Living Up to Expectations:

How Vocational Education Made Females Better Off but Left Males Behind

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Abstract

We study the interaction between job and soft skills training on expectations and labor market outcomes in the context of a youth training program in the Dominican Republic. Program applicants were randomly assigned to one of 3 modalities: a full treatment consisting of vocational and soft skills training plus an internship, a partial treatment consisting of soft skills training plus an internship, or a control group. We find strong and lasting effects of the program on personal skills acquisition and expectations, but these results are markedly different for young males and young women. Shortly after completing the program, both male and female participants report increased expectations for improved employment and livelihoods. This result is reversed for male participants in the long run, a result that can be attributed to the program's negative short-run effects on labor market outcomes for males. While these effects dissipate in the long run, employed males are substantially more likely to be searching for another job. On the other hand, females experience improved labor market outcomes in the short run and exhibit substantially higher levels of personal skills in the long run. These results translate into females being more optimistic, having higher self-esteem and lower fertility in the long run. Males experienced no such benefits. Our results suggest that job-training programs of this type can be transformative – for women, life skills mattered and made a difference, but they can also have a downside if, like in this case for men, training creates expectations that are not met.

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1. INTRODUCTION

Vocational education programs have long been one of the mainstays of active labor market policies. The basic premise of these programs is that by providing skills rewarded in the labor market, the unemployed will find better paying jobs faster. In a simple labor supply model, the new skills raise wage offers to program participants so that there are now jobs available above their reservation wages. The evidence on the effectiveness of these programs, however, is decidedly mixed (Blattman and Ralston, 2015; Brown and Koettl, 2015, Mckenzie, 2017).[1]

Among the possible hypothesized reasons for the mixed results of these programs is that the labor market may not value the specific skills being taught. In particular, the curricula may lack important "soft" personal and social ("non-cognitive") skills training (Heckman et al. 2006; Cunningham and Villaseñor 2014). Another concern with these programs is that they might generate expectations that are ultimately not rewarded by the labor market, and participation in the program might thereby end up discouraging workers. Increased expectations might raise the reservation wage, but if the training does not transfer skills that are sufficiently well rewarded in the labor market, the subsequent wage offers would not match these enhanced expectations. In this case, the worker would not be able to find jobs that matched her expectations, and over time, could become discouraged.

In this paper we use an at-scale randomized field experiment to examine the impact of imbedding a soft skills component into an at-scale vocational training for youth in the Dominican Republic on skill development, future expectations, labor market outcomes, and well-being. The program, "Programa Juventud y Empleo" (PJyE), was designed to improve the employment opportunities of at-risk youth,[2] given the relatively high level of unemployment among youth. In 2009, the unemployment rate of youth age 15 to 19 was 36.2% and 17.3% for age 20-39, compared to 8.6% for adults 40-59 years old (ENFT[3]). PJyE's main objective is to improve the

[1] For extensive reviews of job training programs see Betcherman, et al. 2004 and 2007, Card et al. 2010 and 2015, Greenberg et al. 2003, Heckman et al. 1999, J-PAL 2013, and Kluve 2010.

[2] PJyE, like many vocational education programs in low and middle-income countries, is targeted to low-income youth who have not completed secondary education (Vezza, 2014).

[3] National Labor Force Survey (Encuesta Nacional de Fuerza de Trabajo, ENFT), Central Bank of the Dominican Republic (https://www.bancentral.gov.do/estadisticas_economicas/mercado_trabajo/). These figures refer to "extended unemployment", including individuals that were either actively looking for job in the last 4 weeks or

employment opportunities of at-risk youth by building their vocational and soft skills. The program provides in-classroom training and an internship in a private business, and participants must complete both to graduate from the program. The program also financed participants' transportation, medical and accident insurance, and provided them with a small stipend. Between 2002 and 2013, the program conducted 3,627 courses training over 72,500 youth, of which 57% were women.

We consider two interventions randomly assigned to program applicants: (1) vocational education combined with soft skills training and an internship and (2) soft skills only training with an internship. We study both the short (12-month) and long run (36-month) effects, testing the effectiveness of the two alternative curricula. For women, we find that both curricula have strong positive effects on soft skills and on expectations of future labor market and life success. For men, however, there appears to be no effect of either curriculum on skills, but a positive effect on expectations from the curricula with vocational education. Hence, for men, we have the conditions that might lead to a discouraged worker effect where expectations exceed the returns to acquired skills.

In fact, there were striking gender differences in the effects on short-run labor market outcomes. For women, both curricula were associated with higher employment rates in higher paying jobs with higher job satisfaction 12 months after program completion. Remarkably, there were no differences in effects between the vocational and soft-skills only curricula suggesting limited marginal value of the vocational education on top of soft-skills training plus internship. However, while for males there was no effect from the soft-skills only curricula on labor market outcomes, and there was a negative effect of the vocational curricula on short-run employment. This latter effect is consistent with the program having had no effect on skills but creating expectations of higher wage offers that did not materialize, which may have led to higher unemployment. The higher expectations induced by the program may have raised the reservation wage, perhaps resulting in males turning down more job offers.

In the long run neither curricula had an impact on the labor market outcomes of either females or males. However, the results and their interpretation differ by gender. The training

available to work immediately, as opposed to "open unemployment" that includes only people actively looking for work in the last four weeks. "Open unemployment" rates for the age groups reported in the text were of 14.2%, 7.1% and 3% respectively.

gave females skills that allowed them to find higher paying jobs faster than those in the control group. Over time, the females in the control group were able to catch up. On the other hand, males in the treatment group lowered their expectations over time and eventually accepted whatever jobs they could get.

The different labor market experiences of males and females led to different effects on long-term welfare. After 3 years, females in the treatment group still had significantly higher positive expectations about future labor market and life success than did the control group. They also reported higher job satisfaction and self-esteem and that they now needed higher salaries to meet their basic needs. On the other hand, males in the treatment group reported higher rates of active job search (even if employed), lower self-esteem, and lower salaries necessary to meet their basic needs. In other words, while the program positively improved women's lives, males were ultimately disappointed and discouraged, leading to deterioration in the quality of their lives.

This paper makes a number of contributions to the literature. First, to our knowledge, this is the first study to shed light on understanding why vocational education programs may have limited and even negative impact on labor market outcomes by focusing on how programs affect both expectations and skills.

Second, it helps to disentangle the marginal impact of the vocational component from the soft-skills component and the internship.[4] Despite the popularity of training programs that combine different skills trainings (usually vocational, soft-skills, and apprenticeships), the evidence on the effectiveness of each of the components is very scarce. There are several experimental evaluations of training programs in low- and middle-income countries with a combination of different skills tracks and apprenticeships.[5] However, none of these studies separate out the marginal effects of the different components. An exception is Groh et al. (2016), who show that a soft-skills training for females in Jordan increased the optimism and the expectations of the females about the future; however, the authors found no impact on labor outcomes. To date, this is the first study that identifies the marginal impact of the vocational

[4] We are assuming no interaction between the components, and therefore, that the effect of the vocational training is additively separable.

[5] See for example Adoho et al. (2014), Alzua et al. (2016), Attanasio (2011), Bandiera et. al (2012), Card et al. (2011), Ibarraran (2015), and Diaz and Rosas (2016).

component. Since the vocational component generally accounts for the bulk of the resources of these programs, this has practical implications in term of cost-effectiveness.

Third, it provides long-term experimental evidence of the impact of training programs in developing countries. While long-term effects of training programs have been studied in developed countries[6], the long-term experimental evidence in developing countries is still scarce and mixed. Attanasio et. al (2015) use experimental data of a training program in 2005 in Colombia and find that even up to ten years later, the program had a positive and significant effect on the probability of working in the formal sector, and earnings were 11.8% higher. Ibarraran et al. (2015) follows a different cohort of the PJyE for six years and found sustainable effects on formality for males. Hirshleifer et al. (2014) used administrative data to study the impacts of a vocational education training in Turkey three years after the intervention finding that the impacts found in the short term dissipated with time; Alzua et al. (2016) studied the effects of the program Entra 21 in Argentina 4 years after the completion of the project, finding similar results. .

Finally, gender differences are widely studied in the literature[7], but results remain inconclusive.[8] Our results on gender differences are consistent with findings described by Attanasio et al. (2011), who evaluated Colombia's Jovenes en Accion program, which has a similar curriculum as PJyE. Conducted 20 months after the beginning of the intervention, the authors found positive labor market effects for females but not for males.[9]

The paper is structured as follows. Section 2 describes the interventions considered in this study. Section 3 describes the experimental evaluation design including random assignment, data collection, descriptive statistics, and estimation strategy. Section 4 presents the results and the final section concludes.

2. INTERVENTION

We consider two interventions: (1) vocational education combined with soft skills training

[6] For example see Couch (1992), Cave et al. (1993), Schochet et al. (2008), and Flores- Lagunes et al. (2010)
[7] Card et al. (2011), Ibarraran et al. (2014), Ibarraran et al. (2015), Hirsheleifer et al. (2014), Diaz and Rosas (2016), Kugler et al. (2015).
[8] Card and Kluve (2015), Urzua and Puentes (2010), Ibarraran and Rosas (2009).
[9] There are two other studies that look at female-only programs. Both studies found positive effects on employment outcomes (Maitra and Mani 2014; and Adoho et al. 2014).

and an internship and (2) soft skills only training with an internship. This allows us to identify the marginal impact of the vocational education, the most expensive part of the intervention. We study both the short (12-month) and long run (36-month) effects, testing the effectiveness of the two alternative curricula.

2.1. Training Curriculum and Internships

PJyE built job skills through classroom training and internships, offered by private institutes known as Operation Centers for the System (COS) that are authorized by the National Institute for Professional Training (INFOTEP). INFOTEP also determines and standardizes the curriculum content of courses offered in the PJyE. The Program Coordination Unit (UCP) of the Ministry of Labor monitors the COS in order to ensure that the courses and internships meet minimum standards.

The classroom component of the program consisted of vocational education (hard skills) and/or personal skills development (soft skills) and lasted two months. The vocational education module included 150 hours of training in occupations, such as sales, beauty salon assistant, tourism and hospitality, carpentry, electricity and others. The personal skills component consisted of 75 hours focused on promoting self-esteem and self-realization, communication skills, conflict resolution, life planning, time management, teamwork, decision-making, hygiene and health, and coaching on risky behaviors. Once the in-classroom training phase was completed, all participants were also assigned to 240-hour internships at private companies, for which participants received a daily stipend of approximately US$2 and basic insurance. This phase also lasted two months. During this period, participants received oversight and job counseling from the program.

