

# CSAE Working Paper WPS/2026-05

## Soft skills and Youth Employment: Experimental Evidence from Bangladesh

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July 2026

Soft skills are widely believed to matter for labor market success, but two questions remain central to their use in active labor-market policy: are they malleable beyond childhood, and can training in these skills improve employment outcomes? To address these, we evaluate CareerX, a one-month soft-skills and career-readiness program for university students in Bangladesh. Across 15 cohorts, 1,794 applicants were randomly assigned to an offer of training or a control group. One to two months after, training improves employment and paid employment by 7.3% and 6.7% in the treatment group. One year later, the estimated effect is similar in magnitude but less precisely estimated. An index of self-reported soft skills is 0.10 SD higher shortly after the program and remains higher, by 0.13 SD, one year later with larger gains in intrapersonal than interpersonal skills. Other measures such as CV quality, professional references and job-search planning and effort do not change detectably, a pattern consistent with improvements in soft skills contributing to the observed employment effects. The program is delivered at low marginal cost through group sessions and hybrid instruction at approximately USD 117 per additional attendee employed. Our results indicate that soft skills remain malleable at the point of labor market entry and that short programs can shift early employment outcomes at a cost well below comparable interventions.

**Keywords:** youth employment, labor market entry, soft skills, RCT

**JEL codes:** J24, M53, O15, I26, J08, C93

**Acknowledgments:** We are grateful to the IKEA Foundation for financial support. We thank Bangladesh Youth Leadership Center for accommodating the research design. We thank Innovations for Poverty Action (IPA) and HDRC for data collection. We thank Dilara Islam, Dalyo Ourba, Zaima Promy, Anudhii Sundaram, Tanzila Tabassum, and Neeti Zaman for excellent research assistance. We thank Ellen Bates-Jefferies, Claudia Casaratto, Sohini Chaparala, Laura Costico, Ashraful Haq, Taieba Ishrat, Aftab Opel, Ashley Pople, and Michelle Rao for design input, project coordination and management assistance. We thank Smita Das for discussions on the soft skills measures. We thank seminar participants at the University of Chicago, Oxford University and the University of Maryland for feedback. This study was approved by IPA IRB-USA, the Institutional Review Board of Innovations for Poverty Action (IRB Protocol #15475, approved 25 August 2021). AEA Registry ID: 0008249. All errors and omissions are our own.

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# 1 Introduction

Soft skills acquired in youth are predictive of labor market success, both in high and low income countries (Ajayi et al., 2022; Heckman et al., 2006). Soft skills, often called socio-emotional and non-cognitive skills, can be broadly defined to include both intrapersonal traits (e.g., self-regulation, perseverance) and interpersonal skills (e.g., teamwork, communication). Soft skills are recognized as useful for finding suitable employment, determining how well individuals can work with others, and therefore influencing early career outcomes (Heckman et al., 2006). Employers often report that they value these skills as much as, or more than, technical skills, and cite their shortage as a constraint to hiring (Bassi & Nansamba, 2022; Cunningham & Villaseñor, 2016). In addition, the initial transition into the labor market can be critical to an individual’s professional trajectory, as longer transitions may erode human capital, produce worse matches, and depress future earnings (Kahn, 2010; Oreopoulos et al., 2012). As routine cognitive tasks are increasingly automated, the relative returns to non-routine social and self-regulatory skills are rising (Acemoglu & Restrepo, 2018; Deming, 2017), raising the stakes for whether such skills can be scaled up among workers.

Despite the economic relevance, the market for soft skills exhibits several failures. The under-provision of soft skills prior to labor market entry reflects a failure arising from limitations in both production and signaling. Unlike technical skills, the technology for producing socio-emotional skills is poorly understood and difficult to standardize, making it costly for colleges to deliver effective training at scale (Deming, 2022). At the same time, conventional achievement tests fail to reliably measure these skills, limiting institutions’ ability to certify or signal skill acquisition to employers (Heckman & Kautz, 2012). As a result, students face may not have the option or face weak incentives to invest in soft skills during college. Although prior interventions have studied soft-skills training for recent graduates (Brudevold-Newman & Ubfal, 2024; Groh et al., 2016; Osman & Speer, 2025), it remains unclear whether soft skills can be improved for this demographic and whether such gains might translate into employment.

In this paper, we study the effects of a one-month long training program on soft skills and labor market outcomes in Bangladesh. Bangladesh provides a relevant setting: youth unemployment remains high, and nearly one-third of recent college graduates are unemployed one to two years after graduation (World Bank, 2019). The program called CareerX was designed by Bangladesh Youth Leadership Center (BYLC) to help improve soft skills pertinent to the labor market and targeted at students who were one to two years from completing university. Across 15 cohorts implemented between September 2021 and October 2022, 1,794 accepted applicants were interviewed at baseline. Within each cohort, applicants were randomly assigned either to the treatment group and received an offer to participate in the training, or to the control group, who were told they had not been selected. In total, 998 applicants were assigned to treatment and 796 to control. Compliance was high: 81% of those assigned to treatment attended at least one class, and the average share of classes attended was 65%. Only 1% of the control group attended a class. Participants were surveyed one to two months after training for the first follow-up, and again approximately one year later for the second follow up. Survey attrition was 17% in the first follow-up and 21% at the second follow-up.

We organize the analysis around a simple model of skill formation with signaling frictions

(Becker, 1964; Cunha & Heckman, 2007; Spence, 1973). In the model, students under-invest in soft skills before entering the labor market: effective training is scarce, and employers observe these skills only imperfectly, which weakens the incentive to acquire them. Therefore, a program that can build soft skills and make them easier to demonstrate should therefore raise employment quickly, while earnings respond more gradually as employers learn about worker quality on the job.

The results show that the training program facilitated participants’ entry into the labor market. At first follow-up, participants assigned to treatment were 4.5 percentage points more likely to be engaged in any employment and 4 percentage points more likely to be in paid employment compared to control means of 62% and 60%, respectively. Instrumenting attendance with treatment assignment yields corresponding estimates of 5.5 and 4.9 percentage points. At the second follow-up, employment estimates remained positive but were imprecisely estimated, as employment also increased among control-group participants across the two follow-ups. In addition, since attrition was higher at the second follow-up, we had less power to detect differences. We do not detect significant effects on earnings or hours worked, though point estimates are positive in both rounds. Heterogeneity estimates suggest larger short-run employment effects for female participants, although this pattern does not persist. Employment estimates were also larger among the post-COVID-19 hybrid cohorts than among the earlier fully online cohorts. The medium-run estimates should be interpreted in light of the pandemic-era labor market and the fact that nearly 70% of respondents had not completed their degrees by the second follow-up.

A distinctive feature of the study is the measurement of soft skills using a battery of scales adapted from the ESTEEM framework, which was developed for low- and middle-income settings (Marsh et al., 2025). We measure eight skills—four intrapersonal skills (self-awareness, self-control, perseverance, and decision-making) and four interpersonal skills (listening, expressiveness, negotiation, and influence)—each scored on a five-point Likert scale. Most of the locally adapted scales meet or approach conventional thresholds for internal consistency, and six of the eight skills, together with the overall index, are positively associated with paid employment at baseline. The final battery represents the intersection of the skills targeted by *CareerX*, those expected to matter for early labor-market outcomes, and those that could be validated in the Bangladeshi context. This addresses a recurring measurement concern in the literature, where soft-skills instruments are often transferred from high-income settings without local validation (Ajayi et al., 2022; Lippman et al., 2015). We also measure job-search preparedness, planning, and effort, allowing us to examine several alternative channels through which the program may affect employment.

The paper’s central mechanism result is that CareerX raises the skills it was designed to develop. The overall standardized soft-skills index is 0.10 SD higher at the first follow-up and 0.13 SD higher one year after training. Effects are larger for intrapersonal than interpersonal skills in both rounds: 0.10 versus 0.07 SD in the short run and 0.12 versus 0.10 SD in the medium run. At the individual-skill level, the short-run gains are concentrated in decision-making, self-awareness and listening, while self-control and negotiation improve at one year. By contrast, we detect no effects on a number of other conventional channels to finding work - for instance, preparedness (e.g., CV quality, professional references) or an index of job-search effort capturing

time spent searching, outreach through personal and formal channels, CVs submitted, and interviews attended. The only other intermediate outcomes that is different between treatment and control groups at first follow-up is a planning index driven by updating CVs, which was a required activity in training. In order to rule out this channel, we measure and confirm that CV quality is no different. This pattern supports the interpretation that improvements in soft skills contributed to the employment effects, rather than the effects operating through increases in other job-search processes.

We make three contributions to the literature on skill formation, school-to-work transitions, and active labor-market policy in developing countries. First, we provide novel experimental evidence that self-reported soft skills remain malleable among university students approaching labor-market entry. Although skill formation is generally thought to be easier earlier in life (Cunha & Heckman, 2007; Heckman & Mosso, 2014), evidence on the effects of short-duration training at this later stage is limited. Evaluations among college-educated youth in Jordan and Egypt did not directly measure changes in the skills targeted by the programs (Groh et al., 2016; Osman & Speer, 2025), while the closest comparison, a longer program for recent graduates in Rwanda, detected no significant changes in its measured soft-skills indices (Brudevold-Newman & Ubfal, 2024). Our findings complement evidence of skill improvements among other adult populations, including female garment workers in India (Adhvaryu et al., 2023), entrepreneurs in Latin America (Prada et al., 2019), and rural married women in India (Kala & McKelway, 2025; McKelway, 2021). We show that a short program can improve an overall index of locally adapted soft-skill measures among students approaching graduation, with effects remaining positive approximately one year later.

Second, we provide direct evidence on a plausible pathway linking a training program to employment by measuring both the skills targeted by the intervention and several alternative job-search channels. Prior work documents associations between soft skills and labor market outcomes (Ajayi et al., 2022; Bassi & Nansamba, 2022; Danon et al., 2024), but experimental evaluations rarely measure changes in the skills themselves alongside employment outcomes. We find that the program increases the overall soft skills index, while producing no detectable effects on CV quality, professional references, or broader job-search effort. While the program also affects short-run job-search planning - the only variable that is changed in this index is updating CVs - which was necessary in the training. And since we confirm that CV quality is not different, we rule out this channel. The overall pattern is consistent with improvements in soft skills contributing to the employment effects, rather than the effects operating through increased search effort and intensity.

Third, we provide detailed evidence on the implementation cost, cost-effectiveness, and potential scalability of a short-duration training program. We distinguish between average training costs, which several comparable studies report, and cost-effectiveness (i.e., the cost per additional person employed), which we can benchmark against only one study. We estimate a cost of approximately USD 3 per participant, based on the incremental delivery costs incurred by an organization with an existing curriculum and implementation infrastructure. This places CareerX at a fraction of other programs in comparable settings, which range from USD 340 in Bangladesh (Das, 2021) to USD 835 in Rwanda (Brudevold-Newman & Ubfal, 2024), though

costs included and training dose vary across these studies. In terms of cost-effectiveness, we estimate a short-run cost of approximately USD 117 per additional attendee employed. Only Brudevold-Newman and Ubfal (2024) allows a comparison: their intention-to-treat effect on the likelihood of earning any income (9%) is of a similar order to the 6.7% increase in paid employment we estimate at first follow-up, implying that CareerX achieves employment effects of comparable relative magnitude at a small fraction of the per-participant cost. In addition, the BYLC program delivery format also speaks to scalability. The earliest cohorts had to be trained fully online because of COVID-19 restrictions, and the program shifted to a hybrid format combining in-person and online instruction once restrictions eased. Positive effects on soft skills are detectable even among the fully online cohorts. Delivery mode was not randomly assigned, so we interpret this comparison cautiously, but it suggests that at least part of the curriculum can be delivered remotely at even lower cost. The combination of the short curriculum, low marginal delivery costs, and a workable hybrid format indicates strong potential for expansion through national skills programs.

The remainder of the paper proceeds as follows. Section 2 describes the Bangladesh youth labor market and the CareerX training program. Section 3 develops the conceptual framework that predicts the empirical outcomes. Section 4 describes the data, balance, compliance and attrition. Section 5 present the research design and Section 6 presents the estimation strategy. Section 7 reports the results, while Section 8 discusses implications, limitations and concludes.

## 2 Context

### 2.1 The Bangladesh Labor Market for Youth

Bangladesh is characterized by a large and growing population of young job seekers. The country boasts a sizable youth demographic. However, the labor market faces challenges in providing adequate employment opportunities for this burgeoning youth population. High competition for jobs, limited formal sector employment, and a prevalence of low-skilled, low-paying positions are common issues. Many young Bangladeshis end up in informal and vulnerable work arrangements. The lack of essential skills and relevant job training often hinders their ability to secure stable and well-paying jobs.

In Bangladesh, various aspects of skills development are heavily prioritized in the policy agenda as unemployment and under-employment remain moderate to high (Ministry of Youth and Sports, 2017, General Economics Division, 2020). In Bangladesh’s tertiary education sector, nearly a third of graduates remain unemployed one or two years after graduation, with university graduates doing worse than technical education graduates (World Bank, 2019). The same report also finds that employers identified the lack of soft skills (e.g., workplace communications) to be a major deficiency amongst these graduates.

### 2.2 The BYLC Intervention

The paper evaluates BYLC’s Professional Career Development Program, CareerX. CareerX was primarily a soft-skills intervention with complementary career-readiness content. The 6-8 week

curriculum was delivered in a blended format combining live, instructor-led sessions with self-paced online modules and small-group facilitation, building toward a capstone project. The majority of the self-paced content of roughly 6.2 hours, were targeted to teaching communication, self-presentation, career planning, and leadership, with communication and business writing forming the single largest block. The live sessions, of an additional 6-8 hours, reinforced this content through discussion, structured exercises, and practice with feedback.

Intrapersonal skills — self-awareness, self-control, perseverance, and decision-making — were built through structured self-assessment and guided practice. In a representative session, students worked through a systematic appraisal of their own strengths, weaknesses, interests, and values, applied it to concrete career options through a worked example, and then repeated the analysis on themselves in small groups; throughout, the instructor developed reflective, growth-oriented decision-making by pressing students to justify and build on one another’s answers.

Interpersonal skills — listening, expressiveness, negotiation, and influence — were developed largely through communication and self-presentation practice. A session on delivering persuasive presentations, for example, taught students to structure a message around credibility, emotion, and logic, to read and adapt to their audience, and to attend to delivery — voice, tone, and body language — as much as to content, with strong and weak communicators analyzed as models and students rehearsing and receiving feedback. The program’s discussion-based format, in which students continually responded to and built on one another’s contributions, gave repeated practice in listening and in expressing ideas clearly. More details on the curriculum and theme structure appear in Appendix B.

Delivery mode changed over the study period. The earliest cohorts were trained fully online under COVID-19 restrictions; BYLC moved to a hybrid of in-person and online instruction in early 2022 as restrictions eased. Delivery mode was not randomly assigned, so we read comparisons across the two periods cautiously, but they help illustrate the trade-offs between online and in-person delivery for soft-skills training, a theme we return to in the heterogeneity and cost-effectiveness analyses. The timeline for each CareerX session is shown in Appendix A Figure 6.

### 3 Conceptual Framework

We develop a simple framework that motivates the intervention and organizes our empirical predictions. The framework draws on two strands of the human capital literature: the technology of skill formation (Cunha and Heckman, 2007; Cunha et al., 2010) and models of under-investment arising from production and signaling failures (Bassi and Nansamba, 2022; Becker, 1964; Spence, 1973). A full derivation appears in Appendix D.

#### 3.1 Soft Skills Formation

Drawing on Cunha and Heckman, 2007, we model an individual’s human capital as a vector  $\theta = (\theta_C, \theta_N)$ , where  $\theta_C$  represents cognitive skills (e.g., academic knowledge, technical ability) and  $\theta_N$  represents non-cognitive or soft skills. The CareerX program targets  $\theta_N$ ; we therefore focus the model on the formation and labor-market return to soft skills, treating  $\theta_C$  as fixed at

the point of training.

Skills evolve through a production technology. Consider a student at the point of labor market entry with current soft-skill endowment  $\theta_{N,0}$ . If the student receives training of intensity  $I$ , post-training soft skills are:

$$\theta_{N,1} = f(\theta_{N,0}, I) \quad (1)$$

where  $f$  is increasing in both arguments. We discuss specific properties of  $f$  that motivate our heterogeneity analysis in the Appendix.

### 3.2 Under-Investment in Soft Skills

Why might students arrive at the point of labor market entry with sub-optimal soft skills? We identify two reinforcing failures that depress the private incentive to invest.

