production	0.035 (5.234)	283	0.051 (4.334)	276	-0.015	(-.054, .023)
Hotels and restaurants	0.071 (3.633)	283	0.051 (4.334)	276	0.020	(-.016, .055)
Wholesale or retail trade	0.057 (4.092)	283	0.072 (3.584)	276	-0.016	(-.066, .034)
Informal or ambulatory sales	0.035 (5.234)	283	0.054 (4.179)	276	-0.019	(-.060, .022)
Repair of motor vehicles, motorcycles, and other machinery [†]						
Transportation/storage	0.032 (5.527)	283	0.025 (6.210)	276	0.006	(-.021, .034)
Other service activities	0.067 (3.734)	283	0.105 (2.924)	276	-0.038	(-.084, .008)
Other [†]	0.014 (8.366)	283	0.025 (6.210)	276	-0.011	(-.036, .013)

* p<0.05, ** p<0.01, *** p<0.001

[†] Results are suppressed because there were fewer than five respondents.

As seen in Exhibit 17, the most prevalent occupation remains street work also in the entire sample (7.4 percent of treatment group and 7.3 percent of control group) followed by serving as a cook or waiter in a restaurant (6.1 percent of treatment youth and 8.5 percent of control youth). There are no statistically significant differences between treatment and control groups in any type of occupation not sector of employment.

Exhibit 17. Types of Jobs and Sector of Employment – All Students

	Treatment		Control		Difference (t test)	
	Mean (CV)	N	Mean (CV)	N	Mean	CI (LB, UB)
Type of Jobs						
Miner [†]						
Bread and pastry-making	0.015 (8.021)	391	0.033 (5.449)	398	-0.017	(-.04, .005)
Car repair shop/mechanic	0.043 (4.696)	391	0.055 (4.139)	398	-0.012	(-.042, .019)
Carpenter	0.036 (5.196)	391	0.040 (4.892)	398	-0.004	(-.032, .024)
Cleaning/janitor [†]						
Construction worker	0.041 (4.847)	391	0.068 (3.712)	398	-0.027	(-.062, .009)
Domestic worker (living in the house)	0.031 (5.627)	391	0.043 (4.740)	398	-0.012	(-.041, .017)
Domestic worker (living outside the house)	0.015 (8.021)	391	0.005 (14.089)	398	0.01	(-.002, .023)
Loading and unloading in markets/packer	0.051 (4.312)	391	0.035 (5.244)	398	0.016	(-.013, .045)
Street worker, including shoe shining, market vendor, or other street work	0.074 (3.538)	391	0.073 (3.572)	398	0.001	(-.042, .045)
Cook or waiter/waitress (in restaurants)	0.061 (3.915)	391	0.085 (3.276)	398	-0.024	(-.063, .015)
Waiter/bartender in a bar/cantina - serving alcoholic beverages	0.015 (8.021)	391	0.015 (8.093)	398	0	(-.019, .019)
Taxi/motorcar driver	0.013 (8.798)	391	0.013 (8.877)	398	0	(-.015, .015)
Custodian or security guard [†]						
Social club worker (in places for gambling, alcohol, gentlemen's clubs) [†]						
Recycler of waste, scrap metal, and nonmetallic waste [†]						
Garbage worker/collector [†]						
Brick maker [†]						
Other	0.115 (2.776)	391	0.163 (2.266)	398	-0.048	(-.11, .013)
Sector of Employment						
Agriculture	0.016 (7.948)	384	0.019 (7.270)	376	-0.003	(-.023, .017)
Mining and quarrying [†]						
Manufacturing	0.034 (5.349)	384	0.029 (5.768)	376	0.005	(-.023, .033)
Construction or brick production	0.039 (4.966)	384	0.048 (4.466)	376	-0.009	(-.037, .02)
Hotels and restaurants	0.076 (3.503)	384	0.066 (3.752)	376	0.009	(-.026, .045)
Wholesale or retail trade	0.076 (3.503)	384	0.098 (3.031)	376	-0.023	(-.084, .038)
Informal or ambulatory sales	0.049 (4.389)	384	0.064 (3.835)	376	-0.014	(-.053, .024)
Repair of motor vehicles, motorcycles, and other machinery	0.031 (5.575)	384	0.021 (6.791)	376	0.01	(-.01, .03)
Transportation/storage	0.023 (6.463)	384	0.024 (6.394)	376	0	(-.023, .022)
Other service activities	0.081 (3.379)	384	0.106 (2.902)	376	-0.026	(-.063, .012)
Other	0.018 (7.348)	384	0.021 (6.791)	376	-0.003	(-.024, .018)

* p<0.05, ** p<0.01, *** p<0.001

[†] Results are suppressed because there were fewer than five respondents.

Although child labor definitions do not include household chores, we also present the numbers of youth participating in household chores. Exhibit 18 indicates that almost all younger students are usually involved in some type of household chores (95.2 and 95.8 percent in treatment and control groups, respectively). The most prevalent type of household chore is cleaning or helping with clothes (more than 70 percent of youth in both groups) and cooking or buying groceries (more than 60 percent in both groups). There are no statistically significant differences in the incidence of household chores or types of chores between treatment and control groups. Younger students in the treatment group spent an average of 11.5 hours a week in chores, and control youth spent 10.9 hours; 24.0 and 27.9 percent of youth in treatment and control groups, respectively, performed their chores at night.

Exhibit 18. Performance of Household Chores – Younger Students

Household chores usually performed	0.952 (0.225)	313	0.958 (0.209)	311	-0.006	(-.040, .028)
Cleaning or helping with clothes	0.748 (0.581)	314	0.728 (0.612)	309	0.020	(-.052, .092)
Cooking or buying groceries	0.653 (0.730)	314	0.615 (0.792)	312	0.037	(-.055, .13)
Caring for young, elderly, or unwell household members	0.363 (1.326)	311	0.377 (1.286)	310	-0.014	(-.110, .082)
Repairing household equipment	0.184 (2.112)	316	0.194 (2.040)	314	-0.011	(-.068, .046)
Conducting agricultural activities or taking care of animals for domestic use only	0.187 (2.086)	315	0.208 (1.956)	313	-0.020	(-.086, .046)
Producing goods for household use	0.273 (1.634)	315	0.268 (1.654)	313	0.005	(-.084, .093)
Fetching water or collecting firewood for household use	0.045 (4.590)	308	0.061 (3.927)	311	-0.016	(-.050, .019)
Other	0.032 (5.513)	313	0.029 (5.802)	311	0.003	(-.027, .033)
Hours spent on household chores in the last week	11.530 (1.148)	315	10.929 (0.787)	313	0.601	(-.883, 2.084)
Carried out household chores at night any day of the past week	0.240 (1.784)	313	0.279 (1.611)	312	-0.039	(-.119, .041)

* p<0.05, ** p<0.01, *** p<0.001

Household chores are very prevalent also among the sample including all students. Students in the entire sample are slightly more likely than the younger students to perform chores at night and spent few more hours a week doing their chores (Exhibit 19). There are no statistically significant differences in the incidence of household chores or types of chores between treatment and control groups.