PJyE follows what Card et al. (2011) call the "Chilean model" of vocational education programs in Latin America, where private institutions rather than employers provide classroom training and arrange for internships. The vocational education curricula were developed jointly with the private sector to cover the technical skills that participants would need for the subsequent internship phase. In 2009, the program offered 520 courses for 49 occupations. Over 91% of courses in 2009 targeted the commerce and service sectors, with only 3% in agriculture and 6% in others. Sixty percent of the courses were concentrated in six occupations: sales (23%), waiter-waitress (10%), beauty salon assistant (9%), pharmaceutical assistant (7%), sales assistant

(7%) and secretarial assistant (6%). Other occupations available included graphic and web designer, network technician, network administrator, PC repairer, agro-industry manufacturing assistant, tractor operator and private security guard, among others. Table 1 provides a breakdown of the main occupations of the courses and the percentage of participants in the sample of the study that applied for each of them. Sales and hospitality (hotel and restaurant) account for 58% of participants and both are roughly balanced in terms of gender. However, other courses such as professional services, beauty and health, that added up to 29% of the participants, were mainly demanded by females.

The personal skills development component consisted of 75 classroom hours and assignments to be completed by students after class. The curricula aimed to develop participant's "soft skills" contributing to their development as human beings and to provide participants with the tools to face and manage social risks. Major crosscutting themes in the curricula include values, attitudes and basic personal skills (self-fulfillment, basic cognitive abilities, and social skills) for a successful family, and social and work life. Table 2 describes the personal skills development course content.

2.2. Eligibility and Recruitment

The COSs promoted the program, maintained applicant registries, and evaluated applicant eligibility. The UCP conducted a second review of the applicant registry and examined each candidate's application for eligibility. Eligible program applicants were individuals between the ages of 16 and 29, found to be at-risk, and Dominican Republic citizens in possession of a personal identification card. At-risk was defined as unemployed or underemployed and not having completed secondary school. Moreover, eligible applicants had to belong to households with a per capita income not exceeding US$120 per month and located in regions known as Priority I and II according the SIUBEN index.[10] A special effort was made to reach out to enroll women. These criteria were meant to target PJyE to the poorest sectors of the population.

Each COS conducted a preliminary screening of candidates who expressed interest in enrolling to ensure that they met the program's eligibility criteria. Eligibility screening included a crosscheck of the applicant's identity card with the official national identity database, as well

[10] SIUBEN (Unified System of Beneficiaries by its Spanish acronym) is a database of poor households in the Dominican Republic that determines eligibility for social programs.

as other sources of auxiliary information. The UCP also intervened on occasion to help confirm an applicant's eligibility and supervised promotion of the program and pre-selection of youth by crosschecking each of the courses' participants with other available data, prior to enrollment. Of the more than 20,000 youth that applied for the program in 2009, 16,373 fulfilled the eligibility requirements and were selected by their respective COS to be part of the selection process. Participants enrolled throughout 2009, though most started in January (3,481 candidates), February (994 candidates), July (6,024 candidates) and August (2,787 candidates), with the remaining candidates enrolling through October of the same year.

3. EXPERIMENTAL DESIGN

One of the most innovative aspects of PJyE was the inclusion from the onset of an ongoing experimental enrollment process. Individuals applied to PJyE by filling out an application form, which was used to check applicants' socioeconomic and work background in order to confirm eligibility. Following this initial screening, applicants were randomly assigned to either enroll in the program (treatment) or not (control).[11]

3.1. Random Assignment

Enrollment for this study was conducted in two waves, a first cohort enrolling between January 2009 and February 2009, and a second cohort between July 2009 and August 2009. As in previous editions of the program, the number of applicants exceeded the slots available in the program. In this context, eligible applicants were randomly assigned to the program through a lottery process, seen as an inherently fair way to allocate limited places. The primary innovation in 2009 relative to previous years was the expansion of the personal skills component, whereby the program opened a number of soft-skills only courses. Participation in these courses was also randomly assigned within the pool of eligible applicants, allowing for the identification of differential impacts through the complete course package relative to the soft-skills only component and a control. Both treatment groups also included internships with private

[11] This design was exploited in two experimental evaluations of previous editions of the PJyE for both the 2004 and the 2008 cohorts. The 2004 program included vocational education in the classroom and an internship. The program had no effects on employment but did have statistically significant but modest effects on salaries and benefits 10 to 14 months later (Card et al., 2011). In 2008, the program added a "soft" life skills training component. Results showed that 2008 PJyE also had no effect on employment, but significant positive effects on non-cognitive skills, salaries and benefits (Ibarrarán et al., 2014). A six-year follow-up of the same cohort found no effects on employment or job quality, although there are significant long run effects on formal work (Ibarrarán et al., 2015).

employers.

The random assignment process was accomplished by means of a lottery under the coordination of the UCP. Each COS recruited 35 applicants per course and sent the list of names and ID numbers to the UCP. Next, applicants were randomly assigned to one of four groups using a computerized process, stratifying by gender to maintain a proportional number of males and females in each group relative to the original applicant pool.[12] From each course-cohort of 35 applicants, 20 individuals were randomly assigned to the vocational and soft skills course; 5 individuals, to the soft-skills only course; 5 individuals, to a waiting list (granted admission if a vacancy became subsequently became available); and 5 individuals, to the control group (not granted admission to the program).[13] The soft skills only courses grouped 5 applicants from 4 separate course-cohorts, making up a total of 20 individuals per soft-skills only course. Figure 1 illustrates the random assignment process.

Of the more than 20,000 youth who applied for the program in 2009, 16,373 fulfilled the eligibility requirements and were selected by their respective COS to be part of the selection process. Of this group, by means of random assignment, 10,397 individuals were offered admission to a vocational and soft skills course and 1,604 were offered admission to a soft-skills only course, with the remainder either waitlisted or assigned to the control group.

3.2. Data Collection

Data were collected in three survey rounds (Table 3). Upon applying to PJyE, applicants completed an enrollment form that doubled as a baseline survey. The survey included questions covering socioeconomic and demographic characteristics, as well as employment and educational histories.

Follow-up surveys were conducted on a random sample of individuals from treatment and control groups. The evaluation sample included a total of 4,700 youth, of whom 1,638 applicants had been offered admission to a vocational and soft skills course, 1,613 to a soft-skills only

[12] In other words, if a third of the applicants were male, then a third of the spots would be randomly assigned to male applicants, and two thirds would be randomly assigned to female applicants.

[13] During the initial days of each course, the program replaced students who were absent or who dropped out with individuals randomly selected from the waitlist. The Information System of the PJyE (SIPJyE) only maintained registrations of selected applicants in treatment or control once replacements were made. Thus, the lottery used is not strictly the original lottery, but rather the selection in place 10 days following the start of the course.

course and 1,449 applicants were from the control group (see Figure 1).[14]

Three short telephone surveys were conducted within the first year of completing the program (see Figure 2). Surveys were conducted using Computer-Assisted Telephone Interviewing (CATI), which was supplemented by in-person interviews for a sub-sample of youth who could not be reached by telephone.[15] The purpose of these telephone surveys was to keep updated re-contact information for the evaluation sample and measure short-term results. The survey included a limited set of questions on job search and employment, number of hours worked, wages and job satisfaction, and future expectations. The response rate was over 90% when both telephone and personal interviews were used.

A final round of data was collected from the evaluation sample approximately 3.5-4 years after program completion. The survey covered both labor and non-labor long-term outcomes including employment histories, risk behaviors, attitudes and expectations, participation in social networks, and life skills. While the survey's response rate was lower in the telephone surveys, it still exceeded 80%. Comparing the final measurements with the baseline data shows that data loss in this study stayed at acceptable levels, and as detailed below, the attrition patterns were similar for the treatment and control groups.

3.3. Descriptive Statistics, Baseline Balance and Attrition

Baseline data presented in Table 4 suggests that the program's selection process was successful in reaching its target population of young Dominicans with low education levels, from poor households and who were unemployed or underemployed. On average, applicants were 21 years old; 62% were female; and 79% of applicants were single. Almost all applicants had not completed secondary school, which reflected the program's focus on youth who have either dropped out or put off completion of their secondary education.

Confirming program eligibility rules, unemployment amongst applicants was substantially higher than for the same age group in the general population. About 60% of applicants reported being unemployed during the week before their application; whereas, the national labor force survey (Encuesta Nacional de Fuerza de Trabajo (ENFT)) reported 24%

[14] Sample sizes were calculated to achieve minimal detectable effect sizes on the main outcomes of interest (labor market outcomes and cognitive and non-cognitive abilities), maintaining 95% confidence and a power of 80%.

[15] The size of this sub-sample was approximately 10% of the total sample.

unemployment for the same age group during the first semester of 2009. On the other hand, amongst those employed, the level of underemployment is similar between program applicants and the general population of the same age range with 72% of employed applicants reporting temporary or occasional employment. Finally, only 19% of applicants were students—a number that complies with the participation quota for students.

Table 5 reports baseline characteristics for treatment and comparison groups. As expected, a majority of characteristics are balanced, and there are no economically meaningful differences. Amongst males, a few notable exceptions include age, residence in Santo Domingo and poverty score, which we attribute to chance. Despite these differences amongst males, we cannot reject the null hypothesis of the F-statistic of joint significance for these variables at a 95% level of confidence.[16] Moreover, an analysis of the attrition patterns for the telephone and household surveys is shown in Appendix 1. It indicates that there was no correlation between treatment status and participation in the follow-up surveys[17].

3.4. Estimation

We estimate intention-to-treat (ITT) effects by comparing the outcomes of individuals randomly assigned to the treatment and the control groups irrespective of compliance with the treatment status. We argue that the ITT effects capture the policy relevant parameter, since policy makers in most cases can only offer vocational education, and participation is voluntary.

For the analysis, we work with the sample of individuals who responded to both the third round of the telephone survey and to the final household survey. We also excluded individuals from training centers that did not offer both the combined training and soft-skills only training (Vezza et al., 2014). The final analytic sample consists of 1,051 males and 1,728 females from 70 COSs. We present simple OLS regressions of outcomes against binary variables representing each of the two treatment groups separately for males and women. We include a minimum set of controls[18] with the purpose of improving estimate precision (Duflo et al. 2008). Standard errors

[16] *P*-values for the F-statistic test of joint significance comparing control group vs. soft-skills only are 0.46 for females and 0.02 for males; control group vs. vocational and soft skills are 0.14 for females and 0.02 for males; and soft-skills only vs. vocational and soft skills are 0.17 for females and 0.61 for males.