**Production failure.** Unlike technical knowledge, the technology for producing soft skills is poorly understood and difficult to standardize within formal education systems (Deming, 2022). Colleges therefore typically provide limited or ineffective soft skills instruction, making the effective cost of self-investment  $c(I)$  high for students.

**Signaling failure.** Even when students do possess soft skills, conventional credentials (degrees, transcripts, test scores) provide a noisy signal of soft skills (Heckman and Kautz, 2012). If employers observe a signal  $s = \theta_N + \varepsilon$  with substantial noise  $\varepsilon$ , the expected return to soft skills investment is attenuated. In the extreme, if employers cannot distinguish high- from low- $\theta_N$  workers prior to hiring, the wage offer is pooled and the incentive to invest collapses.

Together, high costs and weak signaling generate under-investment relative to the social optimum. A student's optimal investment  $I^*$  solves:

$$I^* = \arg \max_I \{p(\theta_1(I)) \cdot w(\theta_1(I)) - c(I)\} \quad (2)$$

where  $p(\cdot)$  is the probability of employment and  $w(\cdot)$  is the expected wage, both increasing in the skill vector  $\theta_1$ , and  $c(I)$  is the cost of acquiring training of intensity  $I$ . When  $c$  is high and  $\partial w / \partial \theta_N$  is attenuated by signaling noise,  $I^*$  is inefficiently low.

### 3.3 How the Intervention Operates

The CareerX program addresses both failures in parallel.

*First, it tackles the production gap.* The program provides structured soft skills instruction that colleges typically do not offer, raising  $\theta_N$  at low cost—the training was free, though students may have borne small costs such as transportation as well as opportunity costs for time spent in the training. The intervention is therefore best understood as a reduction in  $c(I)$ .

*Second, it reduces signaling noise.* Treated students can signal their improved soft skills to employers through two channels. *Directly*, they can list course completion on their CV or mention the program in cover letters and interviews. *Indirectly*, the newly acquired skills—clearer writing, more confident speaking, more effective interview presence—reveal themselves

to employers through the job search and interview process. Both channels reduce  $\sigma_\varepsilon^2$  and raise the wage return to true soft skills.

Our empirical strategy tests the two links in this chain:

1. *Does training raise soft skills?* We estimate the effect of treatment assignment on the soft skills index  $\theta_{N,1}$ .
2. *Do higher soft skills improve labor market outcomes?* We estimate effects on employment  $p(\cdot)$  and earnings  $w(\cdot)$ , and investigate whether soft skill improvements—rather than other channels such as job search effort—explain the employment gains.

The framework generates three testable predictions, formalized in Appendix D:

- P1.** Employment increases for treated students, consistent with improvements in soft skills being an important mechanism.
- P2.** Earnings effects may be muted in the short run if the signaling failure is only partially resolved—employers have not yet fully observed the higher  $\theta_N$  of treated workers.
- P3.** Training raises  $\theta_N$ .

## 4 Data Collection and Descriptives

### 4.1 Data Collection

Data were collected in three rounds. All surveys were conducted on Zoom or Skype at the convenience of the respondent. A copy of the informed consent is provided in Appendix C. The first follow-up survey was administered about 2 months after the scheduled CareerX training session, capturing immediate post-program outcomes for the treatment group. An endline survey was completed about 1 year after the training session for both treatment and control respondents. There were many steps that had to be taken in order to reduce attrition for urban students. First, there was an incentive of 500 taka (USD 4.2), which could be received in phone credit or other ways, e.g., vouchers. Since the evaluation was implemented over several BYLC cohorts, we attempted to interview earlier cohorts we had missed during later cohort surveys. Additional flexibility was continuously implemented. The interview was scheduled at the respondent’s convenience, a shorter survey could be completed, and the soft skills component could be completed online after the rest of the interview was completed.

We collected data on several categories of outcomes. Employment outcomes included whether full time or part time, industry code, monthly earnings, and weekly hours worked. Job search preparedness was measured through these indicators: CV quality (collected separately and scored by external evaluators), and number of professional references. We constructed a standardized planning index from four binary variables: whether the respondent explored new employment sectors, changed job preferences, developed a job search plan, or updated their resume in the last month. We measured job search effort as follows: time spent searching for employment, outreach to friends and relatives for job opportunities, use of formal job search

channels (such as online portals), number of CVs submitted to potential employers, and participation in job interviews, all in the past 2 weeks. Soft skills were measured using validated scales adapted from the ESTEEM framework (Marsh et al., 2025). Intrapersonal skills included self-awareness (the ability to identify and interpret one’s own thoughts and behaviors), self-control (the ability to focus attention and restrain impulses), perseverance (the ability to sustain effort despite setbacks), and problem-solving/decision-making (the ability to gather information and evaluate solutions). Interpersonal skills included listening (the ability to attend to others’ perspectives), expressiveness (the ability to explain ideas clearly), negotiation (the ability to identify interests during disagreements and adapt behaviors to resolve problems) and influence (ability to communicate in a manner that influences others).<sup>1</sup> Soft skills were measured on a five-option Likert scale from “Strongly Disagree” to “Strongly Agree”.

## 4.2 Baseline Characteristics

The baseline sample consisted of 1,794 respondents with an average age of 23. About 35% were female and 56% resided in Dhaka. Most were still financially dependent on their parents, with 72% receiving full or partial support from family. About 90% identified as students: 56% were enrolled in their first higher-education degree, and 23% had already completed a degree and were in postgraduate study. The top five subjects for men included “Accounting and Finance”, “Marketing”, “Computer Science and Engineering”, “Electrical and Electronic Engineering” and “Management”. The top five subjects chosen by women included “Accounting and Finance”, “English Language and Literature”, “Economics”, “Computer Science and Engineering” and “Marketing”. Out of the remaining 10% who did not identify as students, about 5% were recent graduates who were unemployed. The remaining 5% identified as employed or self-employed who had (already) found employment.

For soft skill measures at baseline, respondents had self-reported scores for interpersonal soft skills including negotiation and listening skills. There were gender differences, as men self-reported higher overall soft skills compared to women, similar to findings in a recent study (Cassidy et al., 2024). However, there were minimal differences in soft skills based on geographic location (e.g., in Dhaka vs. outside Dhaka).

Most college students were already working part time primarily in tutoring roles. About 64% of respondents were working - mostly part-time - with 88% having worked at some point. There were gender differences here as well, with women being 11 percentage points less likely to be working than men (57% vs 68%). Furthermore, it had taken women slightly longer to find employment (4.1 vs 3.8 months). Finding work outside Dhaka was harder, taking 1.5 months longer to find jobs and with respondents earning about BDT 2,400 (USD 20) less despite working similar hours. Average monthly earnings overall were around BDT 10,000 (USD 92). Employment outcomes include whether the respondent was working, unconditional monthly earnings, and weekly hours worked, with non-workers coded as zero.

Questions about job search behavior at baseline revealed that the students were actively engaged in thinking about their careers. Over half the participants had made efforts to explore new sectors or prepare for the job market in the month preceding the program. However,

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<sup>1</sup>see Appendix Table 15 for more details

only about 30% had sent their resume to an individual or company in the two weeks prior to interviews. Most participants tended to avoid formal job search channels (such as online portals) and preferred to rely on connections and networking. The respondents also had very few job interviews at baseline.

Employment preferences reveal a significant shift from preference for the public towards working in the private sector. Both men and women prefer private employment, including self-employment. Notably, men are twice as likely as women to express interest in starting their own business (13% vs 6.4%). The most desired industry across genders for the respondents was finance and insurance, followed by education for women and public administration for men. Median reservation earnings were BDT 35,000 per month (USD 292), with women’s expectations about BDT 5,000 (USD 42) lower than men’s.

## 5 Research Design

### 5.1 Randomization

Random assignment was carried out by BYLC for each CareerX session separately. BYLC first implemented a screening process with all applicants, taking into consideration the student’s standing at higher learning institutions, the student’s year of study (or post-graduation standing), and a written assessment submitted with the student’s application. All accepted applicants were then randomly assigned to either a treatment or control group.<sup>2</sup> The split was a little over half assigned to treatment compared to control. Students assigned to the control group could re-apply after the end of the evaluation period.

#### 5.1.1 Balance

Table 1 shows no statistically significant differences between treatment and control groups on key demographic variables including gender, age, location in Dhaka, number of completed degrees, or marital status. The only marginally significant difference is in parental employment status (69.2% vs 65.2% with working parents). Our main specification includes controls for these variables.

Table 2 shows balance across employment, planning behaviors and effort towards job search at baseline. There is importantly no difference in the students’ work experiences at baseline. Additionally, job search planning behaviors and job search effort variables are mostly similar across treatment and control groups. Tables 3 and 4 show baseline soft skill measures are balanced across treatment and control groups, with only marginal differences in perseverance and influence measures. The F-tests confirm overall balance across the skill measures.

#### 5.1.2 Compliance

Overall, program compliance was high. For instance, about 81% of participants assigned to treatment attended at least one training session from the treatment group. And only 1% of

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<sup>2</sup>For the first two CareerX sessions, the split was 60% in treatment and 40% in control, as BYLC wished to train more applicants.

control group students ever attended. The mean attended share of classes was 0.65 or close to two-thirds of classes across all batches. There was variability in attendance across batches, with lower attendance rates in earlier batches, before greater attendance in later batches.

### 5.1.3 Attrition

Out of the 1,794 students we interviewed at the baseline, IPA enumerators were able to successfully follow-up and speak with 1,484 students at first follow-up, i.e. we were unable to follow-up with 310 students. This reflects an attrition rate of about 17%. In the second follow up, enumerators were able to re-interview 1,423 of the 1,794 baseline respondents reflecting an attrition of 21%. Overall, about 70% of respondents (1,283) completed all three surveys including the baseline and two follow ups.

Figure 3 confirms that respondents we were able to re-interview were not different on baseline characteristics such as if assigned to the treatment group, age, whether respondent was from Dhaka, and number of degrees, in both follow-up data collection rounds. In addition, attrition was no different between treatment and control groups for most outcome variables such as employment status at baseline, the job planning index, and job search effort index. However, we do find that enumerators were able to speak with slightly fewer female students in the treatment group at the first follow-up. Additionally, it was harder to re-interview students in the treatment group that had lower soft skills at baseline, again at first follow-up. However, both of these variables were no different for students at second follow-up.

## 5.2 Cost Effectiveness

We assess the cost-effectiveness of CareerX following the standard IPA costing template, which expresses program costs as a cost per unit of impact and so permits comparison across interventions, contexts, and currencies. We collected all program-delivery expenditures incurred by BYLC and classified each line item into the template’s standard cost categories. Costs recorded in Bangladeshi taka were converted to US dollars at the 2021 average exchange rate (BDT 85 per USD), discounted to the 2021 base year at an annual rate of 10% — the conventional social-opportunity-cost rate used for educational programs in developing countries (Dhaliwal et al., 2013) — and expressed in 2025 US dollars using US price inflation. Total discounted program cost was approximately USD 4,258, or about USD 3.32 per participant across the 1,283 participants reached.

To translate this into a cost per unit of impact, we scale the program’s employment effect by the number of participants. We use the ITT effect in the first follow up on any and paid employment, an increase of 4.0 percentage points, which implies that the program moved roughly 51 additional individuals into employment across the study population. Because these gains accrue after the base year, we discount the additional employment back to 2021, yielding a present value of approximately 46 additional individuals employed. Dividing total program cost by this figure yields a cost of approximately USD 117 per additional attendee employed. Table 30 in Appendix A reports the full cost breakdown and the cost-effectiveness calculation. We report the cost per additional job, rather than the cost per participant alone, because it is the measure most directly comparable to the active-labor-market-program literature, which

conventionally benchmarks programs on cost per unit of realized outcome rather than cost per enrollee.

We note two features of the cost accounting that have implications for the calculations. First, program administration, staff, and curriculum-development costs were borne by BYLC and its donors and are recorded at zero in our accounting. The figures we report therefore represent the incremental cost of delivering the program to an additional cohort for an organization that already possesses the staff, curriculum, and delivery infrastructure — the relevant cost concept for a policymaker considering scale-up of an existing program, rather than the full economic cost of building one from scratch. Second, the cost-effectiveness ratio is computed on the present value of additional jobs created, discounting the employment gains to the base year so that costs and outcomes are valued at a common point in time. We discuss the implications of the calculations in section 8.

## 6 Estimation

We estimate the intention-to-treat or ITT effects of the training program using Equation 3 below separately for the two follow-up rounds. Specifically, we use:

$$Y_{ict} = \beta_1 T_{ic} + \beta_2 Y_{ic} + \mathbf{X}_{ic}' \Gamma + \delta_c + \epsilon_{ict} \quad (3)$$

where  $Y_{ict}$  is outcome for student  $i$  in batch  $c$  at  $t = 1$  or  $2$  corresponding to follow up 1 or 2 respectively.  $T_{ic}$  is the treatment indicator for whether the student was invited to participate in the training. We also control for the baseline value of the outcome,  $Y_{ic}$ .  $\mathbf{X}_{ic}$  is a vector of baseline controls including gender, age, binary indicator for if the college is in Dhaka, number of (tertiary) degrees student had at baseline, and if the student’s parents were working at baseline.  $\delta_c$  is strata i.e. batch fixed effects and restricts comparisons within batches. Additionally, we cluster standard errors at the batch level for both treatment and control groups. One reason is that given some batches were implemented during COVID-19, we allow for correlation in any potential shocks in the control group as well. In addition, given the number of clusters is small (i.e., 15), we also estimate p-values using the wild cluster bootstrap, which provides more reliable inference than standard cluster-robust methods (Roodman et al., 2019, Cameron et al., 2008). To account for testing several outcomes, we also report p-values that control the family-wise error rate across all outcomes in a given table (Romano and Wolf, 2005).

Given imperfect compliance, we complement the ITT estimates with a two-stage least squares (2SLS) specification to identify the treatment on the treated (TOT). We instrument if each student  $i$  in cohort  $c$  attended any training class ( $A_{ic}$ ) with the student’s treatment assignment shown below. During the evaluation period, control-group take-up was essentially zero (1%; Table 18), so noncompliance is one-sided and the 2SLS estimand coincides with the effect of TOT (Bloom, 1984; Imbens & Angrist, 1994). Because control students could re-apply to the program after the evaluation period, any subsequent control-group enrolment before the second follow-up would attenuate our medium-run estimates, which we therefore interpret as conservative relative to the TOT.

$$A_{ic} = \alpha_1 T_{ic} + \alpha_2 Y_{ic} + \mathbf{X}'_{ic} \Gamma + \delta_c + \eta_{ict} \quad (4)$$

$$Y_{ict} = \beta_1 \widehat{A}_{ic} + \beta_2 Y_{ic} + \mathbf{X}'_{ic} \Gamma + \delta_c + \epsilon_{ict} \quad (5)$$

In addition, we estimate heterogeneity in treatment effects for a given source of heterogeneity ( $Z$ ) and estimate using the interacted specification below:

$$Y_{ict} = \beta_1 T_{ic} + \beta_2 Z_{ic} + \beta_3 T_{ic} * Z_{ic} + \beta_4 Y_{ic} + \mathbf{X}'_{ic} \Gamma + \delta_c + \epsilon_{ict} \quad (6)$$

Furthermore, we estimate the following first differenced specification as an additional robustness check, which removes time-invariant respondent-specific reporting tendencies in the self-reported skill measures, such as stable Likert-scale anchoring or acquiescence bias (Bertrand & Mullainathan, 2001; West et al., 2016). Thus, in the context of the study, first differencing may be particularly useful where  $\Delta Y_{ict} = Y_{ict} - Y_{ic}$  is the change in outcome for individual  $i$  in cohort  $c$  between baseline and follow-up at  $t = 1, 2$ .

$$\Delta Y_{ict} = \beta_1 T_{ic} + \mathbf{X}'_{ic} \Gamma + \delta_c + \epsilon_{ict} \quad (7)$$

## 7 Results

### 7.1 Employment

Table 5 presents the ITT effects on employment outcomes at both follow-up periods. The training program leads to positive employment effects after 1-2 months. At the first follow-up, participants assigned to treatment were 4.5 percentage points more likely to be engaged in any employment compared to a control mean of 62%. For paid employment, the effect was 4.0 percentage points over a control mean of 60%. These results reflect increases of 7.3% and 6.7% over the control mean respectively. The high levels of part-time baseline work are unsurprising - for example, cross-national estimates in Europe suggest about 59% of students engage in such work (Gwosc et al., 2021). While these employment gains persisted into the second follow-up they are not statistically different from the control group. However, estimates still show treatment participants were 3.1 percentage points more likely to be in any employment and 2.6 percentage points more likely to be in paid employment. These estimates are however less precisely estimated given greater attrition at second follow-up. To assess sensitivity to attrition, we report Lee (2009) bounds under monotone selection in Appendix A Table 25. The bounds remain positive for both employment outcomes at both follow-ups, indicating that the short-run employment effects are not driven by differential attrition. Additionally, more students in the control group have started working by this time. The training program did not generate significant impacts on earnings or hours worked. Prediction 2 from the conceptual framework suggests that earnings effects may be weaker or slower to emerge than employment effects if employers observe soft skills imperfectly and update their beliefs about worker quality only gradually. This pattern is consistent with employer learning, but the data do not directly observe employer beliefs. While treated participants showed higher average earnings at both

follow-ups (247 BDT or 2 USD in the first follow-up and 2,152 BDT or 18 USD in the second), these differences were not statistically significant. Similarly, while hours worked were higher for the treatment group by 1.1 and 1.4 hours in the two follow-ups, these are not statistically distinguishable from the control group. The p-values computed to account for the smaller number of clusters and multiple hypothesis testing do not change the significance and interpretation of the results.