Exhibit 19. Performance of Household Chores – All Students

	Treatment	Control	Difference
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	Mean (CV)	N	Mean (CV)	N	Mean	CI (LB, UB)
Youth involvement in household chores						
Household chores usually performed	0.960 (0.205)	424	0.970 (0.177)	428	-0.01	(-.037, .018)
Cleaning or helping with clothes	0.781 (0.531)	424	0.755 (0.570)	421	0.025	(-.043, .094)
Cooking or buying groceries	0.678 (0.689)	423	0.648 (0.738)	429	0.03	(-.059, .12)
Caring for young, elderly, or unwell household members	0.380 (1.279)	421	0.398 (1.231)	427	-0.018	(-.105, .069)
Repairing household equipment	0.194 (2.038)	427	0.200 (2.002)	430	-0.006	(-.058, .047)
Agricultural activities or taking care of animals for domestic use only	0.188 (2.079)	425	0.201 (1.997)	428	-0.013	(-.071, .046)
Producing goods for household use	0.302 (1.522)	424	0.270 (1.645)	429	0.031	(-.047, .11)
Fetching water or collecting firewood for household use	0.067 (3.727)	416	0.070 (3.642)	427	-0.003	(-.042, .036)
Other	0.031 (5.623)	423	0.028 (5.888)	427	0.003	(-.022, .027)
Hours spent on household chores last week						
Hours spent on household chores in the last week	12.543 (1.092)	425	12.032 (0.844)	430	0.511	(-1.502, 2.524)
Whether HH chores carried at night any day of past week						
Carried out household chores at night any day of the past week	0.281 (1.600)	423	0.294 (1.550)	428	-0.013	(-.09, .063)

* p<0.05, ** p<0.01, *** p<0.001

3.2 Prevalence of Hazardous Child Labor and Hazardous Labor

According to the abridged ILO-Ecuador definition of hazardous child labor used in this evaluation, minor youth are in hazardous child labor if they work:

- In hazardous industries²⁷
- In hazardous occupations²⁸
- At night, 7 p.m. to 6 a.m.
- More than 30 hours a week
- In hazardous conditions that expose them to dangerous substances or extreme cold, heat, noise, and so on; to injuries or illnesses; or to physical, emotional, or sexual harassment

All of these conditions were reported by youth age 15 to 17 in the study sample. A more detailed description of key concepts is presented in Appendix A. In this study, hazardous child labor statistics combine data from the last week and the past six months. Specifically, the survey asked about the number of hours worked, the time during which work was performed, and the types of activities with reference to the past week. However, a child who was not abused, exposed to

²⁷ Hazardous industries, according to Ecuador legislation, include construction, mining, and agriculture (specifically production of banana, flowers, palm oil, and timber).

²⁸ The following occupations reported by youth are considered hazardous: miner, car repair handyman, carpenter, construction worker, domestic worker (living in the house), packer, street worker, waiter or bartender in a bar/cantina, taxi/motorcar driver, custodian or security guard, social club worker, recycler of waste and garbage collector, brick maker, glazier, locksmith, aluminum worker, electrician, welder.

dangerous substances, or injured last week might have been exposed to such hazardous conditions in the past. For this reason, the baseline survey asked youth if they had been injured, abused, or mistreated in the past six months. Exhibit 20 provides an overview of the number of younger youth engaged in hazardous child labor practices using the triggers defined above.

We report the prevalence of hazardous child labor as the percentage of all younger students in the study sample. The data indicate that 39.4 percent of younger students in the treatment group and 42.9 percent of younger students in the comparison group were engaged in hazardous child labor according to at least one of the triggers. The 3.4 percentage point difference is not statistically significant. The most prevalent trigger is hazardous working conditions, which include exposure to dust, fumes, chemicals, and similar substances, affecting 24.1 percent and 27.3 percent of youth in treatment and control groups, respectively, followed by having suffered injuries and illnesses, affecting 23.4 percent and 25.7 percent, respectively. The data indicate no statistically significant differences in the prevalence of hazardous child labor and its individual components between the treatment and control groups.²⁹

Exhibit 20. Hazardous Child Labor Prevalence and Triggers – Younger Students

	Treatment		Control		Difference	
	Mean (CV)	N	Mean (CV)	N	Mean	CI (LB, UB)
All hazardous child labor	0.394 (1.241)	284	0.429 (1.157)	266	-0.034	(-.146, .077)
Work in hazardous industries	0.049 (4.391)	283	0.062 (3.910)	276	-0.012	(-.055, .030)
Work in hazardous occupations	0.185 (2.100)	286	0.215 (1.913)	288	-0.030	(-.112, .052)
Work at night [†]						
Work totaling more than 30 hours a week	0.036 (5.157)	275	0.055 (4.147)	272	-0.019	(-.059, .021)
Exposure to dust, fumes, noise, etc.	0.241 (1.780)	291	0.273 (1.635)	260	-0.033	(-.111, .046)
Injuries	0.234 (1.812)	282	0.257 (1.704)	253	-0.023	(-.106, .060)
Harassment	0.126 (2.635)	285	0.152 (2.369)	257	-0.025	(-.090, .039)

* p<0.05, ** p<0.01, *** p<0.001

[†] Results are suppressed because there are fewer than five respondents.

Specifically, for youth younger than 18, hazardous labor is measured using the same definition of hazardous child labor as described in detail in Appendix A. In other words, hazardous labor for youth younger than 18 is equivalent to hazardous child labor. We also measure hazardous labor for the entire sample of youths including older students (i.e. ages 18 to 25). The main difference in the way we measure hazardous labor for youth 18 years of age or older is that we consider hazardous work if the youth worked more than 43 hours a week instead of 30 hours a week used for the minor population.³⁰

²⁹ There were also no statistically significant differences in the incidence of missing values in hazardous child labor prevalence.

³⁰ The 43 hours threshold corresponds to about the mid-point of normal hours of work stipulated in many national legislations, mostly in the range of 40 to 44 (ILO Global Child labor trends, 2008-2012).

Exhibit 21 reports the prevalence of hazardous labor as the percentage of all students in the study sample. The data indicate that 43.5 percent of all students in the treatment group and 48.1 percent of all students in the control group were engaged in hazardous labor according to at least one of the triggers. The most prevalent trigger is hazardous working conditions, which include exposure to dust, fumes, chemicals, and similar substances, affecting 28.8 percent and 30 percent of youth in treatment and control groups, respectively, followed by having suffered injuries and illnesses. The data indicate no statistically significant differences in the prevalence of hazardous labor and its individual components between the treatment and control groups in the entire sample.³¹

Exhibit 21. Hazardous Labor – All students

Hazardous Labor	Treatment		Control		Difference (t test)	
	Mean (CV)	N	Mean (CV)	N	Mean	CI (LB, UB)
Overall HL prevalence	0.435 (1.142)	382	0.481 (1.040)	370	-0.047	(-.152, .059)
Work in hazardous industries	0.057 (4.062)	384	0.064 (3.835)	376	-0.007	(-.04, .027)
Work in hazardous occupations	0.215 (1.914)	391	0.236 (1.801)	398	-0.021	(-.094, .052)
Night work (7PM to 6AM) [†]						
Work long hours	0.037 (5.106)	378	0.053 (4.219)	375	-0.016	(-.048, .015)
Exposed to dust/fumes/noise, etc.	0.288 (1.576)	386	0.300 (1.530)	360	-0.012	(-.094, .069)
Suffered harassment	0.158 (2.312)	380	0.196 (2.028)	357	-0.038	(-.116, .04)
Injuries at work	0.279 (1.609)	376	0.298 (1.537)	349	-0.019	(-.111, .073)

* p<0.05, ** p<0.01, *** p<0.001

The next exhibit presents the hazardous labor result for the older students only. The results indicate that 55.1 percent of older students in the treatment group are involved in hazardous labor, compared to 61.5 percent in the control group. The largest contributors to hazardous work for the older students are exposure to dust fumes and injuries at work: about 4 out of 10 students experienced those conditions while working. The data indicate no statistically significant differences in the prevalence of hazardous labor and its individual components between the treatment and control groups in the older students' sample.

Exhibit 22. Hazardous Labor – Older students

Hazardous Labor	Treatment		Control		Difference (t test)	
	Mean (CV)	N	Mean (CV)	N	Mean	CI (LB, UB)
Overall HL prevalence	0.551 (0.907)	98	0.615 (0.794)	104	-.064	(-.226, .097)
Work in hazardous industries	0.079 (3.427)	101	0.070 (3.663)	100	.009	(-.042, .06)
Work in hazardous occupations	0.295 (1.552)	105	0.291 (1.568)	110	.004	(-.134, .142)
Night work (7PM to 6AM) [†]						
Work long hours	0.039 (4.999)	103	0.049 (4.449)	103	-.01	(-.071, .052)
Exposed to dust/fumes/noise, etc.	0.432 (1.154)	95	0.370 (1.311)	100	.062	(-.08, .204)

³¹ There were also no statistically significant differences in the incidence of missing values in hazardous labor prevalence.