[17] As an additional robustness check, we replicated the main results of the paper by controlling for the unbalanced characteristics found at baseline and in the attrition analysis. We find no significant differences. The results are available upon request.

[18] The variables included are COS and the sector of the course with fixed effects for cohort.

are clustered by COS and treatment group.

4. RESULTS

We report the effect of PyJE on skills, expectations, labor market outcomes and well-being measures both 12 months and three years after the intervention ended. The results are presented separately for females and males. For each outcome we present three sets of results: (1) effects for the combined vocational plus soft skills training, (2) soft-skills only training, and (3) a pooled coefficient that combines both treatment arms. We include *p*-values for two-sided tests of statistical significance adjusted to account for multiple hypotheses within each outcome category based on Romano and Wolf (2005). We also test differences between estimated coefficients for males and females(Appendix 2). To verify that our results are not driven by compositional differences in gender by course type (instead of gender), we run the main regressions on the subsample of gender-balanced courses (Appendix 3) and confirm that our results hold.

4.1. Skills Acquisition

The program sought to improve participant's labor market prospects by building technical/vocational skills and improving so called "soft" non-cognitive personal-social skills. Because vocational skills varied from course to course, we were unable to construct a single standardized measure for vocational skills. We are, however, able to measure soft skills acquisition using a battery of skills tests adapted for the Dominican Republic from the Grit indices (Duckworth et al., 2007), which measure the tendency to sustain interest and effort in obtaining long-term goals, and Social and Personal Competencies (CPS, its Spanish acronym) scales that measure personal and social skills, including leadership, conflict resolution, social skills, order, and empathy.[19] The soft-skills scales were based on a combination of validated survey modules from existing literature that were piloted and adapted by professional psychologists to suit the local context.[20] The definitions for the measures are presented in Figure 3. All indicators were rescaled in terms of standard deviations of the control group, and as such

[19] Because of the duration of the tests, the measures were collected only in the long-term follow up.

[20] The CPS scales were adapted modules from the *Positive Youth Development Student Questionnaire-Institute for Applied Research in Youth Development* (Lerner et al., 2005), the *Self-Description Questionnaire-II* (Marsh, 1990), the *Life Effectiveness Questionnaire* (Neill et. al., 1997), the *Review of Personal Effectiveness* (Richards et. al, 2002), the *Adolescent Coping Scale* (Frydenbergand Lewis, 1993), and the *Sense of Community Scale* (McMillan and Chavis, 1986). See Brea (2011) for details of the adaptation of these survey tools to the context of the Dominican Republic and of the PJyE program.

the means of the control group are all zeros.

The results are presented in Table 6a for females and 6b for males. Each column represents a different dependent variable measured in standard deviations. Even measured three years after program completion, females in both treatment groups exhibited substantially higher levels of soft skills than those in the control group. The impacts are positive for all measures and statistically significant for the seven indicators in the combined vocational and soft-skills group, and the effects are positive in the soft-skills only group. In pooled estimates, the estimated effects are all significantly different from zero.

On the other hand, we find no detectable effects on either treatment on any of the soft skills measure for males (Table 6b). Estimated coefficients on all of the measures are close to zero with many of the signs being negative and not statistically significant for either treatment arm. This indicates that the program had no lasting effects on soft-skills acquisition for participating men. Significant differences in the coefficients between females and males hold for perseverance, ambition, and communication. For the rest of the skills we measure, we cannot reject the equality of the coefficients.

Table 6c, shows educational attainment after the end of the program. Enrollment rates in other trainings since December 2009 are around 58% for females, and are much higher for other vocational trainings than for formal education (around 50% and 18% respectively for females). Although enrollment rates are systematically lower for males (around 5 percentage points lower), we test for equality of coefficients across genders and we cannot reject the null hypothesis of equality for continued education.

4.2. Short-Run Expectations

Next, we examine the effects of PJyE on expectations for future employment and livelihoods measured 12 months after the training was completed. One of the objectives of the soft skills components was to increase optimism about the future. We find that participating in the training had positive and significant effects on expectations of improved future employment conditions and of improved future living conditions for both treatment groups for females (Columns 1 and 2 of Table 7). Again, we fail to reject that the estimated effects are equal for the combined and soft-skills only groups. The pooled samples show increases of 3.5 percentage points for the expectations of improving employment opportunities and 3.0 percentage points in

the expectations of improving living conditions. Similarly, we find that for males, the training increased the expectations of improved employment conditions by 3.6 percentage points in the pooled sample (Column 3). T-tests across genders shows that the program had similar impacts for males and females after 12 months.

4.3. Short Run Labor Market Outcomes

The program's impact on labor market outcomes 12 months after the training completed is markedly different for females and males. The impact on the probability of employment for females is 7.0 percentage points in the combined vocational and soft skills treatment arm and 5.2 percentage points in the soft-skills only group, which represents relative increases of 32% and 23.6% respectively (column 1 of Table 8A). There is no statistical difference in the estimated impacts between the two arms on employment. In the pooled sample, we find an increase in employment of 5.9 percentage points that translates into an increase of 26.8%.

Both intervention arms are not only associated with females finding more employment, but also higher quality employment in terms of salary and job satisfaction. We find a large and positive effect on women's salaries of about 17%, with very similar effects for the two treatment arms (column 3 of Table 8A).[21] We also find a large and positive effect on the share of females who are satisfied with their jobs, again with very similar effect size for the two treatment arms (column 4 of Table 8A).[22] On average, females in the combined treatment group are 16.3 percentage points more likely to be satisfied with their job, which is a 39% increase in job satisfaction.

In contrast, the impact of the program on men's employment is substantially different and contingent on the type of treatment: the combined vocational and soft skills treatment led to a negative and strongly significant effect on short-run employment of -0.11 percentage points, a relative reduction of about -20% with respect to the control group. On the other hand, males in the soft-skills only group experienced no detectable changes in employment relative to the control group. We can reject the equality of coefficients at the 5% level between the combined

[21] Although the adjusted Romano-Wolf p-value for the combined training is not significant at standard levels, we cannot reject that the combined and the soft skills coefficient are equal and the p-value for the Romano-Wolf of the pooled sample is also significant.

[22] Although the adjusted Romano-Wolf p-value for the combined training is not significant at standard levels, we cannot reject that the combined and the soft skills coefficient are equal and the p-value for the Romano-Wolf of the pooled sample is also significant.

and soft skills only arms, which indicates that the negative effect on employment for males was caused by the vocational component of the program's curricula as males who participated in the soft-skills only training had no significant changes in the likelihood of holding a job. There are also no significant effects of either treatment on salaries or job satisfaction. The different impacts across genders holds for all results except for salary and satisfaction (for the combined training,) where we fail to reject the null hypothesis of equal coefficients.

Taken together, these results indicate that, in the short run, the intervention successfully increased employment in higher quality jobs for females but not for males, and the vocational skills training resulted in a nontrivial and negative short-run employment effect for males and no improvements in earnings. Given that the estimated coefficients for both groups are statistically indistinguishable for skills, employment, salary and job satisfaction, it is likely that the vocational education component of the program did not contribute to the improved labor market outcomes for women. Rather, short-run employment effects appear to be generated through increased soft skills combined with labor market experience through internships. This suggests that the soft-skills training and internship, and not vocational education, led females to achieve higher employment in jobs with higher salaries that are more satisfying.

The labor market outcome effects are consistent with the results on skills and expectations. Females acquired more skills and appear to have been rewarded for these skills in the labor market. Males on the other hand did not acquire skills, but did raise their expectations in the combined vocational and soft skills treatment. Since males did not acquire skills, their wage offers may not have risen. However, males may have turned down job offers that they otherwise might have accepted but now did not meet their higher expectations, and hence leading to lower employment rates.

4.4. Longer Run Labor Market Outcomes

Table 9 presents the effects of PJyE on the main employment outcomes three years after the program ended. In contrast with the results for the short term, there are no lasting effects of the program on the probability of working on the quality of employment for females or males after three years. All of the estimated coefficients for all groups are statistically insignificant and close to zero. Table 9b affirms that the lack of long term impact in employment is equal across genders.

Taken together with the short-term employment findings above, these results indicate that the training contributed to large gains in employment, increased salaries and higher job satisfaction for females in the short term, but these effects dissipated in the longer term. For men, the vocational education component reduced the likelihood of working in the short run, but that effect again dissipated in the longer run. Males in the soft-skills only training course seem to have been largely unaffected by the program either in the short or longer term.

4.5. Longer-Term Well-being

Finally, we explore effects of PJyE on the well-being of program beneficiaries in the three years after the training, measured in terms of job satisfaction (Table 9), future expectations, and self-esteem. Females in the treatment group seem to be just as satisfied with their current employment as those in the control group in that they are not more likely to be searching for another job. However, males in the treatment groups are more unsatisfied with their current employment in the treatment groups and are more likely to be searching for better opportunities. Moreover, the treatment effect for males on job search while employed is very large in magnitude. Males in the pooled treatment group are 11 percentage points more likely to be searching, which translates into a 54% higher rate of search than the control group.

Females in the treatment groups also report significantly higher optimism about the future than those in the control group even after three years out of the program, while males in the treatment group report diminished future expectations (Table 10). Specifically, females in the treatment groups are significantly more likely to expect higher future salaries and that their children will lead good lives. Females in treatment groups also report higher expected relative wealth positions compared to those in the control group. In contrast, compared to the control group, males in the combined vocational and soft skills treatment group report lower expectations for salaries in the future and that their children will be worse off.

Finally, we report results for the effect of the training on self-esteem (Table 10a). After three years it appears that females in the treatment groups had significantly higher self-esteem than those in the control group. In contrast, males in the treatment group show weakly negative changes in self-esteem in the long run.. Tables 9b and 10b confirm the differential impact across genders on job satisfaction, expected wellbeing and self-esteem.

These long-run effects are consistent with the fact that, despite both females and males

having finished the training with high future expectations (12 months), only females acquired skills and achieved results in the labor market after completion of the course. In the long run, the effects in the labor market disappeared for females, but they still maintain the gains in soft skills acquired in the training, keeping their self-esteem high and maintaining higher expectations for a better future. Males, on the contrary, had increased labor market expectations, but failed to gain soft skills and experienced reduced short-run employment in the combined training arm. While the program had no sustained long-run employment effects other than increased job search amongst males, males show signs of discouragement in terms of reduced optimism about future employment and wealth for themselves and future generations.