Table 6 presents estimates instrumenting attendance with treatment assignment following Equations 4 and 5. We use a simple measure of having attended at least 1 class in a training session as a binary indicator for attendance. A first stage table including other measures of attendance is shown in Appendix Table 18. In the first follow-up, attending any class increases any employment by 5.5 percentage points and paid employment by 4.9 percentage points, which reflect increases of between 8-9% above the control mean. The effects are again insignificant at second follow-up, even though employment differences remain between 3.9 and 4.6 percentage points higher.

Appendix Table 16 shows that results are similar when using the first differencing specification for both follow-up 1 and 2, i.e., the results are robust to estimating treatment effects for changes in the outcome. We also show the upper and lower Lee (2009) bounds, due to attrition in both follow up rounds, in Appendix A Table 25.

## 7.2 Mechanisms

### 7.2.1 Job search preparedness, Planning and Effort

We next discuss changes in behaviors and soft skills that may explain the increases we see in employment. First, Table 7 examines these intermediate outcomes related to job search preparedness, planning, and effort. Effects on CV quality (measured by external grading) and number of references were not different between treatment and control students. We observe a significant difference in the job search planning index at first follow-up, which is driven primarily by having updated CVs in the treatment group. Since this was very much encouraged as part of the training program, we confirm that ultimately CV quality is no different. Additionally, job search effort, including looking for work, talking to friends and family, using formal and informal sources, sending CVs, interviewing, etc, was not different between treatment and control students. In part, this may be due to the fact that some students weren't quite close to graduation, so sustained effort wasn't as urgent. The 2SLS results are shown in Table 8.

### 7.2.2 Soft Skills

The conceptual framework suggests that employment effects operate through improvements in soft skills. The most consistent impacts of the training program we find are, indeed, in improving a range of soft skills. First, we confirm that each individual soft skill was measured well - i.e. the indices exhibit acceptable levels of internal consistency and reliability. The Cronbach's Alpha scores for each soft skill index meets or approaches 0.7, thus complying the generally accepted level for internal consistency (see Table 14). Next, we correlate each soft skill measure with whether the student was working at baseline to show the predictive validity of these scales

(Figure 5). Six out of the 8 soft skill measures are predictive, i.e., showing a strong positive correlation at baseline for students who are engaged in paid employment. These include decision making, self awareness, perseverance, influence, expressiveness, negotiation, as well as both the intrapersonal and interpersonal and the overall soft skills index.

Next, Table 9 shows program impacts on standardized intrapersonal and interpersonal soft skill indices, as well as a combined index of all soft skills measured. In both the short and medium term, intra-personal skills are higher and significantly different by 0.106 SD and 0.124 SD,. Interpersonal skills are also higher by 0.069 SD and 0.103 SD in the short and medium term respectively (although it is not significantly different in the second follow-up). The overall soft skills index is therefore higher by 0.101 and 0.125 in the two follow-ups and significantly different. These results suggest that we see persistent improvements in soft skills with stronger effects on intra-personal skills. The 2SLS results are shown in Table 10. The p-values computed to account for the smaller number of clusters and multiple hypothesis testing do not change the significance and interpretation of the results.

Table 11 shows that the training program improved a number of different individual soft skills. In the short term, improvements in the intrapersonal index were driven by problem solving and decision making and self awareness, while in the medium term they were driven by self control, the only skill to improve detectably in both rounds. For interpersonal skills, the results are driven by improvements in listening (in the short term) and negotiation (in the medium term). All sixteen estimates are positive, so the index results do not mask offsetting movements across individual skills.

We also show robustness to a first-differenced specification in Appendix Table 17, confirming that treatment effects are consistent when estimating changes in the outcome. We note that only at the first follow-up we are somewhat less likely to reinterview treated students with lower baseline aggregate soft skills (see Figure 3). If lower baseline skill is correlated with lower follow-up skill, this pattern would tend to inflate the estimated treatment effect on soft skills, because the observed treated sample would be positively selected. The Lee (2009) bounds exercise in Appendix A Table 27 is intended to address this concern.

Since these soft skill measures are self-reported, during the first follow-up, the enumerators also conducted a “mock interview” with students. During the interview, the enumerator presented a number of different scenarios where each scenario attempted to measure a relevant soft skill that we had asked about in self-reports, but in a different way. We included a mock interview exercise to provide a less direct check on the self-reported soft-skill measures and to look for evidence of social desirability bias. However, the exercise was not implemented well: COVID-19 restrictions meant that interviews were conducted online, which limited our ability to use the exercise effectively and generated limited variation in responses. Table 28 shows that only 2 of the 6 soft skills measured in this way exhibit acceptable internal consistency, and the resulting indices are generally weak. Even so, Table 29 indicates that the self-reported measures remain positively correlated with the interview-based measures.

### 7.3 Treatment Effect Heterogeneity

We explore a few different sources of heterogeneity in treatment effects. Several papers have suggested that women may respond differentially to training on soft skills compared to men (Ajayi et al., 2022). Appendix A Tables 19 and 20 show the heterogeneity results for both employment and intermediate outcomes. We also find differences in the short term for women, but these do not persist. For example, any and paid employment is higher for women in the first follow-up. We do not find any differences in changes in the soft skill indices either in the short or medium term. In addition, we show there are no differential effects based on location and education levels; specifically we observe no differences for students in colleges in Dhaka, and those that were in a Master’s program (see Appendix A Tables 21, 22, 23 and 24).

Another key source of heterogeneity could be that the evaluation started when COVID-19 restrictions were still in place. This in particular may have affected outcomes in the short run, given that employment opportunities were restricted during this time. BYLC sessions (from CareerX 8 through CareerX 18) were completely administered online due to the COVID-19 pandemic. Overall, five batches out of the 15 batches of the training program were delivered after the lifting of COVID-19 restrictions. These batches were also delivered in a hybrid format with a mix of in-person and online classes, compared to online only classes during COVID-19. Therefore, about 43% of treatment students participated in batches that were conducted post-COVID-19 in hybrid sessions. Tables 12 and 13 show the results for both employment and intermediate outcomes. The results confirm this; students found it hard to find work after the training sessions implemented during COVID-19. However, they were much more successful in doing so right after batches that were held post Covid. For example, any and paid employment is higher for the treatment group by 5.9 and 6.4 percentage points respectively post Covid. Earnings are higher too after COVID. However, these differences do not persist by follow-up 2. For intermediate outcomes, we observe fewer differences between batches held during and post-COVID-19.

Finally, Appendix Figure 7 shows treatment effects by baseline quartiles of the interpersonal, intra-personal, and full set of soft skill measures in order to show if the program consistently benefited individuals from certain parts of the baseline distributions of skills. The results suggest that the treatment was most likely to have an effect on those either in the bottom quartile or top quartile (or both). For example, for intra-personal skills the program affected students in the bottom and top quartile at baseline. For interpersonal skills, however, the study only effected those who were already in the top quartile at baseline. These effects are not statistically different as the study was not sufficiently powered to detect differences in sub-samples.

### 7.4 Cost Effectiveness Analysis

CareerX costs roughly USD 3 per participant and approximately USD 117 per additional person attending the program, making it inexpensive relative to the reported per-participant costs of training interventions in comparable settings: in Bangladesh, BRAC’s classroom-plus-apprenticeship program cost roughly BDT 26,000–29,000 per participant, or about USD 320–360 (Das, 2021); a 45-hour soft-skills course for female Jordanian community-college graduates cost USD 250 per graduate invited and USD 400 per attendee (Groh et al., 2016); and a 160-hour

residential soft-skills bootcamp for Rwandan university graduates cost USD 622 per intended participant and USD 835 per actual attendee (Brudevold-Newman & Ubfal, 2024), though costs included and training dose vary across these studies (see Figure 4). Across more than one hundred randomized evaluations of such programs, median per-participant costs range from approximately USD 1,500 to USD 1,750 for vocational training and comparable interventions, and are approximately USD 280 for employment services, the least costly category, both in 2010 purchasing-power-parity terms (Yeyati et al., 2025). CareerX’s per-participant cost falls significantly below even the latter figure. The program’s low cost is driven by its short duration, its reliance on a hybrid delivery model that economizes on in-person instruction, and its delivery by an existing implementer at marginal cost. These same features underpin its scalability: a short course that can be delivered partly online and by non-specialist instructors is well suited to expansion, and we continue to detect soft-skills effects even in the fully online early cohorts, suggesting that further cost reductions through online delivery need not eliminate program impact.

Beyond per-participant cost, we report cost-effectiveness directly—the cost per additional person employed—which remains rare in this literature: of the evaluations reviewed by Yeyati et al., 2025, only about half report any per-participant cost and only about one in five conduct a formal cost-benefit analysis. The closest comparator that permits such a comparison is Brudevold-Newman and Ubfal, 2024, whose intention-to-treat effect on the likelihood of earning any income is a 9% relative increase, of a similar order to the 6.7% relative increase in paid employment we estimate at first follow-up. CareerX thus achieves employment effects of comparable relative magnitude at a small fraction of the per-participant cost. Because cost concepts are not harmonized across studies, we read these magnitudes as informative about orders of difference rather than exact ratios; by reporting a transparent, replicable cost-per-job figure alongside our impact estimates, we aim to make CareerX directly comparable to the programs against which policymakers must weigh it.

We note two limitations of these figures. First, the headline cost reflects incremental delivery costs and excludes the fixed costs of staff and curriculum development, so the comparison to programs whose reported costs include such fixed components is favorable to CareerX; we view the incremental cost as the policy-relevant magnitude for scale-up decisions, but flag the distinction for completeness. Second, the cost-per-job figure rests on the short-run employment effect, and if the control group’s employment catches up over time the longer-run cost per sustained job would be higher. We have argued, however, that our estimates more likely understate than overstate the program’s true effect, since nearly 70% of participants had not completed their degrees by the second follow-up and had therefore not fully entered the labor market. This implies that the cost per eventual job may be considerably lower than the figure reported here.

## 8 Discussion

The CareerX soft skills training program in Bangladesh demonstrates that a number of soft skills relevant to the transition from university to the labor market are malleable for this demographic. These gains persist for about a year after the initial training. We observe increases in both

intrapersonal and interpersonal soft skills, with somewhat larger gains in intrapersonal skills, which were also lower at baseline.

This study makes several important contributions to the literature on soft skills training and youth employment. First, we provide rigorous experimental evidence that soft skills can be systematically improved through a structured, short-duration training program for university students in a developing country context. We document significant and persistent effects across multiple soft skills, unlike previous studies with comparable populations that have been unable to demonstrate improvements across a broad range of inter- and intrapersonal measures. This suggests that the CareerX curriculum successfully targets key competencies that are both teachable and relevant for labor market success.

Second, the results are consistent with a causal pathway linking soft skills improvements to employment outcomes. By measuring a comprehensive set of soft skills related to the labor market we first show that some of these are mutable. Then, by measuring alongside a number of other intermediate outcomes such as job search planning, preparedness, or effort, we show that it is the changes in soft skills that best explain the employment gains observed in the treatment group. We mitigate concerns around measurement by adapting and testing measures in the Bangladeshi context and documenting internal consistency and validity of the measures. While we tried to implement objective behavioral tasks to complement self-reported measures, we were restricted in adapting these to the local context due to the COVID-19 measures. Future work would benefit from combining self-reports with behavioral tasks or other external assessments and employer evaluations.

Finally, we provide evidence on the implementation cost, cost effectiveness, and scalability of a short-duration training program. Based on incremental delivery costs incurred by an organization with an existing curriculum and implementation infrastructure, we estimate a short-run cost of approximately USD 117 per additional attendee employed. This is low relative to the reported costs of more intensive training interventions, and positive effects on soft skills are detectable even among the earlier fully online cohorts. The combination of a short curriculum, low marginal delivery costs, and a feasible hybrid format indicates potential for expansion through national skills programs.

We attempted to complement the self-reported measures with a mock-interview exercise designed to elicit selected skills more indirectly. However, the exercise generated limited variation in responses and was not implemented consistently enough to provide a credible independent measure of skill acquisition. We report the results only in the Appendix. This illustrates the practical difficulty of constructing scalable, behaviorally anchored measures of socio-emotional skills in field evaluations.

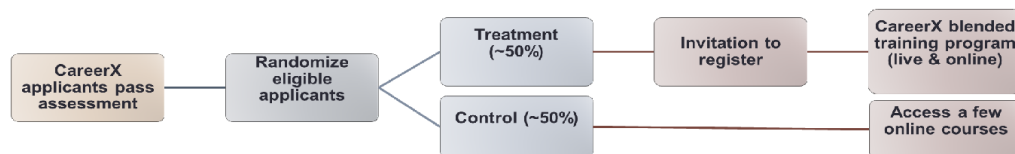
The labor-market estimates should also be interpreted in light of the context in which the evaluation took place. We view the employment effects as likely understated for two reasons. First, the earliest cohorts completed the program and began searching for work during the COVID-19 pandemic, when hiring opportunities and in-person economic activity were unusually constrained. Employment estimates are larger among the later post-COVID-19 cohorts: these cohorts experienced significantly better employment outcomes, with treatment effects of 5.9 and 6.4 percentage points for any and paid employment, respectively. These comparisons are

suggestive because pandemic timing is correlated with labor-market conditions, and the shift from fully online to hybrid delivery. The subgroup pattern is nevertheless consistent with the possibility that weak labor demand limited the extent to which improvements in skills translated into employment for the initial cohorts.

Second, the evaluation captures only an early stage of the school-to-work transition. Nearly 70% of respondents had not completed their degrees by the second follow-up, reflecting both extended time to degree in the Bangladeshi tertiary system and pandemic-related disruptions to academic calendars. Many participants had therefore not yet entered the full-time labor market by the end of the study period. This limits what the medium-run results can reveal about effects on full-time employment, job quality, and earnings after graduation. Both the conceptual framework and the composition of the sample suggest that these estimates are conservative. The framework predicts that earnings effects materialize only as employers observe workers on the job, a process that had barely begun for a sample in which most participants had not completed their degrees; the medium-run estimates were also measured against a pandemic-era labor market and with reduced power from attrition. A longer follow-up is required to observe the program's effects once participants have fully entered the labor market.

## 9 Main Tables and Figures

Figure 1: Randomization Strategy



Notes: The figure shows the random assignment process followed for each CareerX batch.