Suffered harassment	0.253 (1.729)	95	0.310 (1.499)	100	-.057	(-.234, .12)
Injuries at work	0.415 (1.194)	94	0.406 (1.215)	96	.009	(-.182, .199)

* p<0.05, ** p<0.01, *** p<0.001

3.3 Irregular Employment and Involvement in Risky Activities

In addition to measuring hazardous work, we also measure more refined aspects of youth employment, specifically involvement in activities that are more or less stable and that can lead to more productive employment opportunities. This section reports findings on the prevalence of youth in “irregular employment,” as defined by ILO: vulnerable workers, casual workers, and temporary workers. (Refer to Appendix A for a more detailed definition.) Exhibit 23 shows that a substantial fraction of younger students were involved in irregular employment: 24.0 percent and 27.3 percent in treatment and control groups, respectively.³²

Furthermore, our implementing partners suggested that many of the youth targeted by the YPD program are exposed to hazardous activities such as gang violence, drug trafficking, and prostitution, which constitute the worst forms of child labor. Though the CBA and YPD interventions do not have removing students from these activities as a goal, we gathered data on these youth activities, which might be indirectly affected by participation in the program. Exhibit 15 indicates that about 15 percent of younger students in treatment group and 18 percent of younger students in the control group were currently or had previously been part of a gang. In addition, a substantial proportion of the younger youth had used drugs: 21.1 percent and 20.3 percent of youth in treatment and control groups, respectively. There are no statistically significant differences between treatment and control groups in the incidence of gang participation or drug use.

Exhibit 23. Irregular Employment and Risky Behaviors – Younger Students

	Treatment		Control		Difference	
	Mean (CV)	N	Mean (CV)	N	Mean	CI (LB, UB)
Irregular employment						
Engaged in irregular employment	0.240 (1.783)	296	0.273 (1.633)	300	-0.033	(-.107, .040)
Gangs						
Currently part of a gang	0.036 (5.161)	303	0.046 (4.543)	302	-0.010	(-.047, .027)
Previously part of a gang	0.112 (2.817)	303	0.132 (2.564)	302	-0.020	(-.078, .038)
Never part of a gang	0.851 (0.418)	303	0.821 (0.467)	302	0.030	(-.039, .100)
Drugs						
Has used drugs	0.211 (1.936)	303	0.203 (1.987)	301	0.009	(-.057, .074)
Has not used drugs	0.653 (0.729)	303	0.638 (0.755)	301	0.016	(-.049, .081)
Prefers not to answer	0.135 (2.532)	303	0.159 (2.300)	301	-0.024	(-.058, .010)

* p<0.05, ** p<0.01, *** p<0.001

³²There were also no statistically significant differences in the incidence of missing values in irregular employment prevalence for both the younger sample and the overall sample.

The descriptive statistics for the entire sample of students in Exhibit 24 are very similar to the younger sample. The only statistically significant difference between treatment and control group is the incidence of students who prefer not to answer the drug use related question (higher in the control than treatment group).

Exhibit 24. Irregular Employment and Risky Behaviors – All Students

	Treatment		Control		Difference (t test)	
	Mean (CV)	N	Mean (CV)	N	Mean	CI (LB, UB)
Irregular employment						
Engaged in irregular employment	0.267 (1.660)	401	0.304 (1.514)	411	-0.037	(-.111, .037)
Gangs						
Currently part of a gang	0.034 (5.332)	411	0.042 (4.802)	408	-0.008	(-.037, .022)
Previously part of a gang	0.136 (2.521)	411	0.145 (2.435)	408	-0.008	(-.06, .043)
Never part of a gang	0.830 (0.454)	411	0.814 (0.479)	408	0.016	(-.042, .074)
Drugs						
Has used drugs	0.217 (1.901)	410	0.224 (1.863)	406	-0.007	(-.071, .057)
Has not used drugs	0.668 (0.705)	410	0.623 (0.779)	406	0.045	(-.017, .107)
Prefers not to answer	0.115 (2.782)	410	0.153 (2.358)	406	-.038*	(-.071, -.005)

* p<0.05, ** p<0.01, *** p<0.001

3.4 Other Youth Outcomes

3.4.1 Socioemotional Skills

Exhibit 25 presents the baseline levels related to socioemotional skills, specifically self-efficacy and social skills. We constructed the self-efficacy measure by asking students to indicate the extent to which they agreed or disagreed with 10 statements capturing aspects such as, for example, how difficult it is to solve problems and whether they have the capacity to stay calm when they are in trouble. Each response option was scored on a scale from 1, strongly disagree, to 4, strongly agree. We then aggregated the points for all 10 statements for a maximum possible total of 40 points. Higher values indicate a higher measure of self-efficacy. The data indicate that younger students in the treatment and control groups had similar average levels of self-efficacy: 30.139 points for treatment youth and 30.626 points for control youth.

Similarly, we obtained an overall measure of social skills by asking students to indicate whether each of 12 statements was false or true. The statements capture, for example, to what extent respondents can easily start a conversation with someone they do not know or whether they help when friends have a fight. Each response option was scored on a scale from 1, totally false, to 4, totally true. We then aggregated the points for all 12 statements for a maximum possible total of 48 points. Two negative statements were scored in reverse before being combined with the rest of statements. The 12 statements were broken down into three sub-scales:

communication, assertiveness, and conflict resolution. There are no statistically significant differences between treatment and control groups in any of the dimensions of social skills.³³

Exhibit 25. Socioemotional Skills – Younger Students

	Treatment		Control		Difference	
	Mean (CV)	N	Mean (CV)	N	Mean	CI (LB, UB)
Self-efficacy	30.139 (0.175)	252	30.626 (0.162)	278	-0.487	(-1.176, .202)
Social skills total	31.273 (0.157)	275	31.271 (0.137)	273	0.002	(-.862, .865)
Communication	12.134 (0.205)	284	12.206 (0.206)	291	-0.072	(-.522, .377)
Assertiveness	8.426 (0.223)	303	8.460 (0.210)	302	-0.035	(-.445, .376)
Conflict resolution	10.767 (0.244)	301	10.703 (0.223)	293	0.064	(-.337, .466)

* p<0.05, ** p<0.01, *** p<0.001

Results for the sample including all students are very similar, and indicate that there are no statistically significant differences between treatment and control groups in any of the dimensions of self-efficacy and social skills (Exhibit 26).

Exhibit 26. Socioemotional Skills – All Students

	Treatment		Control		Difference (t test)	
	Mean (CV)	N	Mean (CV)	N	Mean	CI (LB, UB)
Self-efficacy	30.648 (0.173)	347	30.277 (0.168)	375	0.371	(-.583, 1.325)
Social skills - total	31.425 (0.151)	369	31.186 (0.142)	371	0.239	(-.603, 1.082)
Communication	12.073 (0.208)	381	12.078 (0.212)	395	-0.005	(-.39, .38)
Assertiveness	8.609 (0.218)	407	8.442 (0.209)	414	0.167	(-.223, .558)
Conflict resolution	10.789 (0.240)	402	10.671 (0.225)	404	0.118	(-.275, .511)

* p<0.05, ** p<0.01, *** p<0.001

3.4.2 School and Work Aspirations

Exhibit 27 and Exhibit 28 describe youths' educational aspirations for the sample of younger students and the sample including all students, respectively. A large proportion of the younger students hoped to achieve a university degree: 46.7 percent in the treatment group and 48.7 percent in the control group. The data for the sample including all students indicate that 47.2 percent in the treatment group and 52.8 percent in the control group hoped to achieve a university degree. Students were also asked about the level of education they realistically think they can achieve. Comparing the responses to the two questions reveals that over 60 percent of students expected to achieve their desired level of education; slightly more than 30 percent expected realistically to achieve an education level lower than the one they desired. There are no statistically significant differences between treatment and control groups in their aspiration levels except for a significant 3.3 percentage point difference in the proportion of students in the

³³ There were a statistically significant difference in the incidence of missing values in the self-efficacy measure for the younger sample, but not for the older sample.

treatment group in the entire sample indicating they hope to achieve some other education levels relative to the control group.