5. Discussion

Vocational education programs for poor and at-risk youth in developing countries are widespread, despite relatively weak empirical evidence as to their effectiveness and cost-effectiveness (Blattman and Ralston, 2015, Mckenzie, 2017). While the specific curricular and quality of the intervention content varies from program to program, these interventions have generally consisted of a mix of vocational skills and soft (i.e., inter-personal) skills that are meant to improve beneficiaries' job prospects, reduce poverty, and improve their well-being. One salient aspect of these programs that has received less attention is their potential to alter beneficiaries' employment and livelihood expectations. If in fact these programs generate high expectations that are not met in reality, they could result in discouraged workers with worse long-term outcomes.

We explore the short- and long-term effects of a vocational and soft-skills training program in the Dominican Republic using a unique experiment that randomly assigned potential participants to receive a combined package of vocational education, soft skills and internship; a soft skills and internship only arm, or a control group. This design allows us to sort out the marginal contribution of the vocational education component, which makes up the bulk of time and costs related to most job-training programs.

Literature looking at similar programs in developing countries also differentiate effects by gender, mostly focus on labor outcomes, and show mixed results in the long term. Previous

studies of the combined package of PJyE[23] suggest that the program had different impacts across genders and that most of the effects dissipate with time. In the short run, Ibarraran et al., 2014 found positive impacts on monthly income, soft skills and expectations for females, and an increase in formality for males. On the long run, they find that the only sustained outcome in the labor market is formality for males (Ibarraran et al., 2015). This is consistent with Attanasio et al. 2015. However, Hirshleifer et al. 2014, and Alzua et al. 2016 find that all the short term impacts on labor outcomes disappear in the long run.

Our findings add a number of insights to the existing body of evidence. We find that the program increased short-run expectations for both males and females, but that the effects on labor market outcomes are different for these two groups. Young females benefited from the program in the short run; whereas, males did not experience any improvements in employment. The interaction of these common expectations and different labor market results produce very different long-run outlooks on life. For women, the increased short-term expectations are met with positive effects in terms of both soft skills acquisition and short-term employment. While females in the control group catch up to the treatment in terms of employment and salary over time, females in the treatment groups retain a more positive outlook for the future and have higher self-esteem in the long run. For men, on the other hand, the increased short-run employment expectations are not born out in the labor market. In fact, males in the vocational education arm experience a reduced likelihood of employment in the short run, a sustained negative impacts on theirs expectations, and no significant changes in wellbeing.

Our interpretation is that females benefited substantially from the soft skills (including internships) components of the training in the short run, and that the positive effects on expectations were further reinforced by the short-run positive effects on employment. While these expectations did not pan out in the labor market outcomes in the long run, the lasting positive effect on skills seems to have been rewarded as reflected in the higher future expectations and self-esteem.

We find a completely different set of program effects for males. While the program

[23] Studies of PJyE were conducted in a context of macroeconomic growth with high informality rates in the labor markets (Abdullaev et Estevao, 2013). The study of Ibarraran et al. 2015 was conducted in the same time-frame as this study (with a maximum of a two year difference), therefore we assume that the same labor market conditions apply to both studies.

seems to have induced higher employment expectations, these did not materialize even in the short run. One explanation for this is that males seem to have not acquired skills from the training. These unmet prospects are reflected in the negative effects of the program on expectations in general in the long run, which were also probably reinforced by the relatively worse labor market outcomes in terms of non-satisfaction (on-the-job-search) and employment quality (lower formal employment). These results, taken together, might explain the pattern of program effects on self-esteem in the long run. While we find virtually no effect on men, there is a positive and significant effect for women.

For females, the program implied a reinforcing pattern of skill acquisition and strengthened expectations despite the dissipation of positive short-run employment effects in the long run. For men, on the other hand, the failure to acquire skills and the negative employment results in the short run seems to have reinforced a cycle of negative outcomes and expectations. Males seem to have waited to find better jobs because of their higher expectations, but they did not acquire skills, reflected in the lack of reward in the labor market, which in turn makes them disillusioned. While there are effects from both types of training, vocational skills training seems to have induced a higher level of skill acquisition (even for soft skills) and higher expectations for women, although the lack of personal skills and the negative employment outcomes also implied higher levels of frustration for males in the long run from this type of training. Females get skills and a better view of the future; males become discouraged and are left behind.

In terms of efficiency, back-of-the-envelope calculations show that the combined training had a cost of $320 per student, and the soft skills only training had a cost of $160. Considering the impact of the program on employment rates and salaries for females after 12 months, the program seems to be cost-effective, showing a benefit-cost ratio of 1.29 for the combined training and 1.91 for the soft skills only training after the first year[24]. Given that the program had negative or null impacts for males, the program was not cost-effective for them.

The main message of this paper is that programs of this type can be transformative – for women, soft skills training mattered and made a difference, but they can also have a downside if, like in this case for men, training creates expectations that are not met. Governments in both

[24] Assuming that at least half of the labor outcome impacts persists during a second year after the end of the program, the benefit-cost ratio for females would be of 1.86 and 2.76 respectively.

developed and developing countries will most likely continue carrying out programs of this type, so it is very important that research efforts also identify their potential downsides and help inform their design and implementation to mitigate them. Further research could concentrate on the mechanisms through which these programs seem to be more effective for females than for males, and attempt to derive conditions under which male youth could also benefit from training in both their vocational and soft skills and their employment outcomes in the longer run. Finally, while we have provided evidence to disentangle the effects of vocational and soft skills training, future experimental designs could also attempt to isolate the effect of internships on labor market outcomes as well as on skills, expectations and self-esteem, since it is likely that these early work experiences can shape future career prospects and participants' well-being in general.

References

Abdullaev, M. U., & Estevao, M. M. (2013). "Crecimiento y empleo en la República Dominicana: Opciones para un crecimiento generador de empleo" (No. 13-40). International Monetary Fund.

Adoho, F., S. Chakravarty, D. T. Korkoyah, M. K. A. Lundberg, and A. Tasneem (2014). "The Impact of an Adolescent Girls Employment Program: The EPAG Project in Liberia," World Bank Policy Research Working Paper 6832.

Alzua, M. L., Cruces, G. and Lopez, C. (2016). "Long run effects of youth training programs. Experimental evidence from Argentina", *Economic Inquiry*, forthcoming.

Attanasio, O., Kugler, A. and Meghir, C. (2011). Subsidizing Vocational Training for Disadvantaged Youth in Colombia: Evidence from a Randomized Trial. *American Economic Journal: Applied Economics*, vol. 3(3), pages 188-220.

Attanasio, O., Guarín, A., Medina, C. and Meghir, C. (2015). "Long Term Impacts of Vouchers for Vocational Training: Experimental Evidence for Colombia," NBER Working Paper No. 21390.

Bandiera, Oriana, Buehren, N., Burgess, R., Goldstein, M., Gulesci, S., Rasul, I., and Sulaiman, M. (2012) "Empowering Adolescent Girls: Evidence from a Randomized Control Trial in Uganda", Mimeo. LSE.

Blattman C. and L. Ralston (2015) "Generating Employment in Poor and Fragile States: Evidence from Labor Market and Entrepreneurship Programs," SSRN Working Paper https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2622220

Betcherman, Gordon, Karina Olivas, and Amit Dar. 2004. "Impacts of Active Labor Market Programs: New Evidence from Evaluations with Particular Attention to Developing and transition Countries." Washington, D.C.: World Bank, Social Protection Discussion Paper Series 0402.

Betcherman, Gordon, Martin Godfrey, Olga Susana Puerto, Friederike Rother, and Antoneta Stavreska. 2007. "Global Inventory of Interventions to Support Young Workers: Synthesis Report." World Bank. Washington, D.C. Processed.

Brea, Mayra (2011). "Interpretación De Las Escalas CPS, Rosenberg y Grit y Propuestas de Revisión Para Mejorar la Confiabilidad," World Bank Working Paper. http://documents.worldbank.org/curated/en/418161467995809251/Informe-de-la-interpretacion-de-las-escalas-CPS-Rosenberg-y-grit-y-propuestas-de-revision-para-mejorar-la-confiabilidad

Brown, A. J. G. and Koettl, J. (2015). "Active Labor Market Programs: Employment Gain or Fiscal Drain?," *IZA Journal of Labor Economics* 4:12.

Card, D., Ibarrarán, P., Regalia, F., Rosas-Shady, D. and Soares, Y. (2011). The Labor Market

Impacts of Youth Training in the Dominican Republic: Evidence from a Randomized Evaluation. *Journal of Labor Economics*, vol. 3(2), pages 267-300.

Card, D., Kluve, J. and Weber, A. (2010). "Active Labor Market Policy Evaluations: A Meta-Analysis," *Economic Journal*, vol. 120(548), pages F452-F477, November.

Card, D., J. Kluve and A. Weber. 2015. "What Works? A Meta Analysis of Recent Active Labor Market Program Evaluations". NBER Working Paper 21431.

Cave, G. (1993). "JOBSTART: Final Report on a Program for School Dropouts." New York: MDRC.

CEDLAS and World Bank (2016), Socio-Economic Database for Latin America and the Caribbean, online database.

Couch, K.A. (1992). "New Evidence on the Long-Term Effects of Employment Training Programs," *Journal of Labor Economics* 10, no. 4: 380-388.

Cunningham W, Villaseñor P (2014). "Employer voices, employer demands, and the implications for public skills development policy," World Bank Policy Research Working Paper no. 6853.

Greenberg, D. H., Michalopoulos, C., and Robins, P. K. (2003). "A meta-analysis of government-sponsored training programs." Industrial & Labor Relations Review, 57(1), 31-53.

Diaz, J. and Rosas, D. (2016) "Impact evaluation of the Job Youth Training Program Projoven", IDB Working Paper Series IDB-WP-693

Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: Perseverance and passion for long-term goals. *Journal of Personality and Social Psychology*, 92(6), 1087-1101.

Duflo, E., Glennerster, R., and Kremer, M. (2008), Using Randomization in Development Economics Research: A Toolkit. Handbook of Development Economics, vol. 4.

Frydenberg, E.,& Lewis, R. (1993). "The adolescent coping scale. Manual." Melbourne. Australian Council for Educational Research. García, L., & Fumero

Groh, M., Krishnan, N., McKenzie, D., and Vishwanath, T. (2016) "Do Wage Subsidies Provide a Stepping-Stone to Employment for Recent College Graduates? Evidence from a Randomized Experiment in Jordan". The Review of Economics and Statistics. Vol. 98, No. 3, Pages 488-502

Heckman, J.J,. J. Sixrud and S. Urzua 2006 "The effects of cognitive and noncognitive abilities on labor market outcomes and social behavior" National Bureau of Economic Research, Working paper 12006.

Heckman, J.J., R.J. LaLonde and J.A. Smith. 1999. "The economics and econometrics of active

labour market programs". In: Ashenfelter, O. and D. Card, editors. Handbook of Labor Economics 3. Elsevier, Amsterdam.