Figure 2: Soft Skills Measurement Framework

|                   | Intrapersonal Skills                                                                                                    | Interpersonal Skills                                                                     |
|-------------------|-------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Awareness Skills  | Emotional Awareness<br>Self Awareness                                                                                   | Listening<br>Empathy                                                                     |
| Management Skills | Emotional Regulation<br>Self Control<br>Perseverance<br>Personal Initiative<br>Problem Solving & Decision-Making (PSDM) | Expressiveness<br>Interpersonal Relatedness<br>Influence<br>Negotiation<br>Collaboration |

Notes: This is the complete framework developed by IPA and the World Bank. Note that while we tested all the different measures in Bangladesh, only measures that had variation in responses, and could be validated were ultimately included. Specifically, Emotional Awareness and Regulation, Empathy, Relatedness, Collaboration and Personal Initiative were not included. Please see for more details on these measures at: <https://poverty-action.org/socio-emotional-skills>

Table 1: Balance: Demographics

| Variable                              | N   | (1)<br>0          | N   | (2)<br>1          | N    | (1)-(2)<br>Pairwise t-test |
|---------------------------------------|-----|-------------------|-----|-------------------|------|----------------------------|
|                                       |     | Mean/(SE)         |     | Mean/(SE)         |      | Mean difference            |
| female                                | 795 | 0.352<br>(0.017)  | 997 | 0.354<br>(0.015)  | 1792 | -0.002                     |
| age                                   | 795 | 23.157<br>(0.064) | 997 | 23.115<br>(0.058) | 1792 | 0.042                      |
| dhaka                                 | 795 | 0.557<br>(0.018)  | 997 | 0.577<br>(0.016)  | 1792 | -0.019                     |
| number degrees                        | 794 | 1.329<br>(0.019)  | 996 | 1.310<br>(0.017)  | 1790 | 0.018                      |
| parent working                        | 793 | 0.652<br>(0.017)  | 993 | 0.692<br>(0.015)  | 1786 | -0.040*                    |
| married                               | 791 | 0.054<br>(0.008)  | 991 | 0.051<br>(0.007)  | 1782 | 0.003                      |
| F-test of joint significance (F-stat) |     |                   |     |                   |      | 0.651                      |
| F-test, number of observations        |     |                   |     |                   |      | 1782                       |

Table 2: Balance: Employment, Planning, and Effort

| Variable                              | N   | (1)<br>0         | N   | (2)<br>1         | N    | (1)-(2)<br>Pairwise t-test |
|---------------------------------------|-----|------------------|-----|------------------|------|----------------------------|
|                                       |     | Mean/(SE)        |     | Mean/(SE)        |      | Mean difference            |
| any employment                        | 793 | 0.654<br>(0.017) | 993 | 0.636<br>(0.015) | 1786 | 0.018                      |
| paid employment                       | 793 | 0.623<br>(0.017) | 993 | 0.600<br>(0.016) | 1786 | 0.023                      |
| planning index                        | 792 | 2.144<br>(0.039) | 991 | 2.138<br>(0.035) | 1783 | 0.006                      |
| effort index                          | 796 | 1.307<br>(0.047) | 998 | 1.308<br>(0.042) | 1794 | -0.001                     |
| F-test of joint significance (F-stat) |     |                  |     |                  |      | 0.277                      |
| F-test, number of observations        |     |                  |     |                  |      | 1783                       |

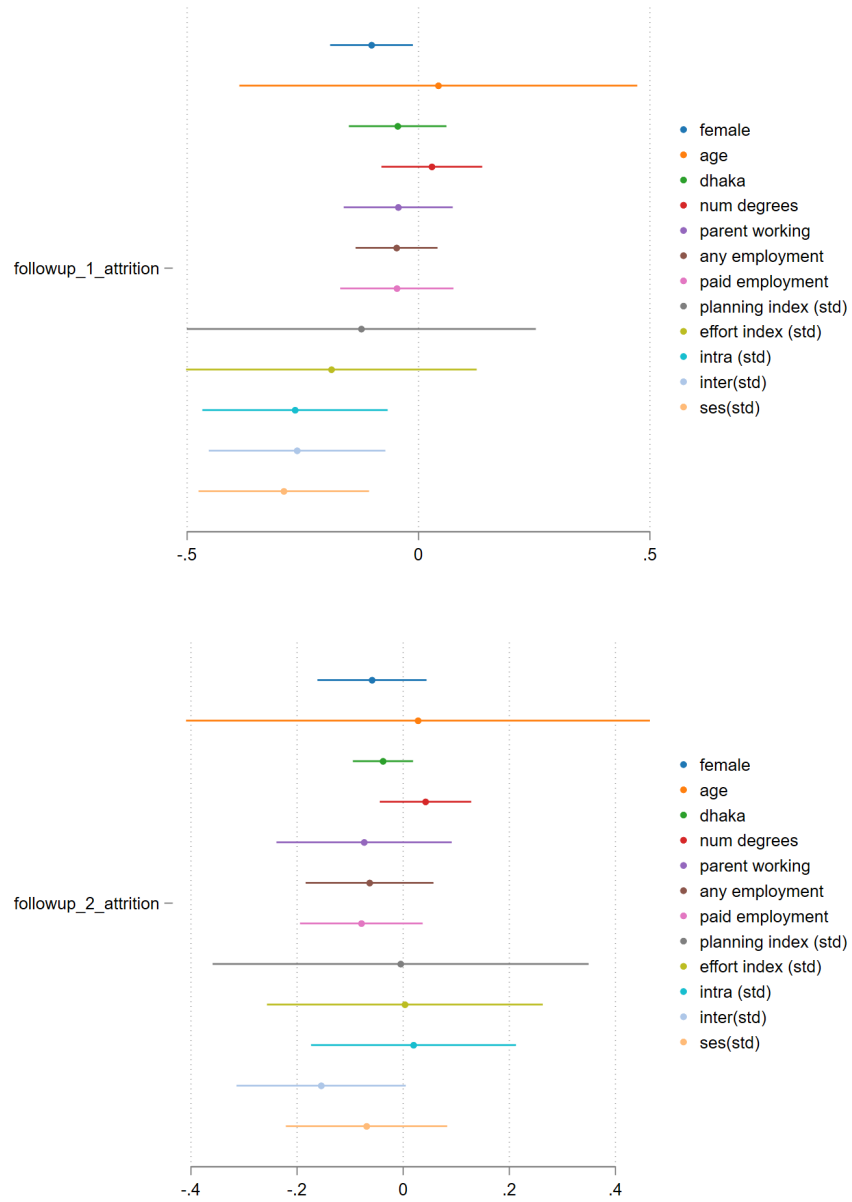
Table 3: Balance: Soft skills

| Variable                              | N   | (1)<br>0<br>Mean/(SE) | N   | (2)<br>1<br>Mean/(SE) | (1)-(2)<br>Pairwise t-test |         |
|---------------------------------------|-----|-----------------------|-----|-----------------------|----------------------------|---------|
|                                       |     | N                     |     | Mean difference       |                            |         |
| decision making                       | 777 | 3.899<br>(0.014)      | 976 | 3.878<br>(0.013)      | 1753                       | 0.021   |
| awareness                             | 777 | 4.043<br>(0.015)      | 976 | 4.019<br>(0.013)      | 1753                       | 0.024   |
| self control                          | 777 | 3.175<br>(0.025)      | 976 | 3.138<br>(0.023)      | 1753                       | 0.036   |
| perseverance                          | 777 | 4.037<br>(0.019)      | 976 | 3.989<br>(0.017)      | 1753                       | 0.049*  |
| influence                             | 777 | 3.888<br>(0.016)      | 976 | 3.846<br>(0.014)      | 1753                       | 0.043** |
| expression                            | 776 | 3.754<br>(0.017)      | 976 | 3.740<br>(0.016)      | 1752                       | 0.014   |
| negotiation                           | 776 | 4.142<br>(0.016)      | 976 | 4.127<br>(0.015)      | 1752                       | 0.015   |
| listening                             | 776 | 4.087<br>(0.017)      | 976 | 4.078<br>(0.015)      | 1752                       | 0.009   |
| F-test of joint significance (F-stat) |     |                       |     |                       |                            | 0.898   |
| F-test, number of observations        |     |                       |     |                       |                            | 1752    |

Table 4: Balance: Soft skills

| Variable                              | N   | (1)              | N   | (2)               | N    | (1)-(2)                            |
|---------------------------------------|-----|------------------|-----|-------------------|------|------------------------------------|
|                                       |     | 0<br>Mean/(SE)   |     | 1<br>Mean/(SE)    |      | Pairwise t-test<br>Mean difference |
| intrapersonal index(std)              | 777 | 0.046<br>(0.035) | 976 | -0.037<br>(0.033) | 1753 | 0.082*                             |
| interpersonal index (std)             | 777 | 0.032<br>(0.036) | 976 | -0.025<br>(0.032) | 1753 | 0.057                              |
| ses index (std)                       | 777 | 0.043<br>(0.035) | 976 | -0.034<br>(0.032) | 1753 | 0.078                              |
| F-test of joint significance (F-stat) |     |                  |     |                   |      | 1.374                              |
| F-test, number of observations        |     |                  |     |                   |      | 1753                               |

Figure 3: Attrition by baseline variables at Follow-ups 1 and 2



Notes: The figure plots the interaction coefficient for baseline characteristics of students we were unable to re-interview at first follow-up(top panel) and second follow-up (bottom panel). All regressions control for BYLC batch (cohort) fixed effects and errors are clustered at the batch level.

Table 5: Employment outcomes

| <b>Follow-up 1</b>   |                    |                   |                      |                  |
|----------------------|--------------------|-------------------|----------------------|------------------|
|                      | (1)                | (2)               | (3)                  | (4)              |
|                      | any employ         | any paid employ   | earnings             | hours            |
| treatment            | 0.045**<br>(0.019) | 0.040*<br>(0.020) | 246.615<br>(568.988) | 1.133<br>(0.786) |
| Observations         | 1480               | 1480              | 1480                 | 1480             |
| Control Mean         | 0.62               | 0.60              | 6454.52              | 13.15            |
| Wild Bootstrap p-val | 0.043              | 0.098             | 0.660                | 0.210            |
| Romano-Wolf p-val    | 0.032              | 0.070             | 0.671                | 0.172            |

| <b>Follow-up 2</b>   |                  |                  |                        |                  |
|----------------------|------------------|------------------|------------------------|------------------|
|                      | (1)              | (2)              | (3)                    | (4)              |
|                      | any employ       | any paid employ  | wages                  | hours            |
| treatment            | 0.031<br>(0.028) | 0.026<br>(0.026) | 2152.330<br>(1370.485) | 1.382<br>(1.013) |
| Observations         | 1417             | 1417             | 1417                   | 1417             |
| Control Mean         | 0.63             | 0.61             | 10597.92               | 16.83            |
| Wild Bootstrap p-val | 0.322            | 0.367            | 0.151                  | 0.250            |
| Romano-Wolf p-val    | 0.287            | 0.341            | 0.139                  | 0.194            |

Notes: The table shows the impact of treatment on any employment, any paid employment, earnings and hours worked in a typical week at first follow-up (top panel) and second follow-up (bottom panel). All regressions control for the baseline value of the outcome variable. All regressions control for gender, age, whether student was in Dhaka, number of degrees, and if parent is working. All regressions include BYLC batch fixed effects and errors are clustered at the batch level. Wild Bootstrap and Romano-Wolf p-values are shown at the bottom. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$

Table 6: Employment outcomes (2SLS)

| <b>Follow-up 1</b> |                    |                   |                      |                  |
|--------------------|--------------------|-------------------|----------------------|------------------|
|                    | (1)                | (2)               | (3)                  | (4)              |
|                    | any employment     | paid employment   | earnings             | hours            |
| attended any class | 0.055**<br>(0.025) | 0.049*<br>(0.027) | 303.484<br>(704.391) | 1.395<br>(1.009) |
| Observations       | 1480               | 1480              | 1480                 | 1480             |
| Control Mean       | 0.62               | 0.60              | 6454.52              | 13.15            |

| <b>Follow-up 2</b> |                  |                  |                        |                  |
|--------------------|------------------|------------------|------------------------|------------------|
|                    | (1)              | (2)              | (3)                    | (4)              |
|                    | any employment   | paid employment  | wages                  | hours            |
| attended any class | 0.046<br>(0.041) | 0.039<br>(0.039) | 3238.991<br>(2093.023) | 2.084<br>(1.494) |
| Observations       | 1417             | 1417             | 1417                   | 1417             |
| Control Mean       | 0.63             | 0.61             | 10597.92               | 16.83            |

Notes: The table shows the 2SLS results for any training classes attended instrumented with treatment assignment on the following outcomes: any employment, any paid employment, earnings and hours worked in a typical week at first follow-up (top panel) and second follow-up (bottom panel). All regressions control for the baseline value of the outcome variable. All regressions control for gender, age, if student in Dhaka, number of degrees, and if parent is working. All regressions include BYLC batch fixed effects and errors are clustered at the batch level. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$

Table 7: Preparedness, Planning and Effort

| <b>Follow-up 1</b>   |                   |                   |                   |                   |
|----------------------|-------------------|-------------------|-------------------|-------------------|
|                      | (1)<br>CV score   | (2)<br>references | (3)<br>planning   | (4)<br>effort     |
| treatment            | 0.302<br>(0.355)  | -0.020<br>(0.028) | 0.142*<br>(0.069) | -0.011<br>(0.090) |
| Observations         | 1481              | 1479              | 1480              | 1481              |
| Control Mean         | 2.03              | 2.04              | 2.04              | 1.58              |
| Wild Bootstrap p-val | 0.473             | 0.523             | 0.079             | 0.899             |
| Romano-Wolf p-val    | 0.410             | 0.494             | 0.058             | 0.905             |
| <b>Follow-up 2</b>   |                   |                   |                   |                   |
|                      | (1)<br>CV score   | (2)<br>references | (3)<br>planning   | (4)<br>effort     |
| treatment            | -0.444<br>(0.393) | -0.009<br>(0.018) | 0.013<br>(0.062)  | -0.049<br>(0.051) |
| Observations         | 1425              | 1414              | 1416              | 1417              |
| Control Mean         | 8.42              | 2.05              | 2.09              | 2.01              |
| Wild Bootstrap p-val | 0.303             | 0.609             | 0.827             | 0.359             |
| Romano-Wolf p-val    | 0.278             | 0.625             | 0.836             | 0.352             |

Notes: The table shows the impact of treatment on graded CVs, number of references, and a planning and effort index at first follow-up (top panel) and second follow-up (bottom panel). All regressions control for gender, age, if student in Dhaka, number of degrees, and if parent is working. All regressions control for the baseline value of the outcome variable. All regressions include BYLC batch fixed effects and errors are clustered at the batch level. Wild Bootstrap and Romano-Wolf p-values are shown at the bottom. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \*  $p < 0.1$

Table 8: Preparedness, Planning and Effort (2SLS)

| <b>Follow-up 1</b> |                   |                   |                   |                   |
|--------------------|-------------------|-------------------|-------------------|-------------------|
|                    | (1)<br>CV score   | (2)<br>references | (3)<br>planning   | (4)<br>effort     |
| Attended any class | 0.379<br>(0.435)  | -0.024<br>(0.034) | 0.174*<br>(0.083) | -0.013<br>(0.111) |
| Observations       | 1481              | 1479              | 1480              | 1481              |
| Control Mean       | 2.03              | 2.04              | 2.04              | 1.58              |
| <b>Follow-up 2</b> |                   |                   |                   |                   |
|                    | (1)<br>CV score   | (2)<br>references | (3)<br>planning   | (4)<br>effort     |
| Attended any class | -0.561<br>(0.472) | -0.011<br>(0.022) | 0.016<br>(0.075)  | -0.061<br>(0.064) |
| Observations       | 1425              | 1414              | 1416              | 1417              |
| Control Mean       | 8.42              | 2.05              | 2.09              | 2.01              |

Notes: The table shows the 2SLS results for any training classes attended instrumented with treatment assignment on the following outcomes: graded CVs, number of references, and a planning and effort index at first follow-up (top panel) and second follow-up (bottom panel). All regressions control for the baseline value of the outcome variable. All regressions control for gender, age, if student in Dhaka, number of degrees, and if parent is working. All regressions include BYLC batch fixed effects and errors are clustered at the batch level. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \*  $p < 0.1$

Table 9: Soft Skill Outcomes - Aggregated Indices

| <b>Follow-up 1</b>   |                     |                    |                     |
|----------------------|---------------------|--------------------|---------------------|
|                      | (1)                 | (2)                | (3)                 |
|                      | intra-personal      | inter-personal     | SES                 |
| treatment            | 0.106***<br>(0.026) | 0.069**<br>(0.025) | 0.101***<br>(0.021) |
| Observations         | 1322                | 1322               | 1322                |
| Control Mean         | 0.07                | 0.08               | 0.08                |
| Wild Bootstrap p-val | 0.001               | 0.031              | 0.004               |
| Romano-Wolf p-val    | 0.001               | 0.015              | 0.000               |

| <b>Follow-up 2</b>   |                    |                  |                   |
|----------------------|--------------------|------------------|-------------------|
|                      | (1)                | (2)              | (3)               |
|                      | intra-personal     | inter-personal   | SES               |
| treatment            | 0.124**<br>(0.054) | 0.103<br>(0.066) | 0.125*<br>(0.065) |
| Observations         | 1393               | 1392             | 1393              |
| Control Mean         | 0.43               | 0.40             | 0.46              |
| Wild Bootstrap p-val | 0.047              | 0.169            | 0.085             |
| Romano-Wolf p-val    | 0.038              | 0.141            | 0.073             |