Exhibit 27. Educational Aspirations – Younger Students

	Treatment		Control		Difference	
	Mean (CV)	N	Mean (CV)	N	Mean	CI (LB, UB)
Highest level of education you <i>desire or hope</i> to achieve						
Middle school [†]						
High school	0.186 (2.094)	317	0.165 (2.257)	316	0.022	(-.067, .110)
Technical school	0.104 (2.938)	317	0.117 (2.750)	316	-0.013	(-.068, .042)
University	0.467 (1.070)	317	0.487 (1.027)	316	-0.020	(-.113, .072)
Postgraduate degree	0.189 (2.073)	317	0.193 (2.048)	316	-0.004	(-.070, .063)
Other	0.050 (4.344)	317	0.022 (6.655)	316	0.028	(-.010, .066)
Highest level of education you <i>think you can</i> achieve						
Lower expectations	0.306 (1.509)	291	0.321 (1.456)	302	-0.015	(-.093, .062)
Equal expectations	0.632 (0.764)	291	0.613 (0.797)	302	0.020	(-.044, .083)
Higher expectations	0.062 (3.901)	291	0.066 (3.761)	302	-0.004	(-.039, .030)

* p<0.05, ** p<0.01, *** p<0.001

[†] Results are suppressed because there were fewer than five respondents.

Exhibit 28. Educational Aspirations – All Students

	Treatment		Control		Difference (t test)	
	Mean (CV)	N	Mean (CV)	N	Mean	CI (LB, UB)
Highest level of education <u>desire/hope</u> to achieve						
Middle school [†]						
High school	0.171 (2.208)	428	0.152 (2.364)	434	0.018	(-.053, .09)
Technical school	0.107 (2.885)	428	0.113 (2.806)	434	-0.005	(-.049, .038)
University	0.472 (1.059)	428	0.528 (0.947)	434	-0.056	(-.133, .021)
Post-graduate degree	0.194 (2.041)	428	0.175 (2.173)	434	0.019	(-.038, .075)
Other	0.054 (4.201)	428	0.021 (6.880)	434	.033*	(.005, .061)
Highest level of education you <u>think you can</u> achieve						
% with lower expectations	0.329 (1.430)	392	0.343 (1.386)	414	-0.014	(-.088, .06)
% with equal	0.607 (0.805)	392	0.592 (0.832)	414	0.015	(-.054, .085)
% with higher	0.064 (3.836)	392	0.065 (3.791)	414	-0.001	(-.031, .028)

* p<0.05, ** p<0.01, *** p<0.001

[†] Results are suppressed because there were fewer than five respondents.

APPENDIX A. DEFINITIONS FOR MEASURING HAZARDOUS CHILD LABOR

The International Labour Organization (ILO) defines child labor as any type of “work that is mentally, physically, socially or morally dangerous and harmful to children, and interferes with children’s education by: (i) denying them an opportunity to attend school, (ii) obliging them to leave school prematurely, or (iii) requiring them to attempt to combine school attendance with excessively long and heavy work.”³⁴

In addition, ILO outlines specific criteria for the statistical measurement of child labor across countries. The proceedings of the 18th International Conference of Labor Statisticians (ICLS) state:

Children engaged in child labor include all persons aged 5 to 17 years who are engaged in any of the following:

- 1) worst forms of child labor*
- 2) employment below the minimum age*
- 3) hazardous unpaid household services, applicable where the general production boundary is used as the measurement framework*³⁵

A child may be considered in child labor when the total number of hours worked in employment and unpaid household services exceeds the thresholds that may be set for national statistics purposes.

Ecuador has ratified ILO’s major conventions on minimum working age and worst forms of child labor (ILO convention 138 and 182, respectively) as well as the United Nation’s Convention on the Rights of the Child. Ecuador’s national legislation regulating work prohibited to minors consists of the Labor Code (2005), the Childhood and Adolescence Code (C&A Code, 2003), and Resolution 16 of the National Council for Childhood and Adolescence (CNNA16, 2008).

National Definitions

National legislation does not include detailed terminology, like *light work* or *hazardous household services*, to define the categories of children in employment or in child labor. However, it codifies the obligatory components set forth in the relevant international treaties, such as abolishing the worst forms of child labor, defining the basic minimum working age and minimum age for hazardous work, and setting limits on hours and conditions for working adolescents. Details on each of these elements are provided below.

Worst Forms of Child Labor

Ecuador’s Labor Code (art. 138) provides a framework for the types of work that are prohibited to minors by incorporating ILO’s description of what constitutes the worst forms of child labor. The Labor Code includes a brief list of work that “by its nature or conditions” may be harmful to

³⁴ ILO. (n.d.). What is child labour [webpage]. Retrieved from <http://www.ilo.org/ipec/facts/lang--en/index.htm>

³⁵ ILO. (2008). Resolution II: Resolution concerning statistics of child labor. In *Report of the Conference: 18th International Conference of Labour Statisticians*, pp. 58–66. Retrieved from http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/meetingdocument/wcms_101467.pdf

the health, security, or morality of minors; such work is further defined in ILO's Recommendation 190 as hazardous child labor. The C&A Code also provides a list of the broad types of work that are prohibited for adolescents; this list is closely related to the hazardous child labor list in the Labor Code. The National Council for Childhood and Adolescence is the government body in charge of maintaining the detailed list of work activities prohibited to minors (CNNA16), which expands on the C&A Code list.³⁶

Minimum Legal Age

The Constitution of Ecuador sets the minimum working age for adolescents at 15 years old.³⁷ According to the C&A Code, adolescents between 15 and 17 years old may work under protected conditions described below.³⁸ The required minimum age for hazardous work is 18.³⁹

Hours and Working Conditions

The Constitution and the Labor Code designate the number of hours and type of work permitted for working adolescents. Adolescents may not work more than six hours a day or 30 hours a week, over a maximum of five days a week. Night work between 7 p.m. and 6 a.m. is prohibited, as are hazardous workplace conditions, activities, or occupations that may endanger adolescents' development or well-being.

Hazardous Unpaid Household Services

Although the number of hours for household chores is not explicitly limited in national laws, Ecuador's National Statistics Office keeps track of children and adolescents age 5 to 17 who are engaged in household work for more than 14 hours a week. It includes these statistics alongside the reports of children engaged in child labor. The 19th ICLS (Report III, par. 41) notes that children who combine household chores with employment are less likely to be in school. For this evaluation, household chores are not part of the hazardous child labor measurement framework, but data on household work are presented separately for descriptive purposes.

Definitions Used in This Evaluation

For this evaluation, we apply the child labor measurement framework criteria outlined by the ILO to the portion of the CBA minor population, 15 to 17 years old.⁴⁰ Because the minimum working age in Ecuador is 15, child labor definition does not apply to our target population. However, since minimum age for working under hazardous conditions is 18, we are studying the prevalence of hazardous child labor among students age 15 to 17. Specifically, CBA working adolescents are considered to be engaged in hazardous child labor if they are working in designated hazardous

³⁶ This is in line with ILO's recommendation that "[t]he types of work referred to under Article 3(d) [hazardous child labor] shall be determined by national laws or regulations or by the competent authority..." (C182, art. 4).

³⁷ ILO, Constitution of Ecuador, and C&A 2003. Any individual under 18 years of age is considered a minor by the Constitution of Ecuador.

³⁸ The C&A Code treats individuals who turn 18 years old as adolescents under certain exceptional circumstances.