Hirshleifer, S., McKenzie, D., Almeida, R. and Ridao-Cano, C. (2014). "The Impact of Vocational Training for the Unemployed. Experimental Evidence from Turkey," *Economic Journal,* forthcoming.

Ibarrarán, P. and D. Rosas. 2009. "Evaluating the impact of Job Training Programs in Latin America: evidence from IDB funded operations". Journal of Development Effectiveness. 2. 195-216.

Ibarrarán, P., Ripani, L., Taboada, B., Villa, J. and Garcia, B. (2014). "Life Skills, Employability and Training for Disadvantaged Youth: Evidence from a Randomized Evaluation Design." *IZA Journal of Labor & Development* 3 (1), 1-24.

Ibarrarán, P., Kluve, J., Ripani, L. and Rosas, D. (2015). "Experimental Evidence on the Long-Term Impacts of a Youth Training Program," IZA Discussion Paper 9136.

Inter-American Development Bank – IDB (2006), "Informe de terminación de proyecto".

J-PAL. 2013. "J-PAL Youth Initiative Review Paper." Cambridge, MA: Abdul Latif Jameel Poverty Action Lab.

Kluve, J. (2010). "The Effectiveness of European Active Labor Market Programs," Labour Economics 17 (2010), 6, pp. 904–918.

Kugler, A., Kugler, M., Saavedra, J. and Herrera Prada, L. (2015). "Long-term Direct and Spillover Effects of Job Training: Experimental Evidence from Colombia," NBER Working Paper No. 21607.

Lerner, R. M., Lerner, J. V., Almerigi, J., Theokas, C., Phelps, E., Gestsdottir, S. Naudeau, S., Jelicic, H., Alberts, A. E., Ma, L., Smith, L. M., Bobek, D. L., Richman-Raphael, D., Simpson, I., Christiansen, E. D., & von Eye, A. (2005). "Positive youth development, participation in community youth development programs, and community contributions of fifth grade adolescents: Findings from the first wave of the 4-H Study of Positive Youth Development." Journal of Early Adolescence, 25(1), 17-71.

Maitra, P. and Mani, S. (2014). "Learning and Earning: Evidence from a Randomized Evaluation in India," IZA Discussion Papers 8552.

Marsh, Herbert W. (1990) "The structure of academic self-concept: The Marsh/Shavelson model" Journal of Educational Psychology, Vol 82(4), Dec 1990, 623-636.

Mckenzie, David J.. (2017). "How effective are active labor market policies in developing countries ? a critical review of recent evidence" Policy Research working paper; no. WPS 8011; Impact Evaluation series. Washington, D.C. : World Bank Group.

McMillan, D. W., & Chavis, D. M. (1986). Sense of community: A definition and theory. Journal of community psychology, 14(1), 6-23.

Neill, J.T., Marsh, H.W., & Richards, G.E. (1997). The Life Effectiveness Questionnaire: Development and Psychometrics. Sydney, NSW, Australia: The University of Western Sydney.

Richards, G. E., Ellis, L. A., Neill, J. T. (2002). "The ROPELOC: Review of Personal Effectiveness and Locus of Control: A comprehensive instrument for reviewing life effectiveness." Self-Concept Research: Driving International Research Agendas, 6-8 August,Sydney.

Romano, J.P. and Wolf, M. (2005). "Exact and approximate stepdown methods for multiple hypothesis testing," *Journal of the American Statistical Association* 100, 94-108.

Schochet, P., Burghardt, J. and McConnell, S. (2008). "Does job corps work? Impact findings from the national job corps study", *American Economic Review* 98: 1864-1886.

Urzúa, S. and E. Puentes. 2010. "La evidencia del impacto de los programas de capacitación en el

desempeño en el mercado laboral". Banco Interamericano de Desarrollo – Unidad de Mercados Laborales del Sector Social, Notas Técnicas #268. BID: Washington, DC.

Vezza, E., García, B., Cruces, G. Amendolaggine, J. (2014). "Impact Evaluation Report. 2008-2009 Cohorts, Youth and Employment Program, Ministry of Labor, Dominican Republic." Mimeo, Dominican Republic's Ministry of Labor and The World Bank.

Figures

Figure 1: Random assignment.

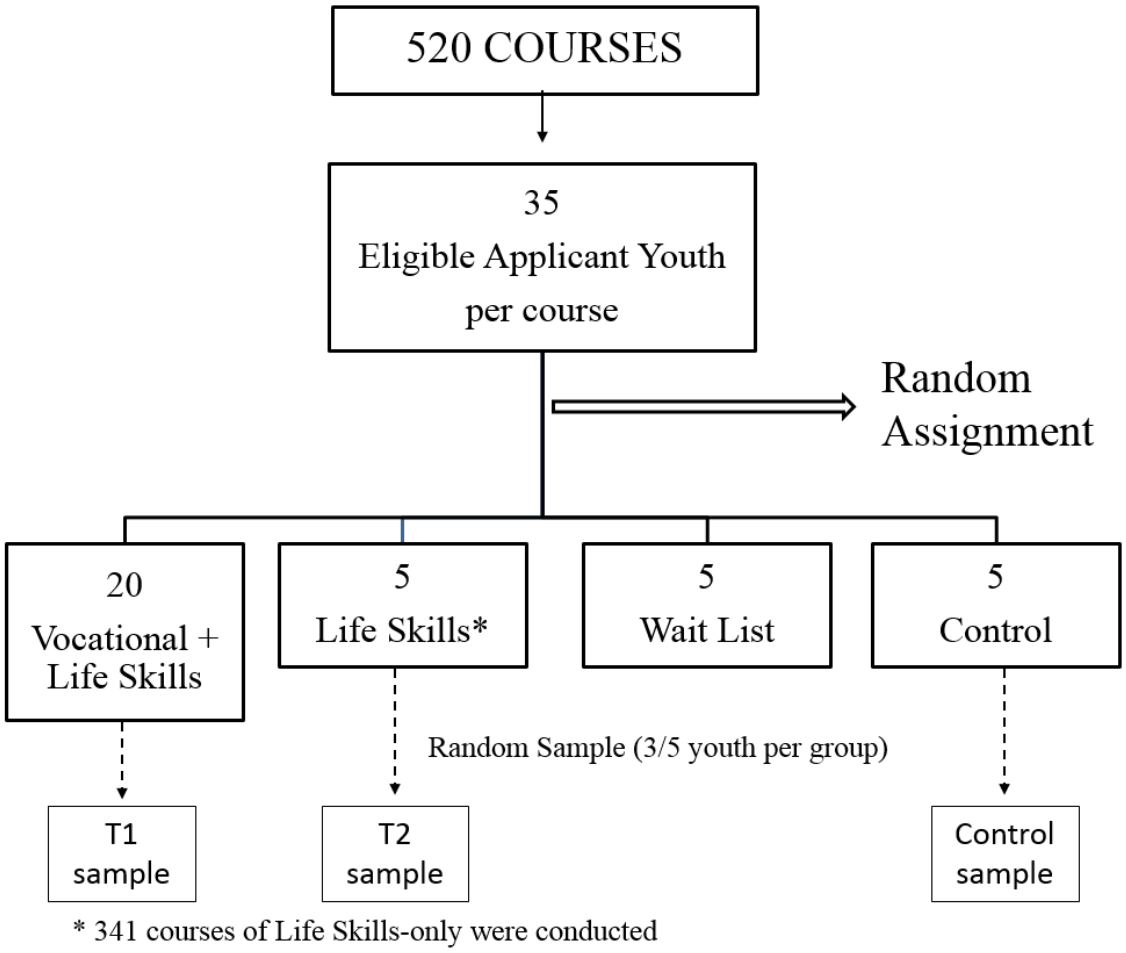

Figure 2: Intervention and survey timeline

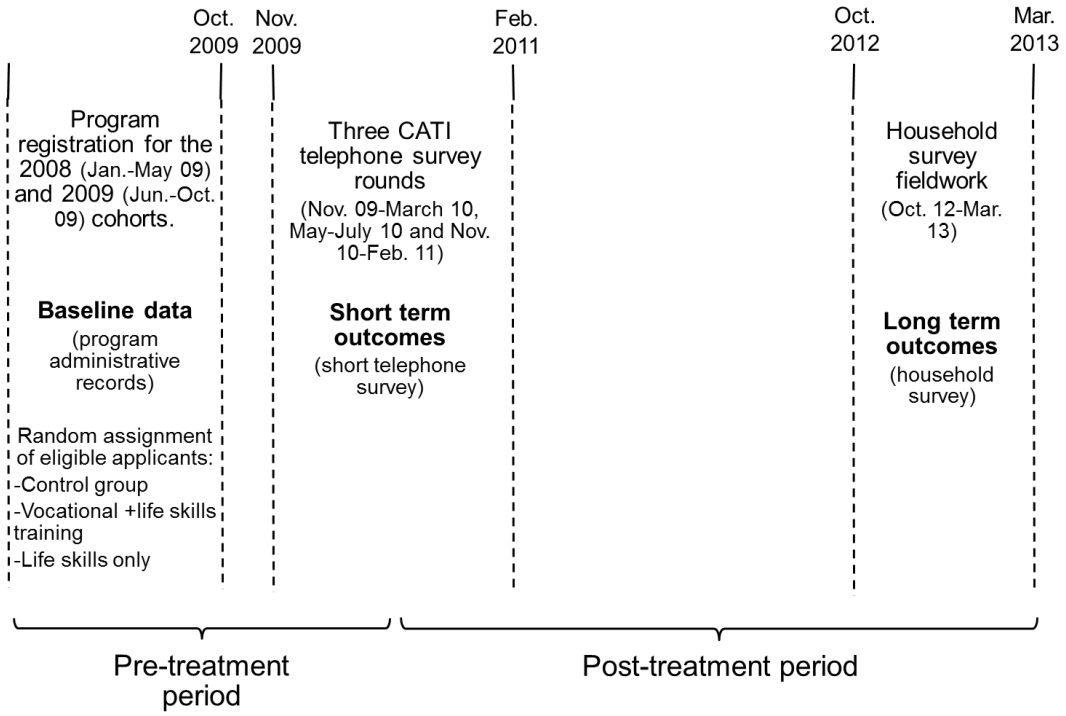

Figure 3: Definitions of Soft Skills Measures

Skill	Measure definition
Perseverance	The measure assesses the belief that it is important to sustain efforts to achieve long-term goals and complete plans. It is a true positive indicator of long-term success and disassociated with a disciplined and deeply rooted desire to achieve individual success.
Ambition	The measure assesses the desire for power or superiority.
Leadership	The measure assesses the ability to influence peers and work towards a common goal, to be known and admired by peers, willingness to actively participate in important community issues, and the ability to work with others and commit to come to agreement and coordinate activities with others.
Conflict Resolution	The measure assesses the ability to recognize, express and manage emotions and before acting, as well as the ability to identify the source of a social or interpersonal conflict, to understand the perspectives of all parties involved in the conflict, and to propose solutions.
Social Skills	The measure assesses the ability to establish and maintain social ties and the knowledge of how to behave in a social context to function.
Organization	The measure assesses the ability to plan activities and the willingness to maintain the order of the tools and materials that are used in everyday development. It also implies a commitment to the goals set by the team and the social environment of the person.
Communication	The measure assesses the ability to understand and accept other people, to take the place of these, to receive the views of others and be respectful (a) to people, ideas, values, and / or customs different from the individual's own. At the same time, it is also the ability to express and understand ideas or messages accurately and safely, which may subject you to maintain a good relationship and social adjustment.