Notes: The table shows the impact of treatment on 3 standardized indices of the set of intrapersonal, interpersonal and an index of all soft skills measured (ses) at first follow-up (top panel) and second follow-up (bottom panel). All regressions control for the baseline value of the outcome variable. All regressions control for gender, age, if student in Dhaka, number of degrees, and if parent is working. All regressions include BYLC batch fixed effects and errors are clustered at the batch level. Wild Bootstrap and Romano-Wolf p-values are shown at the bottom. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \*  $p < 0.1$

Table 10: Soft Skill Outcomes - Aggregated Indices (2SLS)

| <b>Follow-up 1</b> |                     |                    |                     |
|--------------------|---------------------|--------------------|---------------------|
|                    | (1)                 | (2)                | (3)                 |
|                    | intra-personal      | inter-personal     | ses                 |
| attended any class | 0.135***<br>(0.039) | 0.089**<br>(0.033) | 0.130***<br>(0.032) |
| Observations       | 1322                | 1322               | 1322                |
| Control Mean       | 0.07                | 0.08               | 0.08                |

| <b>Follow-up 2</b> |                    |                  |                   |
|--------------------|--------------------|------------------|-------------------|
|                    | (1)                | (2)              | (3)               |
|                    | intra-personal     | inter-personal   | ses               |
| attended any class | 0.153**<br>(0.064) | 0.128<br>(0.081) | 0.154*<br>(0.078) |
| Observations       | 1393               | 1392             | 1393              |
| Control Mean       | 0.43               | 0.40             | 0.46              |

Notes: The table shows the 2SLS results for any training classes attended instrumented with treatment assignment on the following outcomes: 3 standardized indices of the set of intrapersonal, interpersonal and an index of all soft skills measured (ses) at first follow-up (top panel) and second follow-up (bottom panel). All regressions control for the baseline value of the outcome variable. All regressions control for gender, age, if student in Dhaka, number of degrees, and if parent is working. All regressions include BYLC batch fixed effects and errors are clustered at the batch level. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \*  $p < 0.1$

Table 11: Soft Skill Outcomes - By Individual Skill

| Follow-up 1          |                     |                     |                    |                     |                  |                    |                    |                  |
|----------------------|---------------------|---------------------|--------------------|---------------------|------------------|--------------------|--------------------|------------------|
|                      | (1)<br>decision     | (2)<br>awareness    | (3)<br>selfcontrol | (4)<br>perseverance | (5)<br>influence | (6)<br>negotiation | (7)<br>listening   | (8)<br>express   |
| treatment            | 0.112***<br>(0.035) | 0.092***<br>(0.028) | 0.081*<br>(0.039)  | 0.019<br>(0.054)    | 0.055<br>(0.035) | 0.039<br>(0.043)   | 0.102**<br>(0.038) | 0.002<br>(0.040) |
| Observations         | 1322                | 1322                | 1321               | 1322                | 1322             | 1320               | 1320               | 1320             |
| Control Mean         | 0.09                | -0.03               | 0.07               | 0.06                | 0.08             | 0.00               | -0.05              | 0.19             |
| Wild Bootstrap p-val | 0.000               | 0.012               | 0.027              | 0.822               | 0.176            | 0.357              | 0.027              | 0.973            |
| Romano-Wolf p-val    | 0.006               | 0.005               | 0.055              | 0.734               | 0.144            | 0.376              | 0.019              | 0.956            |

| Follow-up 2          |                  |                  |                    |                     |                  |                    |                  |                  |
|----------------------|------------------|------------------|--------------------|---------------------|------------------|--------------------|------------------|------------------|
|                      | (1)<br>decision  | (2)<br>awareness | (3)<br>selfcontrol | (4)<br>perseverance | (5)<br>influence | (6)<br>negotiation | (7)<br>listening | (8)<br>express   |
| treatment            | 0.074<br>(0.057) | 0.089<br>(0.064) | 0.116**<br>(0.040) | 0.055<br>(0.050)    | 0.085<br>(0.063) | 0.129**<br>(0.053) | 0.081<br>(0.072) | 0.022<br>(0.055) |
| Observations         | 1393             | 1392             | 1391               | 1392                | 1392             | 1391               | 1391             | 1391             |
| Control Mean         | 0.60             | 0.39             | 0.06               | 0.38                | 0.33             | 0.25               | 0.14             | 0.50             |
| Wild Bootstrap p-val | 0.216            | 0.175            | 0.012              | 0.307               | 0.194            | 0.065              | 0.327            | 0.680            |
| Romano-Wolf p-val    | 0.221            | 0.183            | 0.011              | 0.283               | 0.198            | 0.028              | 0.277            | 0.692            |

Notes: The table shows the impact of treatment on the individual set of soft skills measured at first follow-up (top panel) and second follow-up (bottom panel). All regressions control for the baseline value of the outcome variable. All regressions control for gender, age, if student in Dhaka, number of degrees, and if parent is working. All regressions include BYLC batch fixed effects and errors are clustered at the batch level. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \*  $p < 0.1$

Table 12: Employment outcomes in COVID-19 and Post-COVID-19 Batches

| Follow-up 1  |                       |                       |                        |                        |                       |                         |                  |                  |
|--------------|-----------------------|-----------------------|------------------------|------------------------|-----------------------|-------------------------|------------------|------------------|
|              | (1)<br>any employment | (2)<br>any employment | (3)<br>paid employment | (4)<br>paid employment | (5)<br>wages          | (6)<br>wages            | (7)<br>hours     | (8)<br>hours     |
| treatment    | 0.027<br>(0.026)      | 0.059**<br>(0.020)    | 0.016<br>(0.026)       | 0.064***<br>(0.013)    | -775.629<br>(621.574) | 1427.959**<br>(401.875) | 0.504<br>(1.065) | 1.737<br>(1.263) |
| Observations | 835                   | 645                   | 835                    | 645                    | 835                   | 645                     | 835              | 645              |
| Post-Covid   | No                    | Yes                   | No                     | Yes                    | No                    | Yes                     | No               | Yes              |
| Control Mean | 0.66                  | 0.57                  | 0.64                   | 0.54                   | 6582.89               | 6279.86                 | 12.61            | 13.89            |

| Follow-up 2  |                       |                       |                        |                        |                       |                        |                  |                  |
|--------------|-----------------------|-----------------------|------------------------|------------------------|-----------------------|------------------------|------------------|------------------|
|              | (1)<br>any employment | (2)<br>any employment | (3)<br>paid employment | (4)<br>paid employment | (5)<br>wages          | (6)<br>wages           | (7)<br>hours     | (8)<br>hours     |
| treatment    | 0.039<br>(0.037)      | 0.007<br>(0.044)      | 0.029<br>(0.035)       | 0.007<br>(0.040)       | -164.021<br>(874.844) | 5456.876<br>(3023.521) | 1.194<br>(1.257) | 1.176<br>(1.660) |
| Observations | 814                   | 603                   | 814                    | 603                    | 814                   | 603                    | 814              | 603              |
| Post-Covid   | No                    | Yes                   | No                     | Yes                    | No                    | Yes                    | No               | Yes              |
| Control Mean | 0.66                  | 0.59                  | 0.64                   | 0.57                   | 9879.18               | 11565.97               | 16.03            | 17.91            |

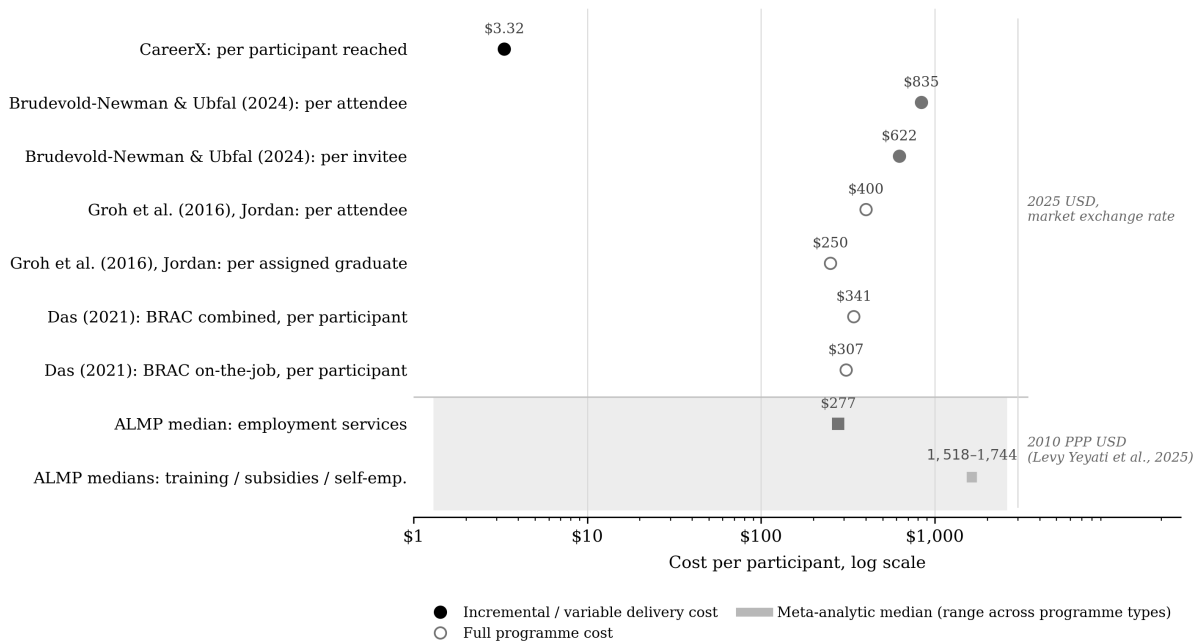
Notes: The table shows results separated by COVID-19 and Post-COVID-19 batches on any employment, any paid employment, earnings and hours worked in a typical week at first follow-up (top panel) and second follow-up (bottom panel). All regressions control for the baseline value of the outcome variable. All regressions include BYLC batch fixed effects and errors are clustered at the batch level. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \*  $p < 0.1$

Table 13: Planning, Effort, and Soft Skills Outcomes in COVID-19 and Post-COVID-19 Batches

| <b>Follow-up 1</b> |          |          |         |         |         |          |         |         |         |          |
|--------------------|----------|----------|---------|---------|---------|----------|---------|---------|---------|----------|
|                    | (1)      | (2)      | (3)     | (4)     | (5)     | (6)      | (7)     | (8)     | (9)     | (10)     |
|                    | planning | planning | effort  | effort  | intra   | intra    | inter   | inter   | ses     | ses      |
| treatment          | 0.127    | 0.144*** | -0.001  | -0.061  | 0.087*  | 0.091*** | 0.055   | 0.070   | 0.085*  | 0.090*** |
|                    | (0.127)  | (0.025)  | (0.148) | (0.079) | (0.045) | (0.016)  | (0.040) | (0.033) | (0.037) | (0.019)  |
| Observations       | 835      | 645      | 838     | 647     | 693     | 629      | 693     | 629     | 693     | 629      |
| Post-Covid         | No       | Yes      | No      | Yes     | No      | Yes      | No      | Yes     | No      | Yes      |
| Control Mean       | 2.04     | 2.04     | 1.46    | 1.73    | 0.05    | 0.01     | 0.07    | 0.01    | 0.06    | 0.01     |
| <b>Follow-up 2</b> |          |          |         |         |         |          |         |         |         |          |
|                    | (1)      | (2)      | (3)     | (4)     | (5)     | (6)      | (7)     | (8)     | (9)     | (10)     |
|                    | planning | planning | effort  | effort  | intra   | intra    | inter   | inter   | ses     | ses      |
| treatment          | 0.033    | -0.017   | -0.040  | -0.084  | 0.144** | 0.038    | 0.107   | 0.055   | 0.137*  | 0.049    |
|                    | (0.111)  | (0.046)  | (0.075) | (0.063) | (0.059) | (0.071)  | (0.063) | (0.109) | (0.061) | (0.101)  |
| Observations       | 813      | 603      | 817     | 606     | 804     | 590      | 804     | 589     | 804     | 590      |
| Post-Covid         | No       | Yes      | No      | Yes     | No      | Yes      | No      | Yes     | No      | Yes      |
| Control Mean       | 2.07     | 2.11     | 1.95    | 2.09    | -0.03   | -0.01    | -0.03   | -0.05   | -0.04   | -0.03    |

Notes: The table shows results separated by COVID-19 and Post-COVID-19 batches on planning, effort and soft skills indices (where inter, intra refers to inter-personal and intra-personal and ses is the index of all soft skills at first follow-up (top panel) and second follow-up (bottom panel). All regressions control for the baseline value of the outcome variable. All regressions include BYLC batch fixed effects and errors are clustered at the batch level. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$

Figure 4: Benchmarking Costs



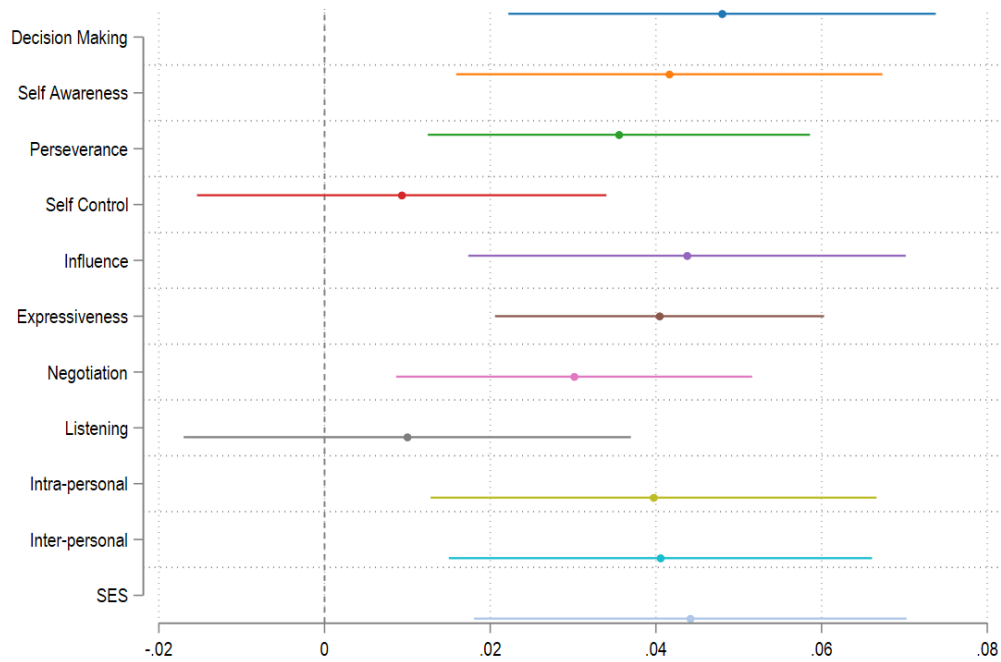
Notes: The figure plots cost concepts across studies; see legend. Estimates are not on a common price base and interpreted accordingly.

Table 14: Cronbach's Alpha Scores

|              | Baseline | Follow-up 1 | Follow-up 2 |
|--------------|----------|-------------|-------------|
| decision     | .82      | .83         | .82         |
| awareness    | .68      | .75         | .74         |
| selfcontrol  | .75      | .78         | .8          |
| influence    | .71      | .71         | .7          |
| express      | .82      | .84         | .86         |
| negotiation  | .75      | .74         | .76         |
| listening    | .66      | .64         | .7          |
| perseverance | .75      | .77         | .74         |

Note: Higher values indicate greater internal consistency. Typically, a score of 0.7 is considered to indicate good internal consistency

Figure 5: Validity of Soft Skill Measures



Notes: The figure shows the correlation between the different measures of soft skills and if the student was engaged in any paid work at baseline to show the predictive validity of the soft skill measures.