³⁹ C&A Code 2003.

⁴⁰ http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/publication/wcms_223907.pdf

industries; in hazardous occupations; working long hours or at night or under hazardous working conditions, such as being exposed to dangerous substances or working at heights.

The rest of the young adults targeted by the CBA program are ages 18 to 25. When looking at the entire sample which also include the older students, we use the term hazardous labor. Hazardous labor is defined as follows. For youth younger than 18 we measure hazardous labor using the same definitions described above. In other words for youth younger than 18 hazardous labor is equivalent to hazardous child labor. The main difference in the way we measure hazardous labor for youth 18 years of age or older is that we will consider hazardous work if the youth worked more than 43 hours a week instead of 30 hours a week.

In addition to measuring outcomes including hazardous work and illicit activities, it is also important to capture more refined aspects of youth employment, specifically involvement in activities that are more or less stable and conducive to more productive employment opportunities. Measuring irregular employment can be important for our entire youth population, where a large proportion of youth may be employed in non-formal employment activities characterized by instability and lack of social protection. To capture some of these aspects ILO uses the concept of *irregular employment*⁴¹, which is the sum of three components:

1. **Vulnerable workers** include own-account workers and contributing family workers. These individuals often face inadequate earnings, difficult work conditions that undermine their fundamental rights, or other deficits in characteristics of decent work.
2. **Casual wage laborers** include workers in seasonal or occasional jobs or in task-based jobs that are usually precarious in nature and do not offer access to social protection.
3. **Temporary workers (non-casual)** are paid employees engaged on a contract with a duration of less than 12 months.

Exhibit 29 describes how this study's survey questions have been mapped to each component of the definitions of hazardous child labor.

Exhibit 29. Crosswalk of Survey Questions to Hazardous Child Labor Definitions

Hazardous Child Labor (A)	Hazardous Labor (B)	Irregular Employment (C)
Students age 15–17 are considered to be in hazardous child labor if they meet any of the following criteria:	Students age 15–17 are considered to be in hazardous labor if they meet the criteria listed in Columns (A) Students age 18 and above are considered to be in hazardous labor if they meet the following criteria:	Students of all ages are considered to be in irregular employment if they meet any of the following criteria:

⁴¹ Global Employment Trends for Youth: Scaling up Investments in Decent Jobs (2015). International Labour Office – Geneva: ILO, 2015

<ul style="list-style-type: none"> ▪ They list as industry in Q30 any of the industries deemed hazardous in Ecuador legislation 	<ul style="list-style-type: none"> ▪ They list as industry in Q30 any of the industries deemed hazardous in Ecuador legislation 	<ul style="list-style-type: none"> ▪ They answer Q25 in a way that indicates that they are vulnerable workers
<ul style="list-style-type: none"> ▪ They list as occupation in Q29 any of the occupations deemed hazardous 	<ul style="list-style-type: none"> ▪ They list as occupation in Q29 any of the occupations deemed hazardous 	<ul style="list-style-type: none"> ▪ They answer Q32, Q33, or Q34 in a way that indicates that they are temporary workers (casual or non-casual)
<ul style="list-style-type: none"> ▪ They say in Q26 that they work more than 30 hours a week 	They say in Q26 that they work more than 43 hours a week	
<ul style="list-style-type: none"> ▪ They say in Q27 that they work at night 	They say in Q27 that they work at night	
<ul style="list-style-type: none"> ▪ They respond “Yes” to any item in Q35 (exposure to dust/fume/noise etc. at work), Q36 (physical or sexual harassment at work), or Q37 (work related injuries and health issues) 	They respond “Yes” to any item in Q35 (exposure to dust/fume/noise etc. at work), Q36 (physical or sexual harassment at work), or Q37 (work related injuries and health issues)	

Note: Estimates related to household chores will be presented separately because household chores are not included in the formal definitions of hazardous child labor.

APPENDIX B. RANDOMIZATION STEPS

Random assignment was done within each school using a computerized lottery, ensuring that students were assigned to classes without prejudice. We used the steps outlined below.

Step 1: We stratified students into two cohorts based on exact age. To avoid having classrooms of students age 15 to 17 exceed the maximum class capacity, in agreement with the Secretariat of Education, we moved the 33 oldest minor students to the older cohort. These students had an average age of 17.7 years.

Step 2: Within each age cohort, we grouped students based on gender.

Step 3: We used random assignment to assign male students in the younger cohort to classes A, B, and C with equal probability; thus, each class includes one-third of the young male students. In Fernández Madrid, we used random assignment to assign male young students to four classrooms, A, B, C, and D; thus, each class includes one-fourth of the young male students.

Step 4: We used random assignment to assign female students in the younger cohort to classes A, B, and C with equal probability; thus, each class includes one-third of the young female students. In Fernández Madrid, we used random assignment to assign female young students to four classrooms, A, B, C, and D; thus, each class includes one-fourth of the young female students.

Step 5: We assigned male and female students in the older cohort to the only older classrooms available. In Fernandez Madrid, we used random assignment to assign both the older male and older female students to classes E and F; thus, each class includes one-half of the older male and female students.

Step 6: We determined the treatment and control classrooms based on teacher assignments provided by the Secretariat of Education.

In addition, the Secretariat required that four gang members in Sucre not be in the same classroom. We generated an indicator for gang members and repeated our randomization steps until the gang members were successfully assigned to different classrooms, with two gang members in one of the three classrooms.

After random assignment, we tested for balance in exact age and sex, month of birth, and day of birth across all schools and within each school. The balance check indicated that the classrooms were balanced in these student characteristics.

Finally, we accommodated late arrivals by randomly assigning them to existing classrooms. At the request of the Secretariat, in one school a brother and sister were placed in the same classroom. These post-randomization changes affected only seven students and did not affect the balance of the characteristics mentioned above.

APPENDIX C. INSTITUTIONAL REVIEW BOARD REGISTRATION AND EXEMPTION

IMPAQ submitted protocol documents and received approval from Chesapeake Institutional Review Board (IRB) on September 15, 2016 (Pro00018617). The approved documentation for this evaluation includes:

- Student survey instrument
- Informed consent form
- Quantitative protocol
- Rights violation protocol

While preparing for data collection and in discussions with our local partners, it became evident that the consent form was too long and could be perceived as intimidating to target youth and their parents. We therefore revised the consent form to be a one-page simplified document and organized the information about the study into a separate one-page brochure. We resubmitted these materials to Chesapeake IRB and received exemption determination on October 10, 2016.

APPENDIX D. TIMELINE OF SURVEY ADMINISTRATION ACTIVITIES

Activity	Time	Location	Responsible Parties
Instrument development	January–July 2016	Washington, DC, U.S.A.	IMPAQ research staff with input from YPDE, Secretariat of Education, and ILAB
Cognitive testing	August 2016	Quito, Ecuador	IMPAQ survey methodologist and OPE supervisors
Revisions based on findings of cognitive testing	September 2016	Quito, Ecuador Washington, DC, U.S.A.	IMPAQ research staff
Enumerator training	October 2016	Quito, Ecuador	IMPAQ and OPE supervisors
Pilot testing	October 2016	Quito, Ecuador	IMPAQ and OPE fielding team
Instrument fielding	November 2016	Quito, Ecuador	OPE fielding team (IMPAQ research staff monitored the data collection)
Data cleaning	December 2016–January 2017	Quito, Ecuador	OPE
Data quality checks	February 2017	Washington, DC, U.S.A.	IMPAQ team

APPENDIX E. ISSUES AND RESOLUTIONS FROM COGNITIVE AND PILOT TESTING

The following are a few examples of the issues uncovered by the cognitive testing and the resulting resolutions:

