The Impact of Soft-Skills Training for Entrepreneurs in Jamaica*

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December 10, 2021

*Corresponding Author: Diego Ubfal (Africa Gender Innovation Lab, World Bank, IGIER, LEAP and IZA). The trial is registered in the American Economic Association's registry for randomized controlled trials (ID AEARCTR-0001208). We are grateful to the Jamaican Business Development Corporation (JBDC) for their support in implementing the project. In particular, to Nellisa Thompson and Lisa Taylor-Stone for their excellent supervision and coordination, and to the trainers. Mattia Chiapello provided excellent research assistance. We gratefully acknowledge financial support from NESTA (IGL network), Development Bank of Jamaica, The Inter-American Development Bank (Technical Cooperation Project JA-T1132), and the IDB Lab from the Inter-American Development Bank (Grant JA-M1037). This project received ethical approval from the ethics committee of Bocconi University (Diego Ubfal conducted this project while he was at Bocconi Universitiy). The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They do not necessarily represent the views of the World Bank or the Inter-American Development Bank and their affiliated organizations, or those of the Executive Directors of the World Bank or the governments they represent.

Abstract

There has been growing interest in approaches to business training that incorporate insights from psychology to develop soft skills associated with successful entrepreneurship. The empirical evidence on the causal effects of these approaches on entrepreneurs' business outcomes is encouraging, but still not substantial enough to be conclusive. This study contributes to this literature by designing and evaluating two training programs, which are adapted to the Jamaican context. The first program provides soft-skills training on personal initiative, including the development of a proactive mindset and perseverance after setbacks. The second program combines soft-skills training on personal initiative with traditional training on hard skills aimed at changing business practices. Both programs are evaluated using a randomized controlled trial involving 945 entrepreneurs in Jamaica. Findings indicate statistically significant effects of the intensive soft-skills training, but not of the training combining soft and hard skills, on business outcomes in the short-term survey. The analysis of the data suggests that the main channel through which the intensive soft-skills training improves short-term business outcomes is an increased adoption of business practices. The positive short-term effects of the soft-skills training are concentrated among men and are not significant for female entrepreneurs. Neither the effects on business practices nor those on business outcomes are statistically significant in the second follow-up survey. However, the soft-skills training has persistent effects on targeted soft skills, which are measured with both self-reported and incentivized measures.

Keywords: Business Training, entrepreneurship, soft skills

JEL Codes: J24, L25, M13, O12

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1 Introduction

Can business training programs provide self-employed individuals with the required skills to become successful entrepreneurs? An initial attempt to tackle this question involved the development of training courses focused on teaching *hard* skills, such as basic recommended practices in accounting, marketing, and management. The approach was promising since a set of recommended business practices have been found to be associated with better business outcomes for small firms in developing countries (McKenzie and Woodruff, 2017).

However, the evidence from field experiments estimating the causal effect of this traditional approach has been disappointing (McKenzie and Woodruff, 2014). While these courses foster the adoption of some desirable business practices, the intensity of such adoption does not seem sufficient to affect business outcomes in a transformative way. A recent meta-analysis of the literature shows that the average effect of these programs on profits is from 5 to 10% (McKenzie, 2020), which is not enough to cover the cost of the training in most cases. Moreover, most of the positive effects are only observed for male-headed firms, but not for firms headed by women.

More recently, there has been growing interest in approaches to business training that incorporate insights from psychology to develop *soft* skills associated with successful entrepreneurship. Soft skills include a set of attitudes and behaviors that go beyond knowledge, such us proactiveness and perseverance. A prominent example of soft-skills training is personal initiative training, which focuses on developing a self-starting, future-oriented, and persevering mindset (Frese and Gielnik, 2014). It has been shown that entrepreneurs who develop a mindset with strong personal initiative are more inclined to differentiate themselves by introducing changes in their business, anticipating problems, overcoming obstacles, and planning for the future (Glaub et al., 2014). The initial evidence on the effects of personal initiative training indicates that it is possible to achieve positive impacts for both male- and female-headed enterprises (Campos et al., 2017). However, more ev-

idence is needed to understand whether this training approach works in more than one context.

The main objective of this paper is to test whether training entrepreneurs on soft skills related to personal initiative can improve the business outcomes of male and female entrepreneurs in Jamaica. Moreover, it aims to study whether combining training on soft and hard skills can be more effective than a more intensive training on only soft skills.

To investigate these questions, this research designs two training programs on personal initiative, adapts them to the Jamaican context where the training is conducted, and implements a randomized controlled trial to evaluate their effects. Both programs start with five weekly classes aiming to foster participants' personal initiative. Then, one of them (labeled as *soft-skills training*) adds five classes that cover personal initiative material in greater depth, focusing on perseverance after setbacks. The other one (labeled as *combined training*) includes five additional sessions following the traditional approach on hard skills related to recommended business practices. The rationale for the combined training is that there could be complementarities between soft and hard skills. Entrepreneurs could potentially benefit not only from learning how to develop a proactive mindset (the goal of the personal initiative component), but also from gaining knowledge about the types of business practices that can be more profitable for their business (the focus of the traditional training). On the one hand, if such complementarities existed, the combined training would have stronger effects than the soft-skills training. On the other hand, if there were larger returns to soft skills than to hard skills, a more intensive training on the former would be more beneficial.