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## A Other Tables and Results

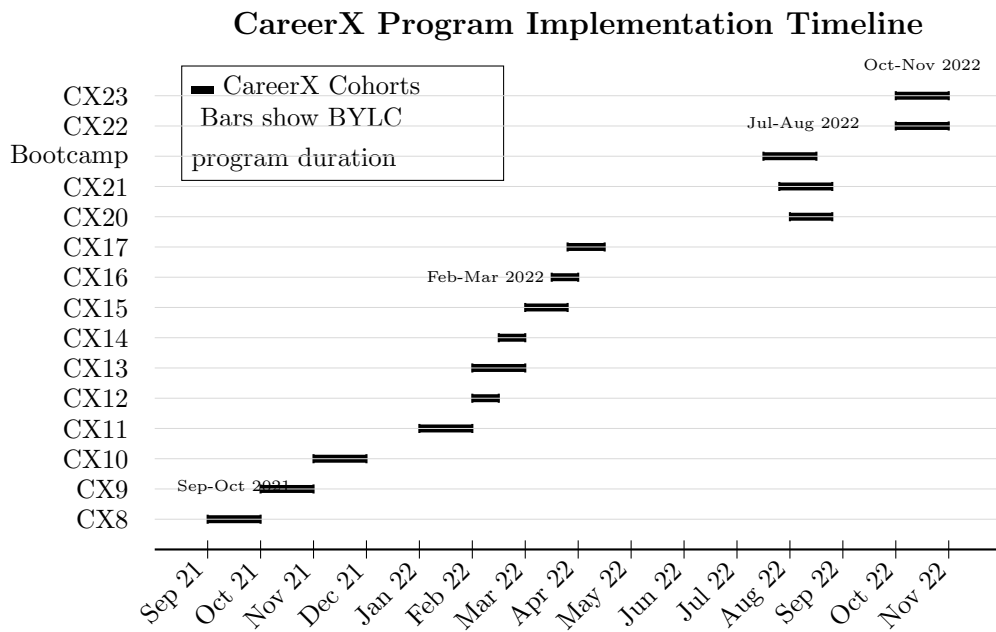


Figure 6: Timeline of CareerX program implementation from September 2021 to November 2022. Each horizontal bar represents the duration of the BYLC program for a specific cohort, with blue bars for 2021 cohorts and red bars for 2022 cohorts.

Table 15: ESTEEM Framework: Selected Skill Definitions

| <b>Skill</b>                                | <b>Definition</b>                                                                                                                                                                                                    | <b>Type</b>   |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| <b>Self-Awareness</b>                       | The ability to identify and interpret one's own thoughts and behaviors and to evaluate one's strengths and weaknesses.                                                                                               | Intrapersonal |
| <b>Self-Control</b>                         | The ability to focus one's attention, stay on task, break habits, restrain impulses and keep good self-discipline.                                                                                                   | Intrapersonal |
| <b>Perseverance</b>                         | The ability to sustain effort despite setbacks.                                                                                                                                                                      | Intrapersonal |
| <b>Problem-Solving/<br/>Decision-Making</b> | The ability to approach a problem by gathering information, generating a number of solutions and evaluating the consequences of these solutions before acting.                                                       | Intrapersonal |
| <b>Listening</b>                            | The ability to attend to what other people are saying, taking time to understand others' point of view, ask clarifying questions and refrain from interrupting at inappropriate times.                               | Interpersonal |
| <b>Expressiveness</b>                       | The ability to explain ideas in a way that others will understand and openly express one's opinion.                                                                                                                  | Interpersonal |
| <b>Negotiation</b>                          | The ability to identify one's own and others' interests during a disagreement and to change one's own behaviors, thoughts and feelings as a strategy for resolving interpersonal problems and achieving one's goals. | Interpersonal |
| <b>Influence</b>                            | The ability to communicate in a manner that changes others' perspectives and to adapt one's behavior in situationally appropriate ways to influence others.                                                          | Interpersonal |

Table 16: Alternative specification: First differenced outcomes for Employment

| <b>Follow-up 1 (First Differences)</b> |                     |                          |                      |                   |
|----------------------------------------|---------------------|--------------------------|----------------------|-------------------|
|                                        | (1)                 | (2)                      | (3)                  | (4)               |
|                                        | $\Delta$ any employ | $\Delta$ any paid employ | $\Delta$ wages       | $\Delta$ hours    |
| treatment                              | 0.052**<br>(0.021)  | 0.049*<br>(0.026)        | 189.528<br>(542.115) | 1.867*<br>(1.006) |
| Observations                           | 1480                | 1480                     | 1480                 | 1480              |
| Control Mean Change                    | -0.026              | -0.020                   | 564.493              | -0.188            |

| <b>Follow-up 2 (First Differences)</b> |                     |                          |                        |                  |
|----------------------------------------|---------------------|--------------------------|------------------------|------------------|
|                                        | (1)                 | (2)                      | (3)                    | (4)              |
|                                        | $\Delta$ any employ | $\Delta$ any paid employ | $\Delta$ wages         | $\Delta$ hours   |
| treatment                              | 0.037<br>(0.037)    | 0.033<br>(0.036)         | 2152.508<br>(1366.225) | 2.139<br>(1.357) |
| Observations                           | 1417                | 1417                     | 1417                   | 1417             |
| Control Mean Change                    | -0.014              | 0.003                    | 4929.824               | 3.774            |

Notes: Dependent variables are first differences (Follow-up - Baseline).

All regressions control for gender, age, Dhaka, number of degrees, parent working, and batch fixed effects. Standard errors clustered by batch in parentheses.

Table 17: Alternative specification: First differenced outcomes for Soft Skills

| <b>Follow-up 1 (First Differences)</b> |                     |                     |                     |
|----------------------------------------|---------------------|---------------------|---------------------|
|                                        | (1)                 | (2)                 | (3)                 |
|                                        | $\Delta$ intra      | $\Delta$ inter      | $\Delta$ SES        |
| treatment                              | 0.118***<br>(0.028) | 0.088***<br>(0.025) | 0.115***<br>(0.024) |
| Observations                           | 1322                | 1322                | 1322                |
| Control Mean Change                    | 0.064               | 0.029               | 0.052               |

| <b>Follow-up 2 (First Differences)</b> |                    |                  |                   |
|----------------------------------------|--------------------|------------------|-------------------|
|                                        | (1)                | (2)              | (3)               |
|                                        | $\Delta$ intra     | $\Delta$ inter   | $\Delta$ SES      |
| treatment                              | 0.155**<br>(0.062) | 0.110<br>(0.081) | 0.146*<br>(0.075) |
| Observations                           | 1393               | 1392             | 1393              |
| Control Mean Change                    | 0.448              | 0.411            | 0.475             |

Notes: Dependent variables are first differences in standardized soft skill indices (Follow-up - Baseline). Indices standardized using control group baseline mean and SD. All regressions control for gender, age, Dhaka, number of degrees, parent working, and batch fixed effects. Standard errors clustered by batch in parentheses.

Table 18: First Stage

|                      | (1)                 | (2)                 | (3)                  |
|----------------------|---------------------|---------------------|----------------------|
|                      | Attended Any        | Share Classes       | Attended $\geq 50\%$ |
| Treatment Assignment | 0.799***<br>(0.051) | 0.645***<br>(0.041) | 0.678***<br>(0.045)  |
| Observations         | 1794                | 1794                | 1794                 |
| Control Mean         | 0.010               | 0.009               | 0.010                |
| F-statistic          | 243.16              | 245.77              | 227.14               |

Notes: The table shows 3 measures of attendance. The first column shows a binary variable for having attended any class, the second shows that overall share of classes attended, and third a binary variable for having attended half of all classes. All regressions include BYLC batch fixed effects and errors are clustered at the batch level. The F-statistic is shown in the bottom row. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \*  $p < 0.1$

Table 19: Heterogeneity in Employment outcomes by Gender

| Follow-up 1        |                      |                     |                           |                      |
|--------------------|----------------------|---------------------|---------------------------|----------------------|
|                    | (1)                  | (2)                 | (3)                       | (4)                  |
|                    | any_employ           | any_paid_employ     | wages                     | hours                |
| treatment          | 0.010<br>(0.026)     | -0.005<br>(0.026)   | -129.306<br>(665.044)     | 0.638<br>(1.083)     |
| female             | -0.114***<br>(0.037) | -0.122**<br>(0.041) | -2333.088***<br>(464.377) | -3.253***<br>(0.892) |
| treatment X female | 0.095*<br>(0.047)    | 0.125**<br>(0.046)  | 1052.733<br>(756.351)     | 1.263<br>(1.477)     |
| Observations       | 1480                 | 1480                | 1480                      | 1480                 |
| Control Mean       | 0.67                 | 0.65                | 7658.28                   | 15.02                |

| Follow-up 2        |                    |                    |                          |                     |
|--------------------|--------------------|--------------------|--------------------------|---------------------|
|                    | (1)                | (2)                | (3)                      | (4)                 |
|                    | any_employ         | any_paid_employ    | wages                    | hours               |
| treatment          | 0.026<br>(0.028)   | 0.021<br>(0.024)   | 3125.205<br>(1801.600)   | 1.670<br>(1.189)    |
| female             | -0.066*<br>(0.035) | -0.070*<br>(0.036) | -2614.656*<br>(1440.585) | -3.316**<br>(1.522) |
| treatment X female | 0.004<br>(0.042)   | -0.001<br>(0.037)  | -3094.638<br>(2014.081)  | -1.444<br>(2.238)   |
| Observations       | 1417               | 1417               | 1417                     | 1417                |
| Control Mean       | 0.66               | 0.64               | 12162.31                 | 18.41               |

Notes: The table shows the heterogeneity in treatment effects by gender (female) on any employment, any paid employment, wages and hours worked in a typical week at first follow-up (top panel) and second follow-up (bottom panel). All regressions control for the baseline value of the outcome variable. All regressions include BYLC batch fixed effects and errors are clustered at the batch level. The control mean is the average for men in the control group. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \*  $p < 0.1$

Table 20: Heterogeneity in Planning, Effort, and Soft Skills Outcomes by Gender

| <b>Follow-up 1</b> |                   |                    |                     |                     |                     |
|--------------------|-------------------|--------------------|---------------------|---------------------|---------------------|
|                    | (1)<br>planning   | (2)<br>effort      | (3)<br>intra        | (4)<br>inter        | (5)<br>ses          |
| treatment          | 0.070<br>(0.075)  | 0.017<br>(0.115)   | 0.106***<br>(0.031) | 0.052*<br>(0.028)   | 0.091***<br>(0.025) |
| female             | -0.105<br>(0.084) | -0.105<br>(0.120)  | -0.041<br>(0.047)   | -0.140**<br>(0.050) | -0.086*<br>(0.040)  |
| treatment X female | 0.188*<br>(0.099) | -0.128<br>(0.141)  | -0.044<br>(0.060)   | 0.041<br>(0.070)    | -0.004<br>(0.049)   |
| Observations       | 1480              | 1484               | 1322                | 1322                | 1322                |
| Control Mean       | 2.09              | 1.67               | 0.05                | 0.10                | 0.08                |
| <b>Follow-up 2</b> |                   |                    |                     |                     |                     |
|                    | (1)<br>planning   | (2)<br>effort      | (3)<br>intra        | (4)<br>inter        | (5)<br>ses          |
| treatment          | 0.031<br>(0.087)  | -0.104<br>(0.066)  | 0.091*<br>(0.048)   | 0.097<br>(0.059)    | 0.103*<br>(0.053)   |
| female             | 0.072<br>(0.096)  | -0.164*<br>(0.084) | -0.018<br>(0.053)   | 0.013<br>(0.073)    | 0.008<br>(0.063)    |
| treatment X female | -0.060<br>(0.090) | 0.150<br>(0.144)   | 0.018<br>(0.084)    | -0.045<br>(0.080)   | -0.018<br>(0.071)   |
| Observations       | 1416              | 1421               | 1393                | 1392                | 1393                |
| Control Mean       | 2.06              | 2.07               | -0.01               | -0.01               | -0.01               |

Notes: The table shows the heterogeneity in treatment effects by gender (female) on planning, effort and 3 standardized indices of the set of intrapersonal, interpersonal and an index of all soft skills measured (ses) at first follow-up (top panel) and second follow-up (bottom panel). All regressions control for the baseline value of the outcome variable. All regressions include BYLC batch fixed effects and errors are clustered at the batch level. The control mean is the average for men in the control group. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \*  $p < 0.1$

Table 21: Heterogeneity in Employment outcomes by Dhaka

| <b>Follow-up 1</b> |                   |                   |                          |                    |
|--------------------|-------------------|-------------------|--------------------------|--------------------|
|                    | (1)               | (2)               | (3)                      | (4)                |
|                    | any_employ        | any_paid_employ   | wages                    | hours              |
| treatment          | 0.023<br>(0.022)  | 0.020<br>(0.030)  | -1043.165<br>(638.152)   | 0.129<br>(1.105)   |
| dhaka              | -0.005<br>(0.017) | 0.009<br>(0.028)  | -1324.499**<br>(484.425) | -0.075<br>(1.047)  |
| treatment X dhaka  | 0.033<br>(0.023)  | 0.029<br>(0.033)  | 2243.101***<br>(677.641) | 1.610<br>(1.335)   |
| Observations       | 1480              | 1480              | 1480                     | 1480               |
| Control Mean       | 0.64              | 0.59              | 6505.50                  | 13.15              |
| <b>Follow-up 2</b> |                   |                   |                          |                    |
|                    | (1)               | (2)               | (3)                      | (4)                |
|                    | any_employ        | any_paid_employ   | wages                    | hours              |
| treatment          | 0.035<br>(0.032)  | 0.022<br>(0.024)  | -744.651<br>(1021.000)   | 1.262<br>(1.228)   |
| dhaka              | 0.022<br>(0.024)  | 0.023<br>(0.023)  | -1634.877<br>(2333.133)  | 3.958**<br>(1.459) |
| treatment X dhaka  | -0.017<br>(0.036) | -0.004<br>(0.037) | 5058.478<br>(3243.109)   | -0.288<br>(1.451)  |
| Observations       | 1417              | 1417              | 1417                     | 1417               |
| Control Mean       | 0.61              | 0.59              | 10173.13                 | 15.36              |

Notes: The table shows the heterogeneity in treatment effects by Dhaka location on any employment, any paid employment, wages and hours worked in a typical week at first follow-up (top panel) and second follow-up (bottom panel). All regressions controls for the baseline value of the outcome variable. All regressions include BYLC batch fixed effects and errors are clustered at the batch level. The control mean is the average for those outside Dhaka in the control group. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \*  $p < 0.1$

Table 22: Heterogeneity in Planning, Effort, and Socio-Emotional Skills Outcomes by Dhaka

| <b>Follow-up 1</b> |                 |               |              |              |            |
|--------------------|-----------------|---------------|--------------|--------------|------------|
|                    | (1)<br>planning | (2)<br>effort | (3)<br>intra | (4)<br>inter | (5)<br>ses |
| treatment          | 0.176*          | -0.032        | 0.115**      | 0.051        | 0.101**    |
|                    | (0.083)         | (0.108)       | (0.040)      | (0.045)      | (0.038)    |
| dhaka              | 0.085           | -0.130        | 0.021        | -0.226***    | -0.094*    |
|                    | (0.121)         | (0.121)       | (0.063)      | (0.063)      | (0.052)    |
| treatment X dhaka  | -0.077          | 0.008         | -0.042       | 0.027        | -0.020     |
|                    | (0.108)         | (0.173)       | (0.061)      | (0.074)      | (0.061)    |
| Observations       | 1480            | 1484          | 1322         | 1322         | 1322       |
| Control Mean       | 2.00            | 1.55          | 0.02         | 0.16         | 0.09       |
| <b>Follow-up 2</b> |                 |               |              |              |            |
|                    | (1)<br>planning | (2)<br>effort | (3)<br>intra | (4)<br>inter | (5)<br>ses |
| treatment          | 0.096           | 0.038         | 0.082*       | 0.052        | 0.078      |
|                    | (0.123)         | (0.092)       | (0.043)      | (0.084)      | (0.064)    |
| dhaka              | -0.025          | -0.078        | -0.080       | -0.182*      | -0.133     |
|                    | (0.084)         | (0.098)       | (0.101)      | (0.088)      | (0.099)    |
| treatment X dhaka  | -0.148          | -0.166        | 0.027        | 0.059        | 0.038      |
|                    | (0.130)         | (0.126)       | (0.063)      | (0.074)      | (0.064)    |
| Observations       | 1416            | 1421          | 1393         | 1392         | 1393       |
| Control Mean       | 2.16            | 2.00          | 0.03         | 0.07         | 0.05       |

Notes: The table shows the heterogeneity in treatment effects by Dhaka location on planning, effort and soft skills including intra-personal, inter-personal and the index of all soft skills (ses) at first follow-up (top panel) and second follow-up (bottom panel). All regressions controls for the baseline value of the outcome variable. All regressions include BYLC batch fixed effects and errors are clustered at the batch level. The control mean is the average for those outside Dhaka in the control group. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \*  $p < 0.1$