- **Cognitive questions.** In the socioemotional skills section, three respondents had difficulty identifying the appropriate response in a four-level rating scale. Questions that the respondents perceived as double negatives, based on their own feelings, led them to answer exactly the opposite of what they intended. This difficulty was particularly evident with statements that started with “*Me cuesta trabajo*” [“I find it hard”]. For instance, an outgoing respondent answered “totally agree” to the phrase “I find it hard to invite an acquaintance to a party or the movies” although it was clear during the follow-up conversation that the intended answer was the opposite. To minimize this error, the evaluation team simplified the wording of this phrase in Spanish.
- **Paid vs. unpaid work.** Most respondents took a significant amount of time answering the question about paid or unpaid work activities during the last week. Respondents were careful in reading through all sample scenarios. Those who had worked the previous week had no issues in responding appropriately. However, respondents who had not worked the previous week tended to include some household chores, specifically taking care of animals and helping relatives, as work. The interviewer recommended reducing the verbiage in the sample answers, changing “paid in kind” to “paid in some other way,” and moving the exclusionary clause “not counting household chores” to the beginning of the question.⁴²
- **Number of hours.** Questions that tried to estimate the number of hours spent in an activity or the time of day (morning, afternoon, evening, night) the activity took place during last week proved difficult for about half of respondents. Some respondents provided the numbers of hours per day but not per week, particularly if they worked only a few days a week. To resolve this issue, we presented respondents with a matrix of the seven days of the week and asked them to fill in a number for each day. Interviewers tried several approaches to obtain the appropriate answer to the questions asking for the time of day, including the matrix approach, but in this case the format was even more confusing for respondents. The interviewer recommended changing the format of this question to a yes/no answer for each time of day: “Did you work any of those seven days during the morning, at any time between 6 a.m. and 12 noon?” and so on.

The following are a few examples of the issues uncovered during the pilot testing:

⁴² We also implemented an additional change to the instrument related to some specific activities. Two activities, originally listed under work activities based on ILO guidance (“Produce any other good for your household use” and “Fetch water or collect firewood for household use”) caused confusion for the respondents at the time of cognitive testing. Respondents considered these activities as part of household chores. For this reason, we moved these items to the earlier question about household chores to avoid confusion.

- **Logistics and coordination with school staff.** Classroom teachers introduced the data collection team to their students, but the content of these introductions varied from classroom to classroom. Hence, we decided to draft a short script for teachers to read during baseline data collection to ensure greater consistency. In addition, the snack break during the middle of the survey administration did not work well. One student spilled a drink on her desk; other students did not seem to want the snack at the time and started discussing the survey.
- **Enumerator training.** The pilot helped enumerators practice their own introductions to the students, so they corrected some details to ensure the accuracy of the message. For example, some enumerators were reminded that the survey was “confidential” and not “anonymous” or that the study evaluation was not “national” but only in Quito.
- **Questionnaire content.** Some small changes were made on the questionnaire based on the results of the pilot. For instance, although the evaluation team had found no issues regarding the sexual orientation question during cognitive testing, several of the younger students in the pilot did not know exactly what the words *heterosexual*, *gay*, or *bisexual* meant.

APPENDIX F. SURVEY INSTRUMENT

STUDY ON WORK AND EDUCATION AMONG ADOLESCENTS IN ECUADOR

ECUADOR BASELINE SURVEY

Dear CBA student,

IMPAQ is conducting an international study about programs related to working youth; about their experiences working, attitudes towards school, how to solve problems, and into any future plans to pursue more education and types of occupations. With these results it hopes to help improve the opportunities of young people like yourself.

This survey is individual, voluntary and strictly confidential. Do not write your name on this questionnaire. Neither your participation in the survey nor your answers will affect your involvement in the CBA program in any way. If you are unable to answer a question, or you do not feel comfortable answering it, you may leave it blank.

Finally, it is important that you answer as thoughtfully and frankly as possible. There are no right or wrong answers. If you do not find an answer that fits exactly, you can select the one that comes closest. If you find a question confusing or you have any doubts about the survey and the way to answer the questions, please do not ask other students, raise your hand and one of the survey proctors will happily assist you.

Once you are done, please place your completed questionnaire in the provided envelope and seal it yourself. Return your envelope to one of the survey proctors after you are done.

Thank you!

School Name: _____

SECTION 1:

First, we would like to ask you some personal information:

1. ***When were you born?***
 - a. ***Day:*** _____
 - b. ***Month:*** _____
 - c. ***Year:*** _____
2. ***What sex were you given at birth on your original birth certificate? Check one response***
☐ Male ☐ Female
3. ***How do you describe your gender identity? Check one response***
☐ Male
☐ Female
☐ Transgender
4. ***Are you married or living together with your partner? Check one response***
☐ Yes ☐ No
5. ***Do you have any children of your own? Check one response***
☐ Yes ☐ No
6. ***How many people, including yourself, live in your household? #*** _____
7. ***What was your mother's mother tongue (the first language she learned to speak in)? Check one response***
☐ Spanish
☐ Native language (e.g. Kichwa, shuar)
☐ Another language
☐ Not sure
8. ***What was your father's mother tongue (the first language he learned to speak in)? Check one response***
☐ Spanish
☐ Native language (e.g. Quichua)
☐ Another language
☐ Not sure
9. ***What is your race/ethnicity? Check one response***
☐ Blanco
☐ Mestizo
☐ Afro-descendent, black or mulatto
☐ Montubio
☐ Indigenous
10. ***Did your mother complete high school? Check one response***
☐ Yes ☐ No ☐ Not sure
11. ***Did your father complete high school? Check one response***
☐ Yes ☐ No ☐ Not sure

12. When you started first grade in elementary school, were you older, younger or the same age as your classmates?

Check one response

- ☐ I was older than my classmates
- ☐ I was younger than my classmates
- ☐ I was the same age as my classmates

13. How old were you, the last time, you dropped out of school? If you are not sure, please give the approximate age. _____ years old

14. What is the reason you dropped out of school? Check one response for each sentence.

a. I felt I was too old for school	<input type="checkbox"/> Yes <input type="checkbox"/> No
b. I did not consider school interesting or valuable or I did not do well in school	<input type="checkbox"/> Yes <input type="checkbox"/> No
c. My family did not consider school valuable	<input type="checkbox"/> Yes <input type="checkbox"/> No
d. I could not afford it/Lack of money	<input type="checkbox"/> Yes <input type="checkbox"/> No
e. I had to work or support my family financially	<input type="checkbox"/> Yes <input type="checkbox"/> No
f. I had to help with domestic chores or take care of a family member	<input type="checkbox"/> Yes <input type="checkbox"/> No
g. School was too far away or I did not have the means to get there	<input type="checkbox"/> Yes <input type="checkbox"/> No
h. I did not felt safe at school (either due to other students or teachers)	<input type="checkbox"/> Yes <input type="checkbox"/> No
i. Due to a romantic relationship or pregnancy	<input type="checkbox"/> Yes <input type="checkbox"/> No
j. Due to illness or disability	<input type="checkbox"/> Yes <input type="checkbox"/> No
k. Due to a drug or alcohol addiction	<input type="checkbox"/> Yes <input type="checkbox"/> No
l. I temporarily migrated	<input type="checkbox"/> Yes <input type="checkbox"/> No
m. Other reason not in this list (specify)	<input type="checkbox"/> Yes <input type="checkbox"/> No

15. In the next few years, what do you plan to do? Check all that apply.

- ☐ Continue in education/studying
- ☐ Get a job, work for others
- ☐ Have my own business
- ☐ Join the military/armed forces/national police
- ☐ I don't know/I am not sure
- ☐ Other (specify) _____

16. What is the highest level of education you would like or hope to complete? Check one response.

- ☐ Middle school
- ☐ High school
- ☐ Non-university higher education (technical, artisan, technological)
- ☐ University (ie: engineer, lawyer, doctor, etc.)
- ☐ University for a post-graduate degree (master's or PhD)
- ☐ Other (specify) _____

17. What is the highest level of education you think you will actually complete? Check one response.

- ☐ Middle school
- ☐ High school
- ☐ Non-university higher education (technical, artisan, technological)
- ☐ University (ie: engineer, lawyer, doctor, etc.)
- ☐ University for a post-graduate degree (master's or PhD)
- ☐ Other (specify) _____