The study tests the effectiveness of both programs with a sample of 945 small-scale business owners in Jamaica. The private sector in Jamaica has a large share of informal micro and small enterprises (around 40%), which face significant barriers to growth such as low productivity, low adoption of recommended business practices, and a lack of relevant soft skills. Therefore, testing the effectiveness of programs that focus on developing soft skills or that combine hard and soft-skills training is of high policy relevance.

To evaluate the effect of the training programs, entrepreneurs are randomly assigned in equal proportion to either the soft-skills training, the combined training, or a control group that receives no training. Three survey instruments are developed to collect information on soft skills and business outcomes from entrepreneurs in the three groups: a baseline survey, a short-term survey conducted 3 months after the intervention, and a second follow-up survey conducted 12 months after the intervention.

The main findings show statistically significant short-term effects of the soft-skills training, but not of the combined training, on business outcomes (i.e., sales and profits). These effects are concentrated among men, with no significant effects for women. The evidence suggests that the soft-skills training triggered short-term adoption of desirable business practices, which translated into improved business outcomes. All positive short-term effects on both the adoption of desirable business practices and business outcomes vanish 12 months after the training. However, the study documents persistent effects of the soft-skills training on some of the key soft skills targeted by the program: perseverance, overcoming barriers, and grit. This brings new evidence that it is possible to achieve changes in soft skills even for adults. Nevertheless, within the study context, greater perseverance does not lead to better business outcomes for the majority of entrepreneurs.

The paper proceeds as follows. Section 2 discusses the related literature. Section 3 presents the methodology. It describes the setting, the contents of the training programs, the procedure to recruit participants and assign them to treatment arms, the characteristics of the sample, the data collection instruments, and the statistical methods. Section 4 describes the results. It reports average treatment effects on business outcomes, as well as heterogeneity in effects by gender. It also shows effects on potential mechanisms, and measures of soft skills. Section 5 discusses the evidence presented, and Section 6 concludes.

2 Literature Review

This study contributes to the literature evaluating business training programs. The traditional approach to business training has focused on teaching participants how to incorporate a set of recommended business practices that are associated with increased profitability and faster growth (McKenzie and Woodruff, 2017). Some leading examples include the International Labour Organization's Start and Improve Your Business (SIYB) and the courses offered by CEFE International, with more than 15 and 20 million entrepreneurs trained, respectively. The first round of field experiments measuring the impact of this traditional business training approach shows that most of these courses have managed to foster the adoption of some desirable business practices. However, the intensity of adoption does not seem sufficient to translate into significant effects on business outcomes, particularly for women (McKenzie and Woodruff, 2014). A more recent meta-analysis of the literature including a second round of studies concludes that training effects on sales and profits are on average from 5 to 10% (McKenzie, 2020).

This paper relates more closely to an alternative approach to business training, which incorporates insights from psychology to develop soft skills believed to be associated with successful entrepreneurship. The literature has mainly evaluated one such training focusing on developing personal initiative. Glaub et al. (2014) conduct a pilot experiment to test for the effects of personal initiative training with 109 small business in Uganda. The study finds large, but imprecise, effects on sales after one year. Campos et al. (2017) conduct an experiment to compare the effects of personal initiative training with those of traditional business training in a sample of 1,500 entrepreneurs in Togo. Both training interventions are complemented with the visit of mentors to help implement the messages from the training for the next four months. Their research finds large effects on profits of the personal initiative training, but not of the traditional training. The effects are significant for both men and women and persist for at least two years.

However, not all evaluations of the personal initiative training have shown positive re-

sults. Alibhai et al. (2019) conduct an experiment with around 2,000 women in Ethiopia, and find no effects of personal initiative training on sales or profits. The study argues that the low quality of the trainers might explain the lack of effects. Indeed, Alibhai et al. (2019) evaluate another training aiming at changing entrepreneurs' mindset, which was implemented with higher quality teachers, and delivered larger effects on profits.

This paper contributes to this literature by estimating the effect of personal initiative training in Jamaica, with special attention to certifying the quality of the trainers and training interventions. It compares the effects of personal initiative training with those of a mixed course combining soft-skills training with the hard skills taught in the traditional approach. Therefore, it is possible to test for possible complementarities between these two sets of skills. Furthermore, the study evaluates whether personal initiative training can be effective by itself, without more personalized follow-up interventions, such as mentorship. This is an important policy question for agencies interested in scaling up and replicating this type of intervention given the significant costs of adding more personalized services.

This research also contributes to the literature studying the relationship between soft skills and entrepreneurship. Several papers study the role of different dimensions of personality traits in the entrance into and persistence in self-employment, both in economics (Lazear, 2005; de Mel et al., 2010; Levine and Rubinstein, 2017; Hamilton et al., 2019) and in psychology (for a review see Frese and Gielnik, 2014). This study provides novel evidence that personal initiative training can affect soft skills, but with limited effects on business outcomes.[1] Furthermore, this study is unique in evaluating the effects on a behavioral measure corresponding to one personality trait that is believed to be essential for success in entrepreneurship: perseverance after setbacks.[2]

Finally, the study also contributes with evidence regarding potential differential effects

[1] Premand et al. (2016) find that an entrepreneurship track at a university in Tunisia has limited effects on personality and entrepreneurial traits, and mainly affects cognitive business skills, which might have generated small increases in self-employment. They claim that an intervention grounded in psychology and focused on a specific personality trait could be more effective.