Tables

Table 1: Courses and Participants by Sectors (2009)

Courses	Percentage of Participants [1]	% Males	% Females
Sales	38%	44%	56%
Hotel and Restaurant	20%	46%	54%
Professional Services	11%	14%	86%
Beauty	10%	11%	89%
Health	9%	25%	75%
Commerce	4%	93%	7%
Agriculture	3%	62%	38%
Computer/IT	3%	58%	42%
Security	2%	45%	55%
Construction	0%	94%	6%

[1] Participants are assigned to the course they applied for

Table 2: Competencies Addressed in Soft Skills Training

Competencies	Hours
Development of Self-Esteem, Personal Skills and Self-Fulfillment	20
Self awareness	
Communication skills	
Management of human relationships	
Development of Skills for Life and Work Success	35
Development of a life project	
Working with quality and being productive	
Decision making	
Hygine, health, and labor rights	
Development of Social Skills	20
Management of conflict resolution	
Participation in social solidarity networks	
Total number of hours	75

Table 3: Data Sources and Sample Sizes

	Registration Form	Telephone Survey			Household Survey
Time after the training:	Before the training	0 months	6 months	12 months	3 years
Treatment	3,251	2,856	2,940	2,935	2,697
Hard and Soft Skills	1,638	1,419	1,481	1,470	1,366
Soft Skills	1,613	1,437	1,459	1,465	1,331
Control	1,449	1,259	1,298	1,286	1,176
Total Number Observations	4,700	4,115	4,238	4,221	3,873

Source: Baseline data came from the registration form that the participants had to fill out to apply for the program. Short term follow up data come from three rounds of telephone surveys: the first one was conducted inmediatly after the program finished following the rolling basis scheme of the program (from November 2009 to March 2010), the second was conducted six months after the program (from May to July 2010), and the third round one was conducted one year after the program concluded (from November 2010 to February 2011). The long term follow up data was collected in a household survey from October 2012 to March 2013, that is aproximately 3 years after the training concluded for our study sample.

Table 4: Applicant Characteristics at Baseline

	Mean study sample	Mean Population
Female	62%	50%
Age	20,9	20,9
Household Size	3,8	4,7
Education (maximum level attained, not necessarily completed)		
Elementary	25%	31%
Secondary	72%	49%
Terciary	0%	17%
College	0%	3%
Don't Know	2%	0%
Marital Status		
Single	79%	69%
Civil Union	19%	22%
Married	2%	3%
Divorced	0%	6%
Widow	0%	0%

Source: Baseline study sample and National Labor Survey 2009
Note: The study sample is restricted to individuals in training facilities that offered the two treatments, and to individuals who were found in both, the 12 months' follow up telephone survey and the 3 years' follow up household survey.

Table 5: Baseline Balance

Females

VARIABLES	Mean at Baseline			P-Values		
	Hard Skills and Soft Skills	DCB	Control	Hard and Soft Skills vs Control	Soft Skills vs Control	Hard and Soft Skills vs Soft Skills
Age	21.176	21.159	21.092	0.903	0.886	0.772
Family Size	3.984	3.841	3.821	0.156	0.033	0.340
Urban=1	0.783	0.796	0.771	0.778	0.889	0.644
Sto. Domingo=1	0.251	0.216	0.255	0.208	0.538	0.952
Poverty Score	60.355	61.106	61.131	0.022	0.050	0.914
Years of Education	9.904	9.789	9.822	0.198	0.644	0.518
Studying=1	0.269	0.266	0.240	0.860	0.296	0.192
Literacy head of household	0.891	0.909	0.923	0.080	0.063	0.756
Literacy spouse of head household	0.400	0.436	0.402	0.192	0.703	0.082
Working	0.026	0.020	0.029	0.465	0.845	0.354
Related Experience=1	0.093	0.111	0.120	0.190	0.615	0.503
Unemployed=1	0.538	0.553	0.547	0.971	0.976	0.943
Previous Work=1	0.107	0.106	0.096	0.746	0.168	0.079
Receive remittances	0.040	0.039	0.031	0.929	0.227	0.159
Has children=1	0.547	0.506	0.547	0.192	0.721	0.097
Number of children	0.897	0.818	0.935	0.323	0.275	0.041
Single=1	0.745	0.723	0.710	0.281	0.108	0.462

Table 5: Baseline Balance (continued)

Males

VARIABLES	Mean at Baseline			P-Values		
	Hard and Soft Skills	Soft Skills	Control	Hard and Soft Skills vs Control	Soft Skills vs Control	Hard and Soft Skills vs Soft Skills
Age	20.31	20.53	20.86	0.01	0.13	0.23
Family Size	3.70	3.74	3.70	0.98	0.85	0.86
Urban=1	0.79	0.82	0.84	0.18	0.66	0.38
Sto. Domingo=1	0.25	0.29	0.24	0.03	0.19	0.04
Poverty Score	62.95	63.27	61.67	0.03	0.02	0.94
Years of Education	9.63	9.74	9.60	0.41	0.21	0.70
Studying=1	0.26	0.27	0.24	0.18	0.12	0.99
Literacy head of household	0.90	0.92	0.88	0.12	0.02	0.38
Literacy spouse of head household	0.37	0.38	0.37	0.96	0.93	0.97
Working	0.06	0.06	0.06	0.29	0.98	0.24
Related Experience=1	0.14	0.16	0.12	0.82	0.29	0.43
Unemployed=1	0.68	0.68	0.72	0.09	0.08	0.90
Previous Work=1	0.22	0.22	0.18	0.09	0.07	0.98
Receive remittances	0.06	0.08	0.10	0.17	0.69	0.24
Has children=1	0.12	0.12	0.16	0.33	0.09	0.48
Number of children	0.17	0.16	0.22	0.37	0.16	0.71
Single=1	0.91	0.90	0.88	0.10	0.12	0.87

Source: Baseline study survey

Note: The study sample is restricted to individuals in training facilities that offered the two treatments, and to individuals who were found in both the 12 months' follow up telephone survey and the 3 years' follow up household survey.

Table 6a. Impact on Skills after 3 Years, Females

	(1) Perseverance (S.D.)	(2) Ambition (S.D.)	(3) Leadership (S.D.)	(4) Conflict Resolution (S.D.)	(5) Social Skills (S.D.)	(6) Organization (S.D.)	(7) Communication (S.D.)
Combined Vocational and soft skills training							
β_1	0.211***	0.188***	0.095*	0.095*	0.102*	0.141**	0.159**
Standard Error	(0.058)	(0.060)	(0.063)	(0.065)	(0.064)	(0.066)	(0.060)
Romano Wolf p-value	0.001	0.007	0.068	0.068	0.068	0.034	0.014
Soft skills training only							
β_2	0.104	0.096	0.054	0.078	0.107	0.101	0.026
Standard Error	(0.054)	(0.056)	(0.056)	(0.057)	(0.055)	(0.057)	(0.055)
Romano Wolf p-value	0.183	0.183	0.197	0.183	0.183	0.183	0.32
Pooled sample							
β_3	0.147**	0.133**	0.071*	0.085*	0.105*	0.117*	0.079*
Standard Error	(0.051)	(0.052)	(0.052)	(0.054)	(0.052)	(0.054)	(0.050)
Romano Wolf p-value	0.029	0.038	0.083	0.082	0.057	0.053	0.082
Observations	1,728	1,728	1,728	1,728	1,728	1,728	1,728
R-squared	0.071	0.059	0.038	0.047	0.042	0.046	0.076
Control Mean	0	0	0	0	0	0	0
p-value $\beta_1=\beta_2$	0.0263	0.0631	0.455	0.763	0.937	0.482	0.0141
p-value $\beta_1=0$ & $\beta_2=0$	0.00118	0.00709	0.317	0.292	0.126	0.0817	0.0141

Notes: Standard errors clustered at the course and treatment group level in parenthesis. Romano Wolf *p-values* in brackets. All regressions include controls for the educational institution, the sector of the course, and the training cohort. *** p<0.01, ** p<0.05, * p<0.1

Table 6b. Impact on Skills after 3 Years, Males

	(1) Perseverance (S.D.)	(2) Ambition (S.D.)	(3) Leadership (S.D.)	(4) Conflict Resolution (S.D.)	(5) Social Skills (S.D.)	(6) Organization (S.D.)	(7) Communication (S.D.)
Combined Vocational and soft skills training							
β_1	-0.029	-0.066	0.053	-0.008	-0.011	-0.025	-0.076
Standard Error	(0.075)	(0.076)	(0.086)	(0.076)	(0.079)	(0.084)	(0.074)
Romano Wolf p-value	1	1	1	1	1	1	1
Soft skills training only							
β_2	-0.065	-0.067	0.017	0.017	-0.003	0.006	0.003
Standard Error	(0.070)	(0.072)	(0.073)	(0.072)	(0.073)	(0.075)	(0.069)
Romano Wolf p-value	1	1	1	1	1	1	1
Pooled sample							
β_3	-0.050	-0.066	0.032	0.006	-0.006	-0.007	-0.030
Standard Error	(0.064)	(0.065)	(0.067)	(0.064)	(0.064)	(0.067)	(0.063)
Romano Wolf p-value	1	1	1	1	1	1	1
Observations	1,051	1,051	1,051	1,051	1,051	1,051	1,051
R-squared	0.092	0.089	0.073	0.073	0.080	0.069	0.098
Control Mean	0	0	0	0	0	0	0
p-value $\beta_1=\beta_2$	0.600	0.988	0.662	0.746	0.928	0.708	0.262
p-value $\beta_1=0$ & $\beta_2=0$	0.642	0.594	0.822	0.945	0.991	0.928	0.471

Notes: Standard errors clustered at the course and treatment group level in parenthesis. Romano Wolf *p-values* in brackets. All regressions include controls for the educational institution, the sector of the course, and the training cohort. *** p<0.01, ** p<0.05, * p<0.1

Table 6c Educational Outcomes

Since Dec. 2009, Have you attended…(excluding PJyE)?