SECTION 2:

Now, we have a few questions about your ability to perform tasks and to solve/deal with problems:

18. How much do you agree or disagree with the following statements?

STATEMENTS <i>Check only one response for each statement with an X, like this ☒</i>	Strongly disagree	Disagree	Agree	Strongly agree
a. I can find the way to obtain what I want even against all odds.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. I can solve difficult problems if I try hard enough.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. It is easy for me to persevere until I accomplish my goals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. I trust I could handle unexpected events successfully.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Thanks to my skill set, personal qualities and resourcefulness I can overcome unexpected situations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. When I find myself in trouble I can stay calm since I have the necessary abilities to handle difficult situations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Whatever comes my way, I am in general able to handle it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. I can solve the majority of problems if I make the necessary effort.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. If I find myself in a difficult situation, in general, I know what I should do.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. When facing a dilemma, in general, I can figure out multiple alternative solutions to it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

19. How true or false are the following statements for you?

STATEMENTS <i>Check only one response for each statement with an X, like this ☒</i>	Totally false	False	True	Totally True
a. It's easy to start a conversation with someone I don't know.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. I feel nervous when I am in a group of people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. I feel embarrassed speaking when there are a lot of people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. I feel shy when I am in a group of people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. It is easy for me to ask someone I know to a party, the movies, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. I like telling people I am happy with something they have done.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. I like telling people I am happy with something they have done.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. I often help to solve problems between my friends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. I often help to solve problems between my friends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. If I get the impression that someone is upset with me I ask them why.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. If I get the impression that someone is upset with me I ask them why.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The next set of questions asks about your experience doing household chores at your own home.

20. Which of the following household chores do you usually do at home? Check one response for each household chore.

a. Cleaning (sweeping, dusting, making beds, cleaning bathroom) or helping with clothes (mending, washing, ironing)	<input type="checkbox"/> Yes <input type="checkbox"/> No
b. Cooking, helping to cook (breakfast, lunch or dinner) or buying groceries	<input type="checkbox"/> Yes <input type="checkbox"/> No
c. Caring for younger, elderly or unwell household members	<input type="checkbox"/> Yes <input type="checkbox"/> No
d. Repairing household equipment (e.g. plumbing or electricity work)	<input type="checkbox"/> Yes <input type="checkbox"/> No
e. Agricultural activities or taking care of animals for domestic use only	<input type="checkbox"/> Yes <input type="checkbox"/> No
f. Produce any other good for your household use [Examples: clothing, furniture, clay pots, etc.]	<input type="checkbox"/> Yes <input type="checkbox"/> No
g. Fetch water or collect firewood for household use	<input type="checkbox"/> Yes <input type="checkbox"/> No
h. Other (specify)	<input type="checkbox"/> Yes <input type="checkbox"/> No

21. During the last week, how many hours did you spend each day in the mentioned household chores? (Write a number of hours for each day. If you did not household chores write "0")

	HOURS
Monday:	
Tuesday:	
Wednesday	
Thursday:	
Friday:	
Saturday:	
Sunday:	

22. In the last week...

- Did you do your household chores any of those 7 days during the morning, at any time between 6:00 and 12 noon?
☐ Yes ☐ No
- Did you do your household chores any of those 7 days during the afternoon, at any time between 12:00 and 19:00?
☐ Yes ☐ No
- Did you do your household chores any of those 7 days during the night, at any time between 19:00 and 24:00?
☐ Yes ☐ No
- Did you do your household chores any of those 7 days after midnight, at any time between 24:00 and 6:00 in the morning?
☐ Yes ☐ No

Now, we have a few questions about your experiences working (not including household chores):

23. At what age did you start working (for pay or not) for the first time in your life? _____ years old

- ☐ I have never worked in my life

24. Have you ever worked for pay (for a wage, salary, commission, food, or shelter)? Check one response

- ☐ Yes ☐ No

25. Not counting household chores, did you perform any of the following working activities inside or outside your house last week? Check one response for each activity.

a. Run or help in any kind of business, big or small, for yourself or with one or more partners? [Examples: Selling things, taxi or other transport business, tending your own shop, shoe shining, etc.]	<input type="checkbox"/> Yes <input type="checkbox"/> No
b. Do any work for a wage, salary, commission or any payment in food or shelter (excluding domestic work) [Examples: A regular job, casual work for pay, work in exchange for food or housing, apprenticeship/internship]	<input type="checkbox"/> Yes <input type="checkbox"/> No
c. Do any work as a domestic worker for a wage, salary or any payment in food or shelter	<input type="checkbox"/> Yes <input type="checkbox"/> No
d. Help, without being paid, in any kind of business run by your household. Do not count household chores [Examples: Help to sell things, doing the accounts, cleaning up for the business, etc.]	<input type="checkbox"/> Yes <input type="checkbox"/> No
e. Catch any fish, prawns, shells, wild animals or other food for sale?	<input type="checkbox"/> Yes <input type="checkbox"/> No
f. Do any work on your own (or your household's) plot, farm, food garden, or help in growing farm produce for sale or in looking after animals intended for sale? [Examples: Ploughing, harvesting, looking after livestock]	<input type="checkbox"/> Yes <input type="checkbox"/> No
g. Do any construction or major repair work on your own or your family business or farm plot?	<input type="checkbox"/> Yes <input type="checkbox"/> No
h. Any other work activity not for pay?	<input type="checkbox"/> Yes <input type="checkbox"/> No
i. Any other work activity for pay?	<input type="checkbox"/> Yes <input type="checkbox"/> No
j. Even though you did not work in any of these activities last week (that is, you answered "No" to all of the above), do you still have a current paid job or business?	<input type="checkbox"/> Yes <input type="checkbox"/> No

During the last week, how many hours did you work EACH DAY (in all of the mentioned activities)? Enter "0" (zero)

**If you marked NO on all items in question 25, SKIP TO QUESTION 35;
If you marked ANY YES in Q25, continue to question 26.**

if you did not work any of these days last week. Remember to exclude household chores.

	HOURS
Monday:	
Tuesday:	
Wednesday:	
Thursday:	
Friday:	
Saturday:	
Sunday:	

26. In the last week...

- Did you work any of those 7 days during the morning, at any time between 6:00 and 12 noon?
☐ Yes ☐ No
- Did you work any of those 7 days during the afternoon, at any time between 12:00 and 19:00?
☐ Yes ☐ No
- Did you work any of those 7 days during the night, at any time between 19:00 and las 24:00?
☐ Yes ☐ No
- Did you work any of those 7 days after midnight, at any time between 24:00 and 6:00 in the morning?
☐ Yes ☐ No

27. Approximately, how much money did you earn in the last month in total across all your jobs?

\$ _____

28. What kind of work did you do in all the jobs/activities that you performed last week? **Check ALL that apply. For example, if you worked both as street vendor and taxi driver check both. Remember not to include household chores.**

- ☐ Miner
- ☐ Bread and pastry-making
- ☐ Car repair shop handyman
- ☐ Carpenter
- ☐ Cleaning/ janitor
- ☐ Construction worker
- ☐ Domestic worker (living in the house)
- ☐ Domestic worker (living outside the house)
- ☐ Loading and unloading in markets/Packer
- ☐ Street worker, including shoe shinning, market vendor, windshield cleaner, street entertainer, bike messenger, trader, car washer, look after cars; bus payment collector or other street work
- ☐ Cook or waiter/waitress (in restaurants)
- ☐ Waiter/waitress in bar/cantinas or bartender-serving alcoholic beverages
- ☐ Taxi/motorcar driver
- ☐ Custodian or Security guard
- ☐ Social club worker (in places for gambling, selling of alcoholic beverages, gentlemen's clubs)
- ☐ Recycler of waste, scrap metal and nonmetallic waste
- ☐ Garbage workers/collector
- ☐ Brick maker
- ☐ Other (please describe in your own words your main activities or what do they make you do)