Table 23: Heterogeneity in Employment outcomes by Master's Degree

| <b>Follow-up 1</b>  |            |                 |            |         |
|---------------------|------------|-----------------|------------|---------|
|                     | (1)        | (2)             | (3)        | (4)     |
|                     | any_employ | any_paid_employ | wages      | hours   |
| treatment           | 0.043      | 0.044*          | 740.590    | 0.996   |
|                     | (0.026)    | (0.024)         | (615.331)  | (1.002) |
| masters             | 0.035      | 0.040           | 1684.916** | 1.988   |
|                     | (0.031)    | (0.031)         | (580.147)  | (1.382) |
| treatment X masters | -0.003     | -0.023          | -1817.843* | 0.330   |
|                     | (0.044)    | (0.039)         | (872.856)  | (1.735) |
| Observations        | 1480       | 1480            | 1480       | 1480    |
| Control Mean        | 0.60       | 0.57            | 5607.70    | 11.79   |
| <b>Follow-up 2</b>  |            |                 |            |         |
|                     | (1)        | (2)             | (3)        | (4)     |
|                     | any_employ | any_paid_employ | wages      | hours   |
| treatment           | 0.043*     | 0.036           | 3075.523   | 1.277   |
|                     | (0.023)    | (0.024)         | (2234.582) | (0.882) |
| masters             | 0.075      | 0.081*          | 3234.515** | 5.717** |
|                     | (0.044)    | (0.039)         | (1302.332) | (2.380) |
| treatment X masters | -0.055     | -0.051          | -3379.101  | 0.185   |
|                     | (0.050)    | (0.051)         | (3987.918) | (3.165) |
| Observations        | 1417       | 1417            | 1417       | 1417    |
| Control Mean        | 0.60       | 0.58            | 9208.48    | 14.67   |

Notes: The table shows the heterogeneity in treatment effects by having completed undergraduate education at baseline on any employment, any paid employment, wages and hours worked in a typical week at first follow-up (top panel) and second follow-up (bottom panel). All regressions controls for the baseline value of the outcome variable. All regressions include BYLC batch fixed effects and errors are clustered at the batch level. The control mean is the average for those without a Master's degree in the control group. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \*  $p < 0.1$

Table 24: Heterogeneity in Planning, Effort, and Socio-Emotional Skills Outcomes by Master's Degree

| Follow-up 1         |                    |                    |                     |                    |                     |
|---------------------|--------------------|--------------------|---------------------|--------------------|---------------------|
|                     | (1)<br>planning    | (2)<br>effort      | (3)<br>intra        | (4)<br>inter       | (5)<br>ses          |
| treatment           | 0.176**<br>(0.076) | 0.045<br>(0.102)   | 0.099***<br>(0.031) | 0.080**<br>(0.035) | 0.104***<br>(0.030) |
| masters             | 0.240**<br>(0.102) | 0.423**<br>(0.142) | 0.071<br>(0.053)    | 0.093**<br>(0.043) | 0.083*<br>(0.047)   |
| treatment X masters | -0.128<br>(0.115)  | -0.227<br>(0.143)  | -0.023<br>(0.066)   | -0.051<br>(0.068)  | -0.048<br>(0.068)   |
| Observations        | 1480               | 1483               | 1322                | 1322               | 1322                |
| Control Mean        | 1.95               | 1.38               | -0.00               | -0.01              | -0.01               |

| Follow-up 2         |                   |                     |                   |                   |                   |
|---------------------|-------------------|---------------------|-------------------|-------------------|-------------------|
|                     | (1)<br>planning   | (2)<br>effort       | (3)<br>intra      | (4)<br>inter      | (5)<br>ses        |
| treatment           | 0.073<br>(0.074)  | 0.007<br>(0.061)    | 0.102*<br>(0.053) | 0.082<br>(0.064)  | 0.100<br>(0.063)  |
| masters             | 0.077<br>(0.107)  | 0.316***<br>(0.102) | 0.029<br>(0.072)  | -0.030<br>(0.088) | -0.009<br>(0.081) |
| treatment X masters | -0.214<br>(0.126) | -0.208<br>(0.126)   | -0.016<br>(0.088) | -0.002<br>(0.135) | -0.011<br>(0.114) |
| Observations        | 1416              | 1420                | 1393              | 1392              | 1393              |
| Control Mean        | 2.06              | 1.91                | -0.06             | -0.05             | -0.06             |

Notes: The table shows the heterogeneity in treatment effects by having completed undergraduate education at baseline on planning, effort and soft skills indices - including intra-personal, inter-personal and the index of all soft skills (ses) at first follow-up (top panel) and second follow-up (bottom panel). All regressions controls for the baseline value of the outcome variable. All regressions include BYLC batch fixed effects and errors are clustered at the batch level. The control mean is the average for those without a Master's degree in the control group. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$

Table 25: Employment Outcomes - Lee-Bounds

| Outcome         | Follow-up 1 |           |         |           |         |              |          | Follow-up 2 |            |          |           |          |              |          |
|-----------------|-------------|-----------|---------|-----------|---------|--------------|----------|-------------|------------|----------|-----------|----------|--------------|----------|
|                 | Coef        | SE        | DIM     | Tightened |         | Unstratified |          | Coef        | SE         | DIM      | Tightened |          | Unstratified |          |
|                 |             |           |         | LB        | UB      | LB           | UB       |             |            |          | LB        | UB       | LB           | UB       |
| any employ      | 0.045       | ( 0.019)  | 0.030   | 0.020     | 0.036   | 0.020        | 0.036    | 0.031       | ( 0.028)   | 0.033    | 0.022     | 0.028    | 0.021        | 0.040    |
| any paid employ | 0.040       | ( 0.020)  | 0.023   | 0.016     | 0.032   | 0.014        | 0.029    | 0.026       | ( 0.026)   | 0.026    | 0.016     | 0.022    | 0.014        | 0.033    |
| earnings        | 246.615     | (568.988) | 439.896 | 93.935    | 187.489 | 341.814      | 1000.835 | 2152.330    | (1370.485) | 2659.497 | 1967.179  | 1977.435 | 2458.909     | 4131.758 |
| hours           | 1.133       | ( 0.786)  | 0.479   | 0.037     | 0.049   | 0.278        | 1.341    | 1.382       | ( 1.013)   | 1.660    | 0.796     | 0.848    | 1.341        | 2.717    |

Coef/SE: ATE from `areg` with batch fixed effects (`absorb bylc_batch`), baseline outcome control, and demographic controls; SE clustered on `bylc_batch`.  
 DIM: naive difference-in-means among baseline responders, no covariates or fixed effects; comparable to the Lee bounds and should lie inside the unstratified interval if monotone selection holds.  
 Lee (2009) bounds under monotone selection. Tightened = stratified on `bylc_batch` (tight); Unstratified = basic bounds.  
 Tightened bounds drop batches with no observed control-arm outcome; the unstratified bounds use all batches.  
 Tightened LB/UB are shown as min/max of the two Lee estimators: they can numerically cross for high-variance continuous outcomes on small strata; the ordered interval is reported here.  
 Wages in BDT; hours are weekly.

Figure 7: Results by baseline quartiles at Follow-ups 1 and 2 for Soft Skills

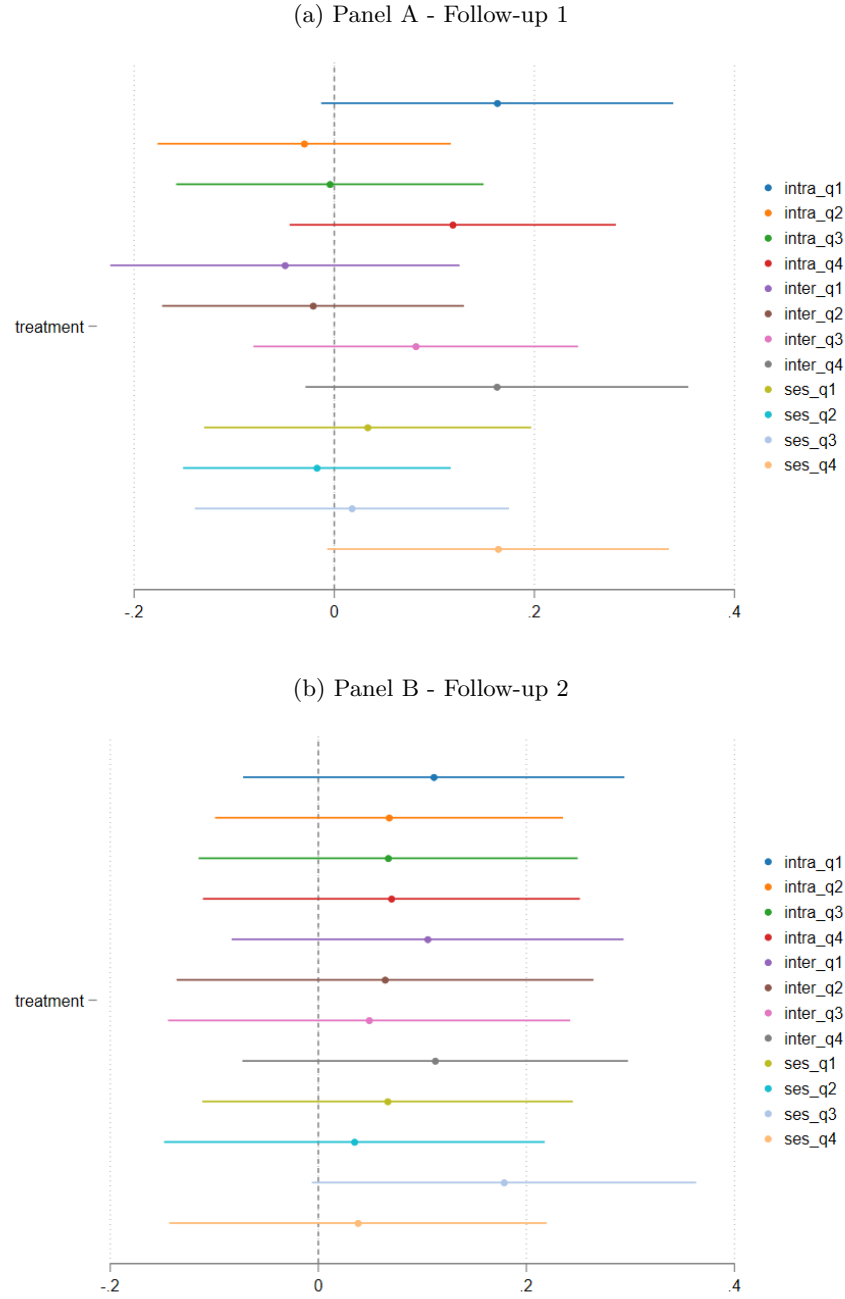


Table 26: Preparedness Outcomes - Lee-Bounds

| Outcome    | Follow-up 1 |          |        |           |        |              |        | Follow-up 2 |          |        |           |        |              |        |
|------------|-------------|----------|--------|-----------|--------|--------------|--------|-------------|----------|--------|-----------|--------|--------------|--------|
|            | Coef        | SE       | DIM    | Tightened |        | Unstratified |        | Coef        | SE       | DIM    | Tightened |        | Unstratified |        |
|            |             |          |        | LB        | UB     | LB           | UB     |             |          |        | LB        | UB     | LB           | UB     |
| cv score   | 0.302       | ( 0.355) | 1.037  | 0.925     | 0.930  | 1.009        | 1.236  | -0.444      | ( 0.393) | 0.106  | -0.016    | 0.173  | -0.112       | 0.308  |
| references | -0.020      | ( 0.028) | -0.021 | -0.023    | -0.002 | -0.035       | -0.007 | -0.009      | ( 0.018) | -0.007 | -0.020    | 0.010  | -0.026       | 0.012  |
| planning   | 0.142       | ( 0.069) | 0.140  | 0.115     | 0.128  | 0.111        | 0.167  | 0.013       | ( 0.062) | 0.005  | -0.006    | 0.011  | -0.035       | 0.041  |
| effort     | -0.011      | ( 0.090) | 0.018  | -0.079    | -0.061 | -0.004       | 0.066  | -0.049      | ( 0.051) | -0.051 | -0.082    | -0.079 | -0.070       | -0.013 |

Coef/SE: ATE from **areg** with batch fixed effects (**absorb** **bylc\_batch**), baseline outcome control, and demographic controls; SE clustered on **bylc\_batch**.

DIM: naive difference-in-means among baseline responders, no covariates or fixed effects; comparable to the Lee bounds and should lie inside the unstratified interval if monotone selection holds.

Lee (2009) bounds under monotone selection. Tightened = stratified on **bylc\_batch** (tight); Unstratified = basic bounds.

Tightened bounds drop batches with no observed control-arm outcome; the unstratified bounds use all batches.

Tightened LB/UB are shown as min/max of the two Lee estimators: they can numerically cross for high-variance continuous outcomes on small strata; the ordered interval is reported here.

Table 27: Soft skills Outcomes - Lee-Bounds

| Index        | Follow-up 1 |          |        |           |       |              |       | Follow-up 2 |          |        |           |       |              |        |
|--------------|-------------|----------|--------|-----------|-------|--------------|-------|-------------|----------|--------|-----------|-------|--------------|--------|
|              | Coef        | SE       | DIM    | Tightened |       | Unstratified |       | Coef        | SE       | DIM    | Tightened |       | Unstratified |        |
|              |             |          |        | LB        | UB    | LB           | UB    |             |          |        | LB        | UB    | LB           | UB     |
| decision     | 0.112       | ( 0.035) | 0.064  | 0.062     | 0.159 | -0.310       | 0.380 | 0.074       | ( 0.057) | 0.031  | -0.057    | 0.048 | -0.031       | 0.071  |
| awareness    | 0.092       | ( 0.028) | 0.068  | 0.036     | 0.132 | -0.274       | 0.371 | 0.089       | ( 0.064) | 0.047  | -0.065    | 0.120 | -0.014       | 0.081  |
| selfcontrol  | 0.081       | ( 0.039) | 0.053  | -0.009    | 0.116 | -0.177       | 0.386 | 0.116       | ( 0.040) | 0.069  | 0.017     | 0.203 | 0.050        | 0.159  |
| perseverance | 0.019       | ( 0.054) | -0.076 | -0.130    | 0.022 | -0.410       | 0.266 | 0.055       | ( 0.050) | -0.009 | -0.028    | 0.046 | -0.042       | -0.009 |
| influence    | 0.055       | ( 0.035) | -0.033 | -0.065    | 0.028 | -0.361       | 0.276 | 0.085       | ( 0.063) | 0.045  | 0.023     | 0.092 | -0.049       | 0.086  |
| negotiation  | 0.039       | ( 0.043) | 0.015  | -0.056    | 0.058 | -0.301       | 0.304 | 0.129       | ( 0.053) | 0.127  | 0.084     | 0.157 | 0.071        | 0.127  |
| listening    | 0.102       | ( 0.038) | 0.043  | -0.063    | 0.107 | -0.271       | 0.338 | 0.081       | ( 0.072) | 0.065  | 0.066     | 0.337 | 0.012        | 0.255  |
| express      | 0.002       | ( 0.040) | -0.022 | -0.108    | 0.073 | -0.379       | 0.294 | 0.022       | ( 0.055) | 0.012  | -0.101    | 0.171 | -0.051       | 0.056  |
| intra        | 0.106       | ( 0.026) | 0.033  | 0.023     | 0.105 | -0.323       | 0.369 | 0.124       | ( 0.054) | 0.047  | 0.012     | 0.056 | -0.010       | 0.095  |
| inter        | 0.069       | ( 0.025) | 0.001  | -0.044    | 0.096 | -0.342       | 0.292 | 0.103       | ( 0.066) | 0.081  | -0.032    | 0.134 | 0.029        | 0.121  |
| ses          | 0.101       | ( 0.021) | 0.020  | 0.001     | 0.091 | -0.342       | 0.337 | 0.125       | ( 0.065) | 0.069  | 0.015     | 0.166 | 0.015        | 0.117  |

Coef/SE: ATE from **areg** with batch fixed effects (**absorb** **bylc\_batch**), baseline outcome control, and demographic controls; SE clustered on **bylc\_batch**.

DIM: naive difference-in-means among baseline responders, no covariates or fixed effects; comparable to the Lee bounds and should lie inside the unstratified interval if monotone selection holds.

Lee (2009) bounds under monotone selection. Tightened = stratified on **bylc\_batch** (tight); Unstratified = basic bounds.

Tightened bounds drop batches with no observed control-arm outcome (FU1 soft skills only); the unstratified bounds use all batches.

Tightened LB/UB are shown as min/max of the two Lee estimators: they can numerically cross for high-variance continuous outcomes on small strata; the ordered interval is reported here.