[2] Alan et al. (2019) show that perseverance toward a set goal (one dimension of grit) can be changed with school interventions and that this change has long-term impacts on educational outcomes.

of entrepreneurship training programs by gender. An important debate in the literature evaluating business training programs is whether the training can also help women grow their own businesses. Most of previous studies have found null or at least weaker effects of the traditional business training approach on women-owned businesses (McKenzie and Woodruff, 2014). There is evidence that women face additional constraints, such as differential use of time and demands from their families (Arraiz et al., 2019) or the husband who lead them to divert money from their business (Gine and Mansuri, 2020; Fafchamps et al., 2014; Jakiela and Ozier, 2016). However, Campos et al. (2017) find that for personal initiative training in Togo, the effect is large for both men and women and persists over two years. This study tests whether the positive effect of soft-skills training for female entrepreneurs can be generalized to another context.

3 Methodology

3.1 Setting

This study takes place in Jamaica, a small, open economy with high dependence on inflows from remittances and tourism. The productive sector in Jamaica shows a considerable share of firms operating in the informal sector, with low productivity and limited implementation of recommended business practices. In 2014, the non-agricultural informal sector captured 38% of employment (STATIN, 2014).

According to World Bank Group (2019), the costs of doing business are high in Jamaica. While the country ranks well in terms of the ease of opening a business and access to credit, it performs very poorly in terms of enforcing contracts, paying taxes, registering property, and getting electricity. In addition, very high crime rates and a high prevalence of scams by call centers erode trust and complicate not only running a business, but also getting entrepreneurs to trust business training providers and researchers conducting surveys.[3]

[3]See, for example, the article in The Economist (2018) reporting a state of emergency in regions of the country. The emergency was called due to an increase in violence among call centers, which fight for the contact lists used to scam people.

In this context, a partnership to implement the training was established with the Jamaica Business Development Corporation (JBDC), an organization with experience in promoting entrepreneurship in Jamaica. JBDC is an agency of the government of Jamaica that facilitates the development of micro, small and medium-sized enterprises (MSMEs). It was assigned in the National MSMEs and Entrepreneurship Policy as the lead agency charged with the execution of training. It provides services across the spectrum, from guiding start-ups to a wide range of consultancy services for more established businesses.

The research team worked with JBDC to review their existing training courses. Their courses already covered material on soft skills and business practices, but they were not offering a standard training package. Therefore, for the purpose of this study, two new training courses were designed. Members from the research team, who have expertise on entrepreneurship, organizational behavior, and work psychology, adapted existing material on personal initiative and traditional training to the Jamaican context.

3.2 Training Programs

The team developed two training programs. As shown in Appendix Table A1, the first five classes of each program focus on developing a personal initiative mindset. Personal initiative is a psychological construct that encompasses proactive behavior (Frese and Gielnik, 2014; Campos et al., 2017). The methodology is action-oriented, including lectures, individual and group exercises, and presentations with subsequent feedback. Trainers provide examples and case studies from the local context and discuss exercises applied to the businesses of the participants. The modules of this course relate personal initiative to different steps of the entrepreneurial process such as identifying opportunities, setting goals, planning, and overcoming barriers. The course encourages entrepreneurs to become active already during the training.

The second five classes differ across programs. The soft-skills training goes more in depth over the material related to personal initiative. It focuses on concepts related to perseverance, including creative problem-solving, learning from mistakes, anticipating barri-

ers, dealing with emotional setbacks, and deliberate practice. The notion of perseverance adopted in the intervention is closely related to one of the components of grit: perseverance of effort or tenacity, which is thought to be correlated with business outcomes and innovation (Mooradian et al., 2016; Von Culin et al., 2014). By contrast, in the combined training, the additional five classes cover generic material that is usually included in traditional business-training courses (e.g., ILO's "Improve your Business"). They include content on strategic management, stocking, financial management, record keeping, costing, customer care, and business plan formulation. This second part of the course has a knowledge transfer-oriented methodology based on lectures and individual work.

Both programs have a total duration of 40 hours, and are provided for free to the entrepreneurs. The courses were taught over 10 weeks in four-hour weekly sessions from October to December 2016.[4] The programs were implemented in Kingston (72% of participants) and in three nearby parishes. Comparability between the two programs is possible thanks to their similar implementation. First, they were designed by the same team, who also trained JBDC trainers in delivering them. Second, they were taught by the same teachers in the same facilities (Appendix Table A1). Classes of the two different courses never overlapped in time to avoid communication among participants of different groups. Third, they had the same cost per participant. Finally, participants did not know that there were two different types of courses, and the first five classes of each program were indeed identical.

Throughout the course the research team implemented several methods to monitor quality. First, trainers collected feedback from participants after each class, which was analyzed by an external evaluator and the project coordinator. Second, an evaluator from the research team with expertise in the training material attended a random set of lectures and provided feedback to trainers. Third, evaluation forms were distributed to all participants at the end of the training. The evaluations included questions on their satisfaction with the

[4]For 2 groups with particularly low attendance, involving around 50 participants, additional catch-up lessons were conducted on Saturdays from November 2016 to February 2017.

course and a knowledge test related to the material covered.