29. What economic sector/industry does your job (or jobs) belongs to? **Check all that apply. Please note that this question is about the main industry/ general economic activity of your employer, company, your own or household business. For example, if you work for a restaurant choose "Hotels and Restaurants." If you also sell things, also choose "informal or ambulatory sales."**

- ☐ Agriculture (production of banana, flowers, palm oil, timber)
- ☐ Mining and Quarrying
- ☐ Manufacturing
- ☐ Construction or Brick production
- ☐ Hotels and restaurants
- ☐ Wholesale –or retail trade
- ☐ Informal or ambulatory sales
- ☐ Repair of motor vehicles, motor cycles and other machinery
- ☐ Transportation/storage
- ☐ Other service activities
- ☐ Other (please briefly describe) _____

30. What is the primary activity or job that you are engaged in? Primary activity/job is the one where you spent most of the time during the week. Remember not to include household chores

31. In your primary activity or job, under which conditions are you currently working? Check only one response

- ☐ On the job training, internship, apprenticeship
- ☐ Probation period
- ☐ Seasonal work
- ☐ Occasional/daily work
- ☐ Work by the hour
- ☐ Piecework (specific service or task)
- ☐ Work as a replacement/substitute
- ☐ Permanent/stable job
- ☐ Self-employed
- ☐ Other (Specify): _____

32. In your primary activity or job, are you currently employed with.... ? Check only one response.

- ☐ A written contract
- ☐ An oral agreement
- ☐ No contract or agreement
- ☐ Self-employed

33. In your primary activity or job, what is the duration of your contract or agreement? Check one response

- ☐ Less than 12 months
- ☐ 12 months to less than 36 months
- ☐ 36 months or more.
- ☐ No contract or agreement
- ☐ Self-employed

SECTION 3:

The next set of questions are about your personal experiences. Please remember that all answers are voluntary and completely confidential.

- 34. In the last 6 months, were you ever exposed to any of the following in any of your jobs? Check one response in each row.**

If you did not work during the past 6 months, check this box and continue to question 39-->☐

a. Dust, fumes	<input type="checkbox"/> Yes <input type="checkbox"/> No
b. Fire, gas, flames	<input type="checkbox"/> Yes <input type="checkbox"/> No
c. Exceedingly loud noise or vibrations	<input type="checkbox"/> Yes <input type="checkbox"/> No
d. Extreme cold or heat	<input type="checkbox"/> Yes <input type="checkbox"/> No
e. Drugs	<input type="checkbox"/> Yes <input type="checkbox"/> No
f. Work with dangerous tools or machinery (e.g. knives, saws, axes, etc.)	<input type="checkbox"/> Yes <input type="checkbox"/> No
g. Carry loads that are very heavy	<input type="checkbox"/> Yes <input type="checkbox"/> No
h. Work underground	<input type="checkbox"/> Yes <input type="checkbox"/> No
i. Work at platforms elevated at dangerous heights	<input type="checkbox"/> Yes <input type="checkbox"/> No
j. Work under water in lakes, ponds or rivers	<input type="checkbox"/> Yes <input type="checkbox"/> No
k. Work in a place that is dark or confined or with insufficient ventilation	<input type="checkbox"/> Yes <input type="checkbox"/> No
l. Work around chemical products (such as pesticides, paints, liquor, glue, etc.)	<input type="checkbox"/> Yes <input type="checkbox"/> No
m. Work around explosives	<input type="checkbox"/> Yes <input type="checkbox"/> No
n. Work in an environment that made you feel uncomfortable or exploited	<input type="checkbox"/> Yes <input type="checkbox"/> No

- 35. In the past 6 months, did you experience in any of your jobs the following? Check one response for each row**

If you did not work during the past 6 months, check this box and continue to question 39 -->☐

a. You were yelled at or told intimidating things	<input type="checkbox"/> Yes <input type="checkbox"/> No
b. You were insulted or called offensive names	<input type="checkbox"/> Yes <input type="checkbox"/> No
c. You were hit, beaten or hurt physically	<input type="checkbox"/> Yes <input type="checkbox"/> No
d. You experienced sexual harassment (verbal harassment, unwanted touching, made you do things you did not want to do, etc.)	<input type="checkbox"/> Yes <input type="checkbox"/> No
e. You were forced to work more hours than you wanted to	<input type="checkbox"/> Yes <input type="checkbox"/> No
f. You were forced to sell or use drugs	<input type="checkbox"/> Yes <input type="checkbox"/> No
g. Other (specify)	<input type="checkbox"/> Yes <input type="checkbox"/> No

- 36. In the past 6 months, did you have any of the following health problems as a result of any of your jobs? Check one response for each problem.**

If you did not work during the past 6 months, check this box and continue to question 39-->☐

a. Superficial lesions or wounds	<input type="checkbox"/> Yes <input type="checkbox"/> No
b. Fractures	<input type="checkbox"/> Yes <input type="checkbox"/> No
c. Dislocations	<input type="checkbox"/> Yes <input type="checkbox"/> No
d. Burns, scalding or freezing	<input type="checkbox"/> Yes <input type="checkbox"/> No
e. Problems breathing	<input type="checkbox"/> Yes <input type="checkbox"/> No
f. Problems with your eyes	<input type="checkbox"/> Yes <input type="checkbox"/> No
g. Problems with your skin	<input type="checkbox"/> Yes <input type="checkbox"/> No
h. Digestive problems/ diarrhea	<input type="checkbox"/> Yes <input type="checkbox"/> No
i. Fever	<input type="checkbox"/> Yes <input type="checkbox"/> No
j. Exhaustion	<input type="checkbox"/> Yes <input type="checkbox"/> No

k. Anxiety or Depression	<input type="checkbox"/> Yes <input type="checkbox"/> No
l. Problems sleeping	<input type="checkbox"/> Yes <input type="checkbox"/> No
m. Sexually transmitted diseases	<input type="checkbox"/> Yes <input type="checkbox"/> No
n. Drug overdose	<input type="checkbox"/> Yes <input type="checkbox"/> No
o. Other problems (specify)	<input type="checkbox"/> Yes <input type="checkbox"/> No

37. *If you wanted to quit from any of your current jobs, is there one you would not be allowed to quit? Check one response*

- ☐ Yes ☐ No ☐ I did not work in the last 6 months

38. *Are there any gangs in your neighborhood? Check one response.*

- ☐ Yes ☐ No

39. *Have you ever been part of a gang? Check one response.*

- ☐ Yes, I am currently part of a gang
☐ Yes, I used to be part of a gang
☐ No, I have never been in a gang

40. *Have you ever used drugs? Check one response.*

- ☐ Yes
☐ No
☐ Don't want to respond

41. *Which of the following best represents how you think of yourself? Check one response*

- ☐ Straight (attracted to people of the opposite sex)
☐ Gay (attracted to people of the same sex)
☐ Bisexual (attracted to people of both sexes)
☐ Something else/ I am not sure

42. *Write down the name of 2 contraceptive methods you know (to avoid pregnancy or sexually transmitted diseases).*

First Method: _____

Second Method: _____

- ☐ Don't know any

43. *How old were you when you had your first sexual relations?*

_____ years old.

- ☐ I have never had sex.

44. *When having sexual relations, do you or the other person use condoms? Check one response.*

- ☐ Yes
☐ No
☐ Sometimes
☐ I have never had sex

45. **MEN ONLY:** *How old were you when you got a woman pregnant for the first time?*

_____ years old

- ☐ I have never gotten anyone pregnant.

46. **WOMEN ONLY:** How old were you when you first got pregnant?

_____ years old

☐ I have never been pregnant.

47. Have you been tested for STDs in the last 6 months? **Check one response.**

☐ Yes

☐ No

Observations/comments: _____

Please review that you have not forgotten to answer any questions before handing in the survey. Thank you for participating in the survey.