	Mean			P-Values		
	Hard Skills and Soft Skills	Soft Skills	Control	Hard and Soft Skills vs Control	Soft Skills vs Control	Hard and Soft Skills vs Soft Skills
Females						
Any Training=1	0.550	0.585	0.576	0.485	0.567	0.188
Vocational or Soft Skills Training=1	0.468	0.499	0.507	0.169	0.999	0.133
Formal Training=1	0.171	0.183	0.176	0.995	0.825	0.825
Males						
Any Training=1	0.515	0.515	0.507	0.947	0.488	0.544
Vocational or Soft Skills Training=1	0.469	0.426	0.438	0.347	0.221	0.848
Formal Training=1	0.152	0.154	0.154	0.780	0.785	0.981

Source: Household survey (3 years)

Note: The study sample is restricted to individuals in training facilities that offered the two treatments, and to individuals who were found in both, the 12 months' follow up telephone survey and the 3 years' follow up household survey.

Table 7. Impact on Expectations after 12 Months

	(1)	(2)	(3)	(4)
	A. Females		**B. Males**	
	Expect Employment Opportunities to Improve	Expect Living Standards to Improve	Expect Employment Opportunities to Improve	Expect Living Standards to Improve
Combined Vocational and soft skills training				
β_1	0.033**	0.028**	0.045**	0.007
Standard Error	(0.016)	(0.013)	(0.017)	(0.016)
Romano Wolf p-value	0.041	0.041	0.019	0.524
Soft skills training only				
β_2	0.037**	0.032***	0.029	0.006
Standard Error	(0.014)	(0.012)	(0.018)	(0.015)
Romano Wolf p-value	0.013	0.013	0.26	0.51
Pooled sample				
β_3	0.035**	0.030**	0.036*	0.006
Standard Error	(0.014)	(0.011)	(0.016)	(0.014)
Romano Wolf p-value	0.013	0.013	0.055	0.475
Observations	1,728	1,728	1,051	1,051
R-squared	0.046	0.036	0.078	0.061
Control Mean	0.917	0.943	0.924	0.955
p-value $\beta_1=\beta_2$	0.753	0.665	0.285	0.993
p-value $\beta_1=0$ & $\beta_2=0$	0.0392	0.0250	0.0322	0.899

Standard errors clustered at the course and treatment group level in parenthesis. Romano Wolf p-values in brackets. All regressions include controls for the educational institution, the sector of the course, and the training cohort. *** p<0.01, ** p<0.05, * p<0.1

Table 8. Impact on Labor Outcomes after 12 Months

VARIABLES	(1) Working	(2) Hours per week	(3) Log (Salary)	(4) Satisfied with job
A. Females				
Combined Vocational and soft skills training				
β_1	0.070**	1.814	0.174*	0.197**
Standard Error	(0.027)	(2.451)	(0.103)	(0.072)
Romano Wolf *p*-value	0.023	0.14	0.066	0.023
Soft skills training only				
β_2	0.052*	1.532	0.179*	0.143*
Standard Error	(0.025)	(2.201)	(0.098)	(0.067)
Romano Wolf *p*-value	0.078	0.139	0.078	0.078
Pooled sample				
β_3	0.059***	1.641	0.177*	0.163***
Standard Error	(0.023)	(2.095)	(0.094)	(0.062)
Romano Wolf *p*-value	0.009	0.434	0.06	0.009
Observations	1,728	448	445	451
R-squared	0.055	0.144	0.204	0.200
Mean Control Group	0.220	39.30	8.431	0.416
p-value $\beta_1=\beta_2$	0.487	0.885	0.944	0.345
p-value $\beta_1=0$ & $\beta_2=0$	0.025	0.731	0.171	0.021
B. Males				
Combined Vocational and soft skills training				
β_1	-0.111**	1.867	0.067	0.090
Standard Error	(0.040)	(2.051)	(0.076)	(0.061)
Romano Wolf *p*-value	0.025	0.386	0.386	0.264
Soft skills training only				
β_2	-0.031	-1.228	-0.039	0.010
Standard Error	(0.038)	(1.634)	(0.064)	(0.052)
Romano Wolf *p*-value	1	1	1	1
Pooled sample				
β_3	-0.065	-0.118	-0.001	0.039
Standard Error	(0.035)	(1.493)	(0.059)	(0.048)
Romano Wolf *p*-value	0.323	1	1	1
Observations	1,051	519	512	522
R-squared	0.098	0.197	0.218	0.163
Mean Control Group	0.541	45.46	8.775	0.547
p-value $\beta_1=\beta_2$	0.0328	0.137	0.145	0.171
p-value $\beta_1=0$ & $\beta_2=0$	0.016	0.326	0.344	0.284

Notes: Standard errors clustered at the course and treatment group level in parenthesis. Romano Wolf *p*-values in brackets. All regressions include controls for the educational institution, the sector of the course, and the training cohort. *** p<0.01, ** p<0.05, * p<0.1

Table 9. Impact on Labor Market Outcomes after 3 Years

	(1) Working	(2) Hours per week	(3) Log (Salary)	(4) Searching for Work While Employed
A. Females				
Combined Vocational and soft skills training				
β_1	0.016	0.600	0.012	-0.042
Standard Error	(0.033)	(1.863)	(0.092)	(0.043)
Romano Wolf *p*-value	1	1	1	1
Soft skills training only				
β_2	0.013	0.334	-0.027	-0.006
Standard Error	(0.029)	(1.741)	(0.085)	(0.039)
Romano Wolf *p*-value	1	1	1	1
Pooled sample				
β_3	0.014	0.440	-0.011	-0.020
Standard Error	(0.027)	(1.588)	(0.078)	(0.037)
Romano Wolf *p*-value	1	1	1	1
Observations	1,728	844	747	844
R-squared	0.060	0.111	0.176	0.099
Control Mean	0.490	35.38	8.259	0.306
p-value $\beta_1=\beta_2$	0.928	0.875	0.634	0.318
p-value $\beta_1=0$ & $\beta_2=0$	0.875	0.949	0.885	0.529
B. Males				
Combined Vocational and soft skills training				
β_1	-0.009	-1.019	-0.099	0.136***
Standard Error	(0.032)	(1.811)	(0.075)	(0.041)
Romano Wolf *p*-value	0.649	0.62	0.39	0.005
Soft skills training only				
β_2	-0.009	0.103	-0.039	0.092**
Standard Error	(0.030)	(1.706)	(0.058)	(0.033)
Romano Wolf *p*-value	1	1	1	0.025
Pooled sample				
β_3	-0.009	-0.354	-0.063	0.110***
Standard Error	(0.027)	(1.540)	(0.055)	(0.031)
Romano Wolf p-value	0.977	0.977	0.589	0.001
Observations	1,051	849	806	848
R-squared	0.069	0.116	0.114	0.107
Control Mean	0.822	45.22	8.746	0.203
p-value $\beta_1=\beta_2$	0.995	0.505	0.414	0.258
p-value $\beta_1=0$ & $\beta_2=0$	0.951	0.776	0.414	0.001

Notes: Standard errors clustered at the course and treatment group level in parenthesis. Romano Wolf *p*-values in brackets. All regressions include controls for the educational institution, the sector of the course, and the training cohort. *** p<0.01, ** p<0.05, * p<0.1

Table 10. Impact on Expectations and Self Esteem after 3 Years

	(1) Log (Expected Future Salary)	(2) Expect Children Will Have Better Life	(3) Expected Relative Wealth in 10 Years	(4) Self Esteem
A. Females				
Combined Vocational and soft skills training				
β_1	0.063**	0.073**	0.112**	0.137*
Standard Error	(0.028)	(0.037)	(0.049)	(0.063)
Romano Wolf *p*-value	0.041	0.041	0.041	0.062
Soft skills training only				
β_2	0.032	0.052	0.010	0.134**
Standard Error	(0.026)	(0.034)	(0.048)	(0.057)
Romano Wolf *p*-value	0.486	0.486	0.486	0.038
Pooled sample				
β_3	0.044	0.061	0.050	0.135**
Standard Error	(0.024)	(0.031)	(0.044)	(0.053)
Romano Wolf *p*-value	0.105	0.105	0.105	0.023
Observations	1,728	1,728	1,728	1,728
R-squared	0.100	0.062	0.059	0.051
Control Mean	9.208	4.532	3.947	0
p-value $\beta_1=\beta_2$	0.160	0.527	0.0189	0.948
p-value $\beta_1=0$ & $\beta_2=0$	0.081	0.132	0.0275	0.039
B. Males				
Combined Vocational and soft skills training				
β_1	-0.090*	-0.093	0.054	-0.051
Standard Error	(0.037)	(0.049)	(0.063)	(0.082)
Romano Wolf *p*-value	0.087	0.12	0.247	0.272
Soft skills training only				
β_2	-0.019	-0.068	0.082	-0.037
Standard Error	(0.030)	(0.044)	(0.059)	(0.072)
Romano Wolf *p*-value	0.681	0.681	0.681	0.681
Pooled sample				
β_3	-0.049	-0.078	0.070	-0.043
Standard Error	(0.029)	(0.041)	(0.053)	(0.064)
Romano Wolf *p*-value	0.287	0.287	0.287	0.373
Observations	1,051	1,051	1,051	1,051
R-squared	0.110	0.072	0.091	0.077
Control Mean	9.534	4.550	3.903	0
p-value $\beta_1=\beta_2$	0.036	0.547	0.635	0.862
p-value $\beta_1=0$ & $\beta_2=0$	0.043	0.139	0.373	0.795

Notes: Standard errors clustered at the course and treatment group level in parenthesis. Romano Wolf *p*-values in brackets. All regressions include controls for the educational institution, the sector of the course, and the training cohort. *** p<0.01, ** p<0.05, * p<0.1

Appendix 1. Attrition

Table A1.1. Attrition

Dependent variable: Not found either in the follow up survey or in the final survey

	(1) Female	(2) Male	(3) Female	(4) Male
Hard skills and soft skills training	-0.016	-0.018	-0.004	-0.001
	(0.024)	(0.029)	(0.025)	(0.032)
Soft skills training only	-0.014	-0.023	-0.005	-0.015
	(0.022)	(0.028)	(0.023)	(0.030)
Age			-0.010***	0.001
			(0.004)	(0.005)
Family Size			-0.014**	-0.011
			(0.007)	(0.009)
Urban=1			0.061**	0.057
			(0.026)	(0.039)
Sto. Domingo=1			0.142	-0.953***
			(0.132)	(0.083)
Poverty Score			0.001	0.001
			(0.001)	(0.002)
Years of Education			-0.017***	-0.016*
			(0.006)	(0.008)
Studying=1			0.003	-0.043
			(0.026)	(0.036)
Literacy head of household			0.005	-0.037
			(0.035)	(0.050)
Literacy spouse of head household			-0.022	-0.023
			(0.021)	(0.030)
Working			0.010	-0.049
			(0.065)	(0.064)
Related Experience=1			-0.025	-0.020
			(0.033)	(0.038)
Unemployed=1			0.044*	-0.045
			(0.025)	(0.041)
Previos Work=1			0.026	-0.034
			(0.032)	(0.037)
Receive remittances			0.126**	0.044
			(0.055)	(0.050)
Has children=1			-0.050*	-0.011
			(0.030)	(0.076)
Number of children			0.045***	0.022
			(0.017)	(0.050)
Single=1			-0.020	0.030
			(0.024)	(0.048)
Observations	2,144	1,374	1,914	1,195
R-squared	0.053	0.075	0.075	0.097
FE & CL:	Yes	Yes	Yes	Yes
Baseline Vars:	No	No	Yes	Yes

Notes: Standard errors clustered at the course and treatment group level in parentheses. All regressions include controls for the educational institution, the sector of the course, and the PJyE cohort. *** p<0.01, ** p<0.05, * p<0.1

Appendix 2. P-Values of the T-test of the Coefficients between Female and Male

Table A2.1. Impact on Skills after 3 Years, P-Values of the T-test of the Coefficients between Female and Male

	(1) Perseverance	(2) Ambition	(3) Leadership	(4) Conflict Resolution	(5) Social Skills	(6) Organization	(7) Communication
Combined Vocational and soft skills training							
β_1	0.0081	0.0066	0.6898	0.2962	0.2494	0.1236	0.0104
Soft skills training only							
β_2	0.0495	0.0654	0.6754	0.4845	0.2082	0.3123	0.7815
Pooled sample							
β_3	0.0127	0.0137	0.6478	0.3331	0.1619	0.1556	0.1592

Table A2.2. Educational Outcomes

	(1) Any Training	(2) Vocational Training	(3) Formal Training
Combined Vocational and soft skills training			
β_1	0.7042	0.9300	0.8263
Soft skills training only			
β_2	0.3576	0.3231	0.7185
Pooled sample			
β_3	0.6789	0.5444	0.7331

Table A2.3. Impact on Expectations after 12 Months, P-Values of the T-test of the Coefficients between Female and Male

	(1)	(2)
	Expect Employment Opportunities to Improve	Expect Living Standards to Improve
Combined Vocational and soft skills training		
β_1	0.6079	0.2922
Soft skills training only		
β_2	0.7429	0.1773
Pooled sample		
β_3	0.9786	0.1754

Table A2.4. Impact on Labor Outcomes after 12 Months, P-Values of the T-test of the Coefficients between Female and Male

	(1)	(2)	(3)	(4)
	Working	Hours per week	Log (Salary)	Satisfied with job
Combined Vocational and soft skills training				
β_1	0.0001	0.986	0.3663	0.2157
Soft skills training only				
β_2	0.0595	0.2762	0.0448	0.0923
Pooled sample				
β_3	0.0021	0.4609	0.0843	0.089

Table A2.5. Impact on Labor Market Outcomes after 3 Years,

P-Values of the T-test of the Coefficients between Female and Male

	(1)	(2)	(3)	(4)
	Working	Hours per week	Log (Salary)	Searching for Work While Employed
Combined Vocational and soft skills training				
β_1	0.5875	0.5126	0.3318	0.0018
Soft skills training only				
β_2	0.6027	0.921	0.9019	0.0494
Pooled sample				
β_3	0.5529	0.7072	0.5654	0.0052

Table A2.6. Impact on Expectations and Self Esteem after 3 Years.

P-Values of the T-test of the Coefficients between Female and Male

	(1)	(2)	(3)	(4)
VARIABLES	Log (Expected Future Salary)	Expected Children Have Better Life	Expected Relative Wealth in 10 Years	Self Esteem (Rosemberg)
Combined Vocational and soft skills training				
β_1	0.0008	0.0059	0.4599	0.058
Soft skills training only				
β_2	0.1928	0.0274	0.3282	0.699
Pooled sample				
β_3	0.0122	0.006	0.7665	0.2319

Appendix 3. Robustness Tests for Gender Preferences in Terms of Course Selection [25]

Table A3.1. Gender Composition by Sector of the Course and Sample Sizes

			No. of Observations After Dropping Sectors with [less than %-more than %] of Females	
Sector	**% Females Applicants (in Population)**	**No. Observations in the Sector (in our Sample)**	**[10-90]**	**[30-70]**
Construction	5,555556	7	-	-
Commerce	7,407407	70	-	-
Agriculture	38,15789	35	35	35
Computer/IT	42,27642	48	48	48
Hotel and Restaurant	53,77358	319	319	319
Security	54,54546	53	53	53
Sales	55,87906	564	564	564
Health	74,87563	144	144	-
Professional Services	85,95825	216	216	-
Beauty	88,86414	133	133	-
Total		1589	1512	1019

[25] We present result for courses balanced at 30% of females or males, but we also conducted the calculations for courses balanced at 10%, 20%, and 40%, showing the same pattern. These results are available under request.

Table A3.2. Impact of Skills after 3 Years.

Subsample of individuals that applied to courses with more than 30% of females and males applicants

A. Females

VARIABLES	(1) Perseverance (S.D.)	(2) Ambition (S.D.)	(3) Leadership (S.D.)	(4) Conflict Resolution (S.D.)	(5) Social Skills (S.D.)	(6) Organization (S.D.)	(7) Communication (S.D.)
Pooled sample	0.124*	0.151**	-0.063	0.004	-0.023	0.030	-0.025
Standard Error	(0.072)	(0.074)	(0.073)	(0.072)	(0.068)	(0.072)	(0.068)
Observations	992	992	992	992	992	992	992
R-squared	0.085	0.080	0.057	0.068	0.055	0.058	0.093
Control Mean:	0.0200	0.00173	0.119	0.0690	0.0987	0.0896	0.0614

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

B. Males

VARIABLES	(1) Perseverance (S.D.)	(2) Ambition (S.D.)	(3) Leadership (S.D.)	(4) Conflict Resolution (S.D.)	(5) Social Skills (S.D.)	(6) Organization (S.D.)	(7) Communication (S.D.)
Pooled sample	-0.025	-0.064	0.055	0.024	0.014	0.046	0.015
Standard Error	(0.072)	(0.071)	(0.076)	(0.074)	(0.071)	(0.078)	(0.073)
Observations	789	789	789	789	789	789	789
R-squared	0.110	0.114	0.096	0.075	0.087	0.092	0.102
Control Mean:	-0.0373	-0.0339	-0.0225	-0.0352	-0.0137	-0.0577	-0.0271

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A3.3. Impact on Expectations after 12 Months.

Subsample of individuals that applied to courses with more than 30% of females and males applicants,

	(1)	(2)	(3)	(4)
	A. Females		**B. Males**	
VARIABLES	Expect Employment Opportunities to Improve	Expect Living Standards to Improve	Expect Employment Opportunities to Improve	Expect Living Standards to Improve
Pooled sample	0.009	0.024	0.042**	0.014
Standard Error	(0.018)	(0.016)	(0.019)	(0.018)
Observations	992	992	789	789
R-squared	0.076	0.067	0.085	0.079
Control Mean:	0.934	0.947	0.922	0.947

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A3.4. Impact on Labor Market Outcomes after 12 Months.

Subsample of individuals that applied to courses with more than 30% of females and males applicants,

VARIABLES	(1) Working	(2) Hours per week	(3) Log (Salary)	(4) Satisfied with job
A. Females				
Pooled sample	0.053*	2.101	0.126	0.148*
Standard Error	(0.030)	(2.979)	(0.116)	(0.086)
Observations	992	254	252	257
R-squared	0.074	0.200	0.318	0.270
Control Mean:	0.225	38.35	8.516	0.455
B. Males				
Pooled sample	-0.083**	0.177	0.047	0.014
Standard Error	(0.040)	(1.754)	(0.067)	(0.054)
Observations	789	400	396	403
R-squared	0.121	0.225	0.249	0.170
Control Mean:	0.557	46.12	8.759	0.537

Standard errors in parentheses

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

Table A3.5. Impact on Labor Market Outcomes after 3 Years.

Subsample of individuals that applied to courses with more than 30% of females and males applicants,

VARIABLES	(1) Working	(2) Hours per week	(3) Log (Salary)	(4) Searching for Work While Employed
A. Females				
Pooled sample	0.022	0.294	-0.048	-0.042
Standard Error	(0.037)	(2.153)	(0.106)	(0.049)
Observations	992	482	428	482
R-squared	0.075	0.129	0.218	0.142
Control Mean:	0.480	35.98	8.382	0.319
	(1)	(2)	(3)	(4)
B. Males				
Pooled sample	-0.036	0.516	-0.048	0.130***
Standard Error	(0.030)	(1.770)	(0.062)	(0.035)
Observations	789	632	604	632
R-squared	0.089	0.138	0.116	0.118
Control Mean:	0.832	45.08	8.747	0.199

Standard errors in parentheses

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

Table A3.6. Impact on Expectations and Self Esteem after 3 Years.

Subsample of individuals that applied to courses with more than 30% of females and males applicants,

VARIABLES	(1) Log (Expected Future Salary)	(2) Expected Children Have Better Life	(3) Expected Relative Wealth in 10 Years	(4) Self Esteem (Rosemberg)
A. Females				
Pooled sample	0.071*	0.103**	-0.027	-0.034
Standard Error	(0.038)	(0.046)	(0.058)	(0.074)
Observations	992	992	992	992
R-squared	0.125	0.088	0.073	0.066
Control Mean:	9.205	4.480	3.986	0.0819
	(1)	(2)	(3)	(4)
B. Males				
Pooled sample	-0.062*	-0.046	0.026	-0.127
Standard Error	(0.032)	(0.048)	(0.061)	(0.082)
Observations	789	789	789	789
R-squared	0.129	0.097	0.110	0.089
Control Mean:	9.547	4.524	3.937	0.0314

Standard errors in parentheses

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