3.3 Sampling and Randomization

In order to recruit entrepreneurs for the training, the research team conducted a telemarketing campaign using two sources: 1) JBDC's list of previous clients and 2) a list of contacts who reported interest in being contacted about business training in a previous census of informal entrepreneurs conducted by the Statistical Institute of Jamaica (STATIN) during late 2015 and the first quarter of 2016. In addition, radio advertisements were placed, and the program was promoted through flyers and on the JBDC website. JBDC advertised the program as a new business-training course developed jointly with international experts. They mentioned that participants who completed an application form would be entered in a lottery for a chance to win a free slot at the training.

Overall, around 2,000 entrepreneurs living in Kingston, the capital city of Jamaica, and surrounding parishes expressed interest in the training. Some entrepreneurs completed a baseline survey during the first contact, and some were re-contacted to complete a baseline survey either by phone or online. The survey took around 30 minutes and included questions about demographics, business outcomes, business practices, and Likert scale-type questions to measure soft skills (personal initiative, perseverance, and locus of control).

A total of 1,085 eligible entrepreneurs completed the survey between August and September 2016. The eligibility criteria were: 1) providing a valid contact and being interested in the training, 2) having no more than five employees, and 3) reporting monthly sales and costs no higher than 1 million Jamaican dollars (JMD) (approximately US$ 7,700).[5] These criteria were introduced to reduce heterogeneity in the sample and to improve statistical power. The main reason for dropout at this stage was entrepreneurs' non-response to calls asking them to complete the survey. Only few entrepreneurs with firms that were outliers in terms of size (specifically, those with more than five employees) were also excluded.

[5]Throughout the paper a nominal exchange rate of JMD 130 to US$1 is used. This was approximately constant over the whole period of the study.

Every participant who completed the baseline survey was contacted one more time to confirm their willingness to participate in the lottery for a free slot in the training. This additional step involving the re-confirmation of interest among potential participants before including them in the final sample was done to avoid further reductions in statistical power due to low take-up of the program. Indeed, of the 1,085 eligible entrepreneurs, 50 were no longer interested and 90 resulted in wrong contact details. Therefore, the final sample consists of 945 entrepreneurs.

Entrepreneurs within the final sample were randomly assigned in equal proportions to the two training programs and one control group (i.e., 315 entrepreneurs in each group). The randomization was conducted privately using Stata and was stratified on gender, education (more than secondary education vs. secondary or less), selected location of the course (four strata for different locations) and having at least one employee. Compliance with treatment allocation was almost perfect, with only one participant in the control group attending the training and three participants attending the wrong training. However, as will be detailed within the results, participation was not perfect, as is typically the case in business training programs.

3.4 Sample

Table 1 presents the balance check for the sample using data from the baseline survey.[6] Overall, the randomization worked well, and very few imbalances are observed among the three groups. Indeed, the aggregate orthogonality tests comparing the overall distribution of baseline characteristics between entrepreneurs assigned to either treatment arm and the control group do not reject the null of equality (Panel D of Table 1).

Among the control group, 58% of the business owners are women. The average age is 42 years old (SD 11.92), 46% are married, and 61% have more than secondary education. Most entrepreneurs have parents who also were entrepreneurs (63%). Financial access is good;

[6] 46% of the sample completed the survey online, while the others completed it on the phone. This share is balanced across treatment arms.

most respondents save money at formal institutions (80%), more than half think they can get a bank loan for their business, and only 10% indicate they would not be able to get any business loan. On average, satisfaction with the current occupation is 4.15 (SD 1.89) over 6.

Participants report a relatively high average monthly reservation wage (the minimum wage they would accept to work as an employee) of around JMD 180K (SD 470K) or US$1,400, with a median of JMD 80K, compared to reported average monthly household expenditures of JMD 53K (SD 70K, median JMD 35K). Looking at soft skills, a value of 6 (SD 0.77) out of 7 for both the self-reported personal initiative and perseverance indexes is found, while the average for the locus of control index is 5.9 (SD 0.8) out of 7. Willingness to take risk is high, with a mean of about 8 (SD 1.85) out of 10.

Focusing on firm characteristics, only 30% have at least one paid employee. About half of them are registered with the Companies Office of Jamaica (COJ), the entity in charge of registering and regulating businesses. There is room for improvement in terms of business practices, with the average firm implementing four out of the seven measured business practices (58% of the practices), and only 8% keeping formal business records (with 50% doing so informally). Moreover, 64% of the entrepreneurs report wanting to change something in their business. The sample covers a wide mix of industries; the two main sectors are manufacturing (26%) and retail (19%). It is important to note that only 61% of the businesses had operated continuously the previous year, and 35% of the firms were created during the year before the survey.

Business outcomes were also collected, but the number of missing values is high, perhaps due to the fact that people were uncomfortable with reporting sensitive information by phone or online at the first contact.[7] Monthly sales average JMD 88K (SD 155K, median 30K), while profits average JMD 23K (SD 85K, median 5K). About half of the sample reports introducing some innovation during the previous year (either a new product or a new

[7]Missing values for profits and sales in the last 30 days were 41% and 39%, respectively. Information on profits and sales for a typical month was less likely to be missing: 15% and 13% of missing values, respectively.

process). Finally, a low share of entrepreneurs (2%) report that the growth of their firm is constrained by their domestic partner.

3.5 Instruments

In addition to the baseline survey applied within the recruitment process, the study collected data using several instruments. First, attendance records for each session were filled out by each instructor. Second, course evaluations and a short knowledge test were filled out by participants in the next to last session. Third, two follow-up surveys with treated and control participants were implemented 3 months and 12 months after the completion of the programs, respectively.

The training took place between October and December 2016. In February 2017, JBDC re-contacted all participants in the baseline sample to update their contact details. Then, in order to conduct a first follow-up survey, an international survey firm with an office in Kingston was hired. This survey aimed to confirm the location of entrepreneurs' businesses and obtain measures of business outcomes to capture short-term effects. It included questions on sales, profits, business practices, and soft skills. The survey started in March 2017, three months after the training was completed.

The overall response rate for the three-month follow-up was 73%. There were slightly higher response rates for the two treatment arms (75% in both) than the control group (69%), a difference that is marginally significant at the 10% level. The main reasons for attrition were refusals (14% of the total sample) and not finding the respondent (13%). The largest difference between the control and treatment groups came from the share refusing to answer: it was 17% in the control group and 12-13% in the treatment arms. The main reasons given by participants for refusal were being busy (46%) and not being interested in the survey (36%). Indeed, the most important problem the firm faced when conducting the survey was a repeated re-scheduling of interviews confirmed by respondents, even by those who confirmed the morning of the same day, which would be eventually labelled as refusal after several failed attempts.

For the second follow-up survey, a quality control firm and a field supervisor were hired to monitor the survey firm in the data collection process. The survey started in January 2018, about 12 months after the ending of the training. The overall response rate was lower than the three-month follow-up and stood at 59%. In this case, attrition rates were similar across treatment arms. Response rates were 59% in the control group, 62% in the soft-skills training group, and 58% in the combined training group. Differences between response rates by treatment arm are not statistically significant.

As highlighted above, the diffusion of lottery scams in Jamaica can explain why participants are reluctant to coordinate face-to-face interviews even when offered relatively large monetary incentives.[8] On top of this, a concerning procrastinating behavior was observed again. Participants would repeatedly postpone the interview at the last minute, not refusing to be surveyed, but just proposing a change in the date of the interview. The research team reacted to this behavior by adding an additional reward for participating in the survey: a ticket for a lottery with a laptop as the main prize to be drawn among those who completed the interview within three days of the scheduled day. This reduced slightly, but not significantly, the number of participants who rescheduled. Overall, the observed attrition rates are comparable to those in the main source of labor statistics in Jamaica: the Labor Force Survey. For example, only 63% of those in the panel component of the 2013 sample were found and interviewed in the 2014 survey.

The second follow-up survey included a comprehensive questionnaire with modules on business inputs and outcomes (investments, assets, costs, sales, profits, innovation, etc.), demographics and household characteristics of the entrepreneur, and detailed psychological modules to measure a range of soft skills (based on Campos et al., 2017). It also included a module asking about the adoption of a detailed list of recommended business practices (the full list in McKenzie and Woodruff, 2017). Finally, in addition to this questionnaire, a novel instrument, based on a game with real monetary incentives designed to measure grit by Alan et al. (2019) was implemented during the interview. The details of this game are

[8]The participation fee was JMD 3,000, which is equivalent to three days of median business sales.

provided when discussing the results.

3.6 Statistical Analysis

Thanks to the random allocation of the treatments, simple linear regressions of outcomes on treatment dummies provide identification of treatment effects. To improve statistical power, the study conducts ANCOVA regressions, wherever baseline values of the outcomes are available and controls for randomization strata.[9] Intention-to-treat effects are reported considering entrepreneurs originally assigned to training regardless actual participation in the training. The following regression model is estimated:

$$Y_{it} = \alpha + \beta_1 T1_i + \beta_2 T2_i + \delta X_{i0} + \beta_0 Y_{i0} + \epsilon_{it}$$

where Y_{it} is the outcome for individual i at the first (after 3 months) or second follow-up (after 12 months). T_i is a binary indicator of the assignment status for each individual, Y_{i0} is the value of the outcome at baseline, and X_{i0} is a vector of control variables measured at baseline. The model also includes fixed effects for randomization strata, and month of the survey.[10] Heteroskedasticity-robust standard errors are computed in all of the analyses.

Multiple hypothesis testing is accounted for by aggregating variables into pre-defined families of outcomes and studying the effect of treatment on an index for each family.[11] When studying individual components of the indexes, the testing procedure described in List et al. (2016) is implemented, which asymptotically controls the familywise error rate.

[9] Online Appendix B reports the details on how each outcome variable was constructed.

[10] The vector of baseline controls always include: a dummy variable for being married and for keeping formal accounts, a persistence index and risk taking. Results are robust to not including controls or fixed effects for month of the survey.

[11] The definition of the indexes follows Campos et al. (2017). See Online Appendix B for more details.

4 Results

The objective of the paper is to test for the causal effects of the two training programs on business outcomes. These effects are presented in Section 4.2. A precondition for these effects to manifest involves entrepreneurs' attendance to the training programs and retention of the material taught. Section 4.1 first shows evidence on these initial outputs. Sections 4.3 and 4.4 explore the channels by which the effects on business outcomes discussed in Section 4.2 could have been generated. Section 4.3 focuses on intermediate mechanisms, such as business practices, personal initiative, innovation, investments, and access to finance. Section 4.4 analyzes potential changes in soft skills, using both self-reported and incentivized behavioral measures. Finally, Section 4.5 studies heterogeneity by gender in the main effects.

4.1 Training Attendance and Retention of Material Taught

4.1.1 Training Attendance

As illustrated in Appendix Table A1, around 80% of participants in each of the two training arms attended at least one class of the course, and 60% attended at least five classes, the minimum required to obtain a diploma. These numbers are in line with participation rates around the world reported by McKenzie and Woodruff (2014). Average attendance for those who attended at least one class was 6.9 out of 10 classes.[12] Attendance to the second part of the course, when the two courses differed, was 3.2 out of five classes conditional on attending at least one class, not statistically significantly different across treatment arms.

Appendix Table A2 studies the characteristics correlated with attending the course. We regress a binary indicator for attending at least one class on observable characteristics. Most covariates are not statistically significant, implying that it is not easy to predict ex-ante who will attend the training. Older entrepreneurs, who have set a goal for their business and who have a registered business were more likely to attend the course, although only age

[12]There are no statistically significant differences between the two treatment arms for any measure of attendance.

is statistically significant at the 5% level. Also, an index of personal initiative is (weakly) negatively correlated with attending the course, perhaps because the recruiting campaign mentioned that it was designed to boost personal initiative. Conditional on attending at least one class, determinants of (the logarithm of) classes attended do not show clear patterns. Age is positively correlated with attendance, while locus of control and not being able to get bank loans for the business are negatively correlated with attendance. As explained before, the type of training is not correlated with showing up to the course, the total number of classes attended, or the classes attended in the second part of the course.

4.1.2 Retention of Material Taught

During class 9 out of 10 of the training, a short knowledge test and a course satisfaction questionnaire were distributed to participants.[13] The knowledge test included one question related to the material on personal initiative (covered in both courses), two questions related to the material on perseverance (covered only in the soft-skills training) and two questions on business practices (covered only in the combined training). The results shown in Panel B of Table 2 are consistent with participants retaining the material taught in their assigned course.[14]

As Panel A of Table 2 shows, participants reported being very satisfied with the course. A satisfaction index based on all aspects of the course gives an average value of 6.6 over 7 for both training courses.[15] They also report planning to use the skills they learned in the course and being willing to recommend the course to their peers. Finally, average

[13] 97% of participants who attended the ninth class of the course completed them. Participants who attended that class represented 54% of those assigned to treatment, and 67% of those who attended at least one class. Results in this subsection should not be considered as representative of the whole sample since those who dropped out before the ninth class might have had worse evaluations of the course and lower retention of the material.

[14] While in both treatment arms 79% of participants correctly answered the question on personal initiative, the share of correct answers clearly differed across treatments for the other questions. For the two questions on business practices, correct answers were given by 60% and 24% of entrepreneurs in the soft-skills training group, respectively, while these shares were 79% and 54% in the combined training group. For the questions on perseverance, correct answers were given by 61% and 59% of entrepreneurs in the soft-skills training group, respectively, while these shares were 21% and 54% for entrepreneurs in the combined training group.

[15] Participants were asked for their satisfaction with the course regarding content, delivery, length, difficulty, exercises, and relevance.

reported willingness to pay for a similar course is JMD 43K (median 30K), this amount was not differential across training arms, and it is bit higher than the actual cost per person of providing the course (around 28K).[16]

4.2 Impact on Business Outcomes

This section presents the effects of being invited to the training on the following business outcomes: survival, sales, and profits. Table 3 reports the intention-to-treat impacts of being assigned to each training arm by survey wave (after 3 and 12 months, respectively).

In terms of business survival, no statistically significant impacts are observed.[17] However, although imprecisely estimated, a positive coefficient for the soft-skills training in the three-month follow-up is observed, which is significantly different from that of the combined training. This could be in line with the perseverance focus of the soft-skills training, but the effect vanishes in the second follow-up.

The extensive margin of business profitability is examined by computing an indicator variable which takes the value of 1 if the entrepreneur reports positive profits instead of null or negative profits. An effect of 11 percentage points is observed over a control group mean of 47% on the probability of reporting positive profits for the soft-skills training after three months (statistically significant at the 5% level). The effect for the combined training is smaller and not statistically significant. Twelve months after the training, coefficients for both treatments are not statistically significant.

To measure the intensive margin effect of training on business outcomes, the sales and profits index suggested by Campos et al. (2017) is computed. This index is defined as the mean of standardized z-scores of diverse profits and sales measures detailed in Online

[16] Maffioli et al. (2020) conduct pricing experiments for a similar program in Jamaica and find that while the majority of entrepreneurs interested in the training are willing to pay a positive price for it, the share that pay the full cost of the course is less than 10 percent.

[17] There is an increase in the mean of survival in the control group between the 3-month and the twelve-month follow-up surveys. This increase persists if the sample is restricted to those who answered both follow-up surveys, which means it is not due to differential selection into answering each survey. The number of observations is larger for business survival than for the other outcomes because the survey team was able to ask information about the existence of the business of some entrepreneurs who refused to complete the survey.

Appendix B. Positive and statistically significant effects of the soft-skills training are observed after three months and vanish after twelve months. The effect after three months is of 0.28 standard deviations for the soft-skills training and 0.13 standard deviations for the combined training.[18] The effects are not statistically distinguishable across treatments, but only that of the soft-skills training is statistically significantly different from zero. Twelve months after the treatment, the estimated effects are negative and not statistically significant for any training.[19]

Overall, only the soft-skills training generated significant impacts on business outcomes in the short run. After 12 months, however, these effects completely vanish.

Since there were relatively large attrition rates in the follow-up surveys, several robustness tests to differential attrition were conducted.[20] Tables OA1-OA3 in the Online Appendix present attrition bounds using three different procedures (Molina Millan and Macours, 2017), as well as results re-weighted with inverse probability weights. The conclusion of these robustness exercises is that the null effect for both training programs after twelve months is robust to different assumptions about differential attrition. The statistically significant effect for the intensive soft-skills training in the short run is moderately robust to assumptions about attrition, but it loses significance under more extreme assumptions (see Online Appendix for details).

[18] Appendix Tables A3 and A4 present the results for each component of the sales and profits index for each wave of data collection, respectively.

[19] Online Appendix Figure OA1 presents quantile treatment effects for the sales and profits index. Short-run effects for the soft-skills training are positive at almost all quantiles, except at the tails. For the combined training, effects are smaller in magnitude, and not statistically significant at any quantile. In the twelve-month follow-up, treatment effects for both courses are negative at all quantiles, although not statistically different from zero.

[20] Appendix Table A5 shows that attrition in the three-month follow-up survey was 31% in the control group and 6 percentage points lower in the two treatment arms. The characteristics of attriters were not statistically different between the soft-skills training group and the control group, but they were different for the combined training group. In the twelve-month follow-up survey attrition was 41%, both this rate and the characteristics of attriters were not statistically different across treatment arms.

4.3 Impact on Intermediate Outcomes

To understand how the effects of the training on short-run outcomes might have arisen, this section assesses a series of potential mechanisms. Five mechanisms are considered: adoption of recommended business practices, improvements in personal initiative, investment in capital and labor inputs, innovation, and financial access (whether a loan was requested).

Tables 4 and 5 present results for the three-month and the twelve-month follow-up surveys, respectively. Three months after the training, there are significant treatment effects on the share of recommended business practices that firms adopted and on the introduction of innovations. Both effects are statistically significant only for the soft-skills training. However, 12 months after the training all effects disappear.

The short-run effect on adoption of business practices for the soft-skills training is of 9 percentage points over a mean of 46% in the control group. This effect is statistically significant at the 1% level and statistically larger (p-value=0.066) than that for the combined training (a 4 percentage point impact that is not statistically significant). Moreover, this is the only coefficient in the table that remains statistically significant after correcting for multiple hypotheses testing. This result seems surprising, since the combined training was that focusing on business practices, but it is in line with what Campos et al. (2017) found for Togo. Perhaps encouraging a change in the entrepreneurial mindset is more effective at fostering the adoption of business practices than a plain discussion of which practices should be adopted. The soft-skills training might have achieved a stronger change in entrepreneurial mindset thanks to the extra five classes focused on perseverance.

Online Appendix Table OA4 presents treatment effects for each of the seven business practices that were recorded in the three-month follow-up survey. The soft-skills training significantly affected four of them: asking customers about potential new products, negotiating prices with providers, recording transactions, and setting a sales target. Significantly stronger effects are observed for the soft-skills training than the combined training on the

recording of transactions and on setting a sales target.[21] In the twelve-month follow-up survey, a comprehensive list of 25 business practices studied by McKenzie and Woodruff (2017) were included. These were grouped into marketing, accounting, operations management, information seeking, and human resources management. Table A6 shows that there is no statistically significant effect for any of these groups. The effects are precisely estimated; thus, we can discard relevant positive effects.[22]

Both training programs included five classes focused on fostering personal initiative. However, no statistically significant effects are observed on a personal initiative index (column 2 of Tables 4 and 5). One explanation is that the measure of personal initiative does not exhibit enough variation to detect effects in the sample. Indeed, the average value for the seven questions included in the index, each of them with values from 1 to 7, was 6 out of 7 (SD 0.77) at baseline. Nevertheless, the soft-skills training does have larger effects on personal initiative than the combined training.

The effects on the capital and labor inputs index are not statistically different from zero at any round (column 3 of Tables 4 and 5). This index includes three questions about employees and two on having made large investments and the amount of the investment. Online Appendix Tables OA6 and OA7 show the impact on the components of the index. No effects are found on either the number of part-time or full-time employees. A significant effect of 9 percentage points (over a control mean of 16%) is observed on the probability of having made a large investment in the last three months. This effect is observed for both treatments, only in the short run, and survives to multiple hypotheses correction for the soft-skills training. There are no effects on the amount of the investment, indicating that

[21] The fact that the recording of transactions was discussed in the combined training, but not in the soft-skills training, indicates that it is unlikely that demand effects could explain these results.

[22] Online Appendix Table OA5 presents results using the same set of seven business practices as in the first follow-up survey, which are a subset of the 25 business practices used in Table A6. Statistically significant effects on introducing a special offer and negotiating prices are observed for the soft-skills training. The practice of recording all transactions seems to have been discontinued in the soft-skills group, while for the other practices the control group catches up with the adoption levels in the treatment arms. Similar results are obtained when restricting the sample to entrepreneurs who answered both follow-up surveys, which indicates that results are not due to composition effects.

all the effects are coming from the extensive margin.[23]

An important effect (33% of the control mean) is also observed on introducing new products or production techniques in the short run, but not 12 months after the training (column 3 of Tables 4 and 5). The short-term effect is only observed for the soft-skills training, and it does not survive multiple hypotheses correction. In the twelve-month follow-up survey, we included more detailed questions about the characteristics of the innovation (e.g., whether it was new to the region, inspired in own ideas of the entrepreneurs, etc.), but no effects were detected on any of these outcomes.

The twelve-month follow-up survey also measured other intermediate outcomes that could be potentially affected by the treatment. These outcomes include a decision-making index, registration of the business, and a networking index. Online Appendix Table OA8 shows no effects of the training in any of these outcomes.

To sum up, the main potential mechanism found that could explain the short-term effects of the soft-skills training on business outcomes is an increased adoption of recommended business practices. Consistent with the effects on business outcomes, this increase is observed only in the short run and for the soft-skills training. To provide further evidence for this conclusion, a mediation analysis was conducted.[24] Appendix Table A7 presents the results of the mediation analysis using the main intermediate outcomes as the five mediators, and the sales and profits index as the main outcome. The analysis finds that the only mediator for which the null hypothesis of a zero indirect effect can be rejected at the 5% level is the business practices index. This is indicated by a confidence interval, reported at the bottom of the table, with positive lower bound for the indirect effect of training on the outcome.[25]

[23] In the twelve-month follow-up a longer list of variables was included: business assets, inventory stock, number of hours the business operates, number of hours the entrepreneur works. No statistically significant effects were observed for any of them. Results are available upon request.

[24] For a description of mediation analysis see Imai et al. (2011). We follow Campos et al. (2017) in the implementation.

[25] Confidence intervals using Monte Carlo simulations were computed. Both the direct effects presented in the table and the confidence intervals for the indirect or mediation effects have causal interpretation only under a strong sequential ignorability assumption.

4.4 Impact on Soft Skills

One of the key pending questions in the literature is whether soft skills can actually be changed for adults. This section reports the effects of the training programs on both self-reported and behavioral measures of soft skills.

Self-Reported Measures of Soft Skills

The twelve-month follow-up survey included modules to measure different dimensions of soft skills using Likert-type self-reported questions. Table 6 presents the effect of the training programs on six psychological compounds that were targeted by at least one of the two training programs.[26] Three of the outcomes studied were similarly targeted by both programs; these are the personal initiative index, and two sub-components of personal initiative: future orientation, and overcoming business-related barriers.[27] The other three outcomes were taught with higher intensity in the soft-skills training; these include measures of perseverance (two indexes) and grit.

Results show positive effects of the soft-skills training on all six outcomes. Indeed, the soft-skills training has a significant effect on the standardized summary index that combines all six measures of soft skills, an effect that is statistically different from that of the combined training. The analysis of the individual coefficients indicate that the soft-skills training has a statistically significant effect on only one of the perseverance indexes, which was constructed following the topics taught in the course.[28] Furthermore, there is a statistically significant difference when comparing the personal initiative index of the soft-skills

[26] In addition, Online Appendix Table OA9 shows that the training programs did not significantly affect any of the standard big 5 measures of personality traits. This result is not surprising given that these measures are expected to be relatively stable over the adult life-cycle (Cobb-Clark and Schurer, 2002). Some effects are seen on neuroticism and agreeableness, but they are not robust to multiple hypotheses correction.

[27] The barriers index is measured with a situational interview, which asks entrepreneurs to identify possible solutions to solve two hypothetical business problems. See Glaub et al. (2014) for a detailed description of this instrument.

[28] Perseverance (APS) is a scale constructed by the developers of the training based on some of the action principles that were used in the modules on perseverance. Action principles are "rules of thumb" that are based on scientific evidence (Glaub et al., 2014). Because action principles are introduced in such a way that entrepreneurs can apply them almost immediately, the perseverance (APS) scale constitutes a more behavioral measure than the other perseverance index and the grit scale. See Online Appendix B for more details.

training group with that of the combined training group.

Behavioral Measures of Soft Skills

The twelve-month follow-up interview implemented two incentivized real effort games to measure perseverance and personal initiative without relying on participants self-reports. The first game is based on a task used to measure grit by Alan et al. (2019). The game required participants to choose between an easy and a difficult task, with the difficult task paying higher monetary rewards. The task was repeated for several rounds. At each round, participants were given the option to choose between playing the easy or the difficult task. The second game was similar to the first one, but played in only one round, and participants had to choose whether or not they wanted to get assistance to solve the task. Participants were informed that only one round of one of the two games would count for the monetary reward, and that this round would be randomly selected at the end of the survey. Respondents were paid the reward if they gave the correct answer for the round that was randomly chosen.

The implemented version of the Alan et al. (2019)'s game, adapted to be more relevant for adults, required participants to count the number of triangles that appeared in a figure. In the first game, they played six rounds, and one round was selected for payment. In the first two rounds, participants had to solve first an easy and then a difficult figure. Solving correctly the easy (difficult) figure had a reward of JMD 500 (JMD 2,000) if that round was randomly selected.[29] Before playing the first round, participants were given the option to choose the type of task they wanted to solve in round three, and once round three arrived they were allowed to change their choice. From round three to round six, participants chose between playing the easy or the difficult task. After each round was completed, the interviewer informed participants whether the question was solved correctly or not. The task in round two was designed to be very difficult, such that very few participants could

[29]The compensation for participating in the survey was JMD 3,000. Rewards were paid on top of that.

solve it.[30] This allowed to check whether treated participants were more likely to choose the difficult task even after failing, which is the notion of perseverance that the training aimed at.

Column 5 of Table 7 shows that the share choosing the difficult task in