Table 28: Interview Measures - Alpha Scores

| Construct      | Cronbach's $\alpha$ |
|----------------|---------------------|
| Decision       | 0.188               |
| Awareness      | 0.127               |
| Influence      | 0.496               |
| Expressiveness | 0.703               |
| Negotiation    | 0.456               |
| Listening      | 0.816               |

Table 29: Correlation between interview measures and self reports

| Construct      | Pearson $r$ | $p$   | Spearman $\rho$ | $p$   | $N$  |
|----------------|-------------|-------|-----------------|-------|------|
| Decision       | 0.050       | 0.047 | 0.057           | 0.024 | 1577 |
| Awareness      | 0.005       | 0.850 | 0.005           | 0.829 | 1577 |
| Influence      | 0.031       | 0.224 | 0.020           | 0.432 | 1577 |
| Expressiveness | 0.067       | 0.008 | 0.060           | 0.017 | 1576 |
| Negotiation    | 0.062       | 0.015 | 0.055           | 0.030 | 1576 |
| Listening      | 0.020       | 0.422 | 0.011           | 0.661 | 1577 |

Table 30: Cost-Effectiveness of the CareerX Soft-Skills Training Program

| Cost ingredient                                          | Local currency<br>(BDT) | Year-of-analysis<br>(2025 USD) | Share of<br>total (%) |
|----------------------------------------------------------|-------------------------|--------------------------------|-----------------------|
| <i>Panel A. Program costs by ingredient</i>              |                         |                                |                       |
| Program administration and staff costs                   | 0                       | 0.00                           | 0.0                   |
| Implementation and program material costs                | 0                       | 0.00                           | 0.0                   |
| Transportation and per diems                             | 199,109                 | 2,782.99                       | 65.4                  |
| Targeting / visibility costs                             | 40,000                  | 559.09                         | 13.1                  |
| Training                                                 | 20,000                  | 279.54                         | 6.6                   |
| Office costs                                             | 45,548                  | 636.63                         | 15.0                  |
| <b>Total program cost</b>                                | <b>304,657</b>          | <b>4,258.26</b>                | <b>100.0</b>          |
| <i>Panel B. Cost-effectiveness calculation</i>           |                         |                                |                       |
| Total program cost (2025 USD)                            |                         |                                | 4,258.26              |
| Participants reached                                     |                         |                                | 1,283                 |
| Cost per participant (2025 USD)                          |                         |                                | 3.32                  |
| Employment impact, ITT (pp)                              |                         |                                | 4.00                  |
| Additional individuals employed                          |                         |                                | 51.3                  |
| Present value of additional employed                     |                         |                                | 46.6                  |
| <b>Cost per additional job (2025 USD)</b>                |                         |                                | <b>91.27</b>          |
| Attendees                                                |                         |                                | 998                   |
| <b>Cost per additional job, attendee base (2025 USD)</b> |                         |                                | <b>117.34</b>         |

*Notes:* Costs are program-delivery expenditures incurred by BYLC, converted from BDT at the 2021 average exchange rate (85.08 BDT/USD), discounted to 2021 at 10%, and expressed in 2025 (year-of-analysis) USD following the J-PAL/IPA costing template. Program administration/staff and implementation/material costs were borne by the implementer and donors and are recorded as zero; the reported figures therefore represent the incremental cost of delivering the program to an additional cohort. The employment impact is the ITT effect on paid or unpaid employment of 4.0 percentage points; see Table 5. The number of additional individuals employed (impact  $\times$  participants) is discounted to the 2021 base year before computing cost-effectiveness. Cost per additional job = total cost  $\div$  present value of additional employed. Participants (1,283) are respondents in both arms completing all three survey rounds, the sample over which the ITT is estimated. The final row scales the impact instead by the 998 attendees, yielding about 39 additional individuals employed (36 in present value) and a cost per participant of USD 4.27.

## B CareerX Programme - Additional Details

CareerX was BYLC's Professional Career Development Program, delivered in a blended format that combined live, instructor-led sessions with self-paced online modules and small-group facilitation, building toward a capstone project. The program was primarily a soft-skills intervention with complementary career-readiness content. Its content spanned four themes — Communications, Career planning, Intrapreneurship, and, Personal effectiveness and productivity — with the emphasis on developing the interpersonal and intrapersonal skills described in the outcomes. A smaller set of career-readiness and job-preparation elements — most visibly resume writing and some workplace and productivity tools — complemented the soft skills sessions.

Table 31 summarizes the theme structure and the distribution of content across modules. CareerX is best described as a soft-skills-focused program with complementary career-readiness and workplace-preparation content.

Table 31: CareerX Curriculum Overview

| Theme                                   | Live instruction                                                                           | Self-paced online content                                                                                  |
|-----------------------------------------|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Communication                           | Career expectations; capstone overview; writing assignment review                          | Speaking with confidence; body language; professional etiquette; negotiation; grammar and business writing |
| Career Planning                         | Resume writing; mock interviews                                                            | Career mapping; career development resources                                                               |
| Intrapreneurship                        | Exercising leadership; taking initiative; critical thinking and structured problem-solving | Leadership and critical thinking practice                                                                  |
| Personal Effectiveness and Productivity | Final presentation; interview practice; workflow management                                | Powerpoint and Excel; productivity tools                                                                   |

*Notes:* The live sessions were delivered in a blended format alongside the self-paced online modules.

## C Informed Consent Script

The following script was administered by trained enumerators at the start of each survey round. Text in square brackets denotes enumerator instructions and was not read aloud.

### Informed Consent

Respondent's Division: \_\_\_\_\_ District: \_\_\_\_\_ Upazila: \_\_\_\_\_

Good morning/afternoon/evening. My name is \_\_\_\_\_ [enumerator name]. I am from Innovations for Poverty Action (IPA), a non-profit research organization based in the US. We are conducting a research study to evaluate BYLC's CareerX training program and understand the employment behavior of youth in Bangladesh. This study involves research, which is different from routine care or programming.

1. **Purpose.** I would like to invite you to participate in this research and answer a few questions, covering your education, employment efforts, earning expectations etc. We will also play a few games and will conduct a mock job interview as well. The information you provide will help BYLC improve their program and may help researchers and the government to understand needs and aspirations of youth like yourself.

We are inviting you to participate in this research whether or not you have registered for the BYLC CareerX program. We also want to reiterate that you can participate in CareerX training program even if you do not wish to participate in this study.

We would like to offer 100 BDT for your valuable time. This conversation will last about 60–75 minutes.

2. **Procedures.** If you choose to participate in the study, we will contact you 2 more times over the next year:
  - in about 1–2 months;
  - and then again in 12 months — for an interview with a member of our team.

This will help us understand your journey as you first look for and then work in a job during this time.

3. **Confidentiality.** We will keep your information confidential to the extent possible, and information that identifies you will be protected to prevent third parties from accessing it. Your responses will only be accessible to the research team and individuals from Innovations for Poverty Action who oversee the research. BYLC will not have access to the answers that you give us, and we will only share our overall findings with them. We hope to record

your full interview for quality assurance. If you do not want to be recorded, you can participate without this component. If you agree, I would like to request you to go to a quiet place where no one can hear your answers and, we would like to request you to be dressed up like it is a demo interview as we would like to request you keep your video on for the interview session.

4. **Voluntary Participation.** Participation is completely voluntary, and you can refuse to participate in this discussion, stop the discussion at any time or skip any questions that make you feel uncomfortable without any fear of repercussion. We do not anticipate any risks from participation in this research.
5. **Contact (Further Questions).** [Enumerator: list both.] If you want to contact us later with questions about the study or your rights as a research participant, feel free to contact Neeti Zaman, Senior Research Associate, Innovations for Poverty Action (Phone: +8801914058344). You may also contact IPA's Institutional Review Board at [humansubjects@poverty-action.org](mailto:humansubjects@poverty-action.org).
6. **Questions.** Do you have any further questions?

**Response.** If I have answered all your questions, would you like to participate in this study? You can take the time you need to decide. Would you like to participate?

Yes

No

[If yes:] Do you agree to keep your video on when we will be joining in the Zoom?

Yes

No

[If no:] Do you agree to keep your audio being recorded on when we will be joining in the Zoom?

Yes

No

Do you agree to keep sharing your screen while playing specific game so that I can keep track of your progress?

Yes

No

## D Model Derivation

This appendix formalizes the conceptual framework in Section 3. We present a two-period model in which a student chooses soft skills investment prior to labor market entry.

### D.1 Setup

**Timing.** There are two periods. In period 0 (college), the student chooses investment  $I \geq 0$  in soft skills. In period 1 (labor market), the student searches for employment and, if matched, earns a wage.

**Skills.** The student enters period 0 with an endowment of cognitive skills  $\theta_C$  (fixed) and an initial stock of soft skills  $\theta_{N,0} > 0$ . Investment  $I$  augments soft skills according to the production technology:

$$\theta_{N,1} = \left[ \gamma (\theta_{N,0})^\phi + (1 - \gamma)(I)^\phi \right]^{1/\phi} \quad (8)$$

This is a CES production function following Cunha and Heckman, 2007. The parameter  $\phi \in (0, 1)$  governs the elasticity of substitution between the initial stock and new investment, and  $\gamma \in (0, 1)$  is the share of the initial endowment in skill production.

#### Key properties of Equation (8):

1. *Diminishing returns to investment.* For  $\phi < 1$  and  $\theta_{N,0} > 0$ ,

$$\frac{\partial \theta_{N,1}}{\partial I} = (1 - \gamma) \left( \frac{I}{\theta_{N,1}} \right)^{\phi-1} > 0, \quad \frac{\partial^2 \theta_{N,1}}{\partial I^2} = -(1 - \gamma)(1 - \phi) \gamma \theta_{N,0}^\phi A^{(1-2\phi)/\phi} I^{\phi-2} < 0,$$

where  $A \equiv \gamma \theta_{N,0}^\phi + (1 - \gamma)I^\phi$ . The marginal return to training is positive but strictly decreasing. (At  $\phi = 1$  the technology is linear and the second derivative is zero; at  $\theta_{N,0} = 0$  it reduces to  $\theta_{N,1} = (1 - \gamma)^{1/\phi} I$ .)

2. *Dynamic complementarity.* For  $\phi < 1$ , the cross-partial of the initial stock and investment is positive:

$$\frac{\partial^2 \theta_{N,1}}{\partial \theta_{N,0} \partial I} = (1 - \gamma)(1 - \phi) \gamma \theta_{N,1}^{1-2\phi} \theta_{N,0}^{\phi-1} I^{\phi-1} > 0.$$

A unit of training is more productive for students with a higher initial stock of soft skills. This is the standard “skills beget skills” property of the CES technology (Cunha and Heckman, 2007), applied here within the soft skills dimension.<sup>3</sup>

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<sup>3</sup>Formally, let  $G(\theta_{N,0}) \equiv \theta_{N,1}(\theta_{N,0}, I) - \theta_{N,1}(\theta_{N,0}, 0)$  denote the treated-minus-control gain at a common baseline. Writing  $\theta_{N,1}(\theta_{N,0}, 0) = \gamma^{1/\phi} \theta_{N,0}$ , one can show  $G'(\theta_{N,0}) > 0$  for any  $I > 0$  and  $\phi \in (0, 1)$ . We note this property of the technology but do not elevate it to a testable prediction: the experiment was not powered for subgroup comparisons across baseline quartiles, and we examine that heterogeneity descriptively in Section 7.

## D.2 Labor Market

**Employment.** In period 1, the student is matched to a job with probability  $p$  that depends on the full skill vector:

$$p = p(\theta_C, \theta_{N,1}), \quad \frac{\partial p}{\partial \theta_{N,1}} > 0 \quad (9)$$

The function  $p(\cdot)$  captures the student's capacity to search effectively, succeed in interviews, and demonstrate fit in workplace interactions—all of which depend on soft skills.

**Wages.** Conditional on employment, wages are determined by:

$$w = \alpha_C \theta_C + \alpha_N E[\theta_N \mid s] \quad (10)$$

where  $\alpha_C, \alpha_N > 0$  are skill prices, and employers form expectations about  $\theta_N$  based on an observable signal:

$$s = \theta_N + \varepsilon, \quad \varepsilon \sim \mathcal{N}(0, \sigma_\varepsilon^2) \quad (11)$$

Under standard Bayesian updating with a normal prior  $\theta_N \sim \mathcal{N}(\bar{\theta}_N, \sigma_\theta^2)$ , the employer's posterior expectation is:

$$E[\theta_N \mid s] = \lambda s + (1 - \lambda) \bar{\theta}_N, \quad \text{where } \lambda = \frac{\sigma_\theta^2}{\sigma_\theta^2 + \sigma_\varepsilon^2} \quad (12)$$

The parameter  $\lambda \in (0, 1)$  measures the informativeness of the signal. When  $\sigma_\varepsilon^2$  is large (the signaling failure is severe),  $\lambda$  is small, employers mostly rely on the prior  $\bar{\theta}_N$ , and the wage return to actual skill improvement is attenuated:  $\partial w / \partial \theta_N = \alpha_N \lambda < \alpha_N$ .

## D.3 The Student's Problem

The student chooses investment  $I$  to maximize expected period-1 payoff net of training costs:

$$\max_{I \geq 0} V(I) = p(\theta_1(I)) \cdot w(\theta_1(I)) - c(I) \quad (13)$$

where  $c(I)$  is the cost of obtaining training intensity  $I$ , with  $c'(I) > 0$  and  $c''(I) \geq 0$ . We assume throughout that an interior optimum  $I^* > 0$  exists and satisfies the second-order condition  $V''(I^*) < 0$ .<sup>4</sup>

The first-order condition is:

$$\underbrace{\frac{\partial p}{\partial \theta_1} \cdot \frac{\partial \theta_1}{\partial I} \cdot w}_{\text{employment gain}} + \underbrace{p \cdot \frac{\partial w}{\partial \theta_1} \cdot \frac{\partial \theta_1}{\partial I}}_{\text{wage gain}} = \underbrace{c'(I)}_{\text{marginal cost}} \quad (14)$$

The left-hand side is the marginal return to training, consisting of two components: (i) the employment gain from higher skills and (ii) the wage gain conditional on employment. When

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<sup>4</sup>Existence of an interior optimum requires standard regularity (e.g. marginal benefit exceeding marginal cost at the origin and falling below it for large  $I$ ). Note that  $V''(I^*) < 0$  is a maintained assumption rather than an implication of the primitives: even when  $p$  and  $w$  are concave in  $\theta_{N,1}$  and  $\theta_{N,1}$  is concave in  $I$ , the product  $p \cdot w$  need not be concave in  $I$ .

$\lambda$  is small (weak signaling), the wage-gain term is attenuated, reducing the marginal return and depressing  $I^*$  below the full-information optimum. When  $c(I)$  is high (no effective training available),  $I^*$  is further depressed.

#### D.4 Effect of the Intervention

The CareerX program can be modeled as a reduction in the cost function from  $c(I)$  to  $\tilde{c}(I) < c(I)$  for a given level of training. At approximately 3 USD per participant, the program dramatically lowers the cost of acquiring a fixed bundle of soft skills training.

**Comparative static.** Let  $I^*$  denote the optimal investment, and consider a uniform shift  $\delta$  in the marginal cost of training (so the program corresponds to  $\delta < 0$ ). The first-order condition (14) becomes  $V'(I) - \delta = 0$ . Applying the implicit function theorem:

$$\frac{dI^*}{d\delta} = \frac{1}{V''(I^*)} < 0 \quad (15)$$

since  $V''(I^*) < 0$  at an interior optimum. A reduction in the cost of training ( $\delta < 0$ ) therefore raises optimal investment,  $\tilde{I}^* > I^*$ , increasing post-training soft skills  $\theta_{N,1}$  via Equation (8).

#### D.5 Empirical Predictions

The model generates the following predictions, each tested in Section 7:

1. **Employment increases.** Higher  $\theta_{N,1}$  raises  $p(\cdot)$  via Equation (9). We test this by estimating treatment effects on employment outcomes.
2. **Wage effects are muted in the short run.** If  $\lambda$  is small (signaling failure partially unresolved),  $\partial w / \partial \theta_N$  is attenuated, and wage gains may take time to materialize as employers learn workers' true  $\theta_N$  on the job. We test this by comparing treatment effects on wages across follow-up rounds.
3. **Soft skills increase.** The program raises  $I$  from approximately zero to a positive level, increasing  $\theta_{N,1}$  via Equation (8). We test this by comparing the standardized soft skills index between treatment and control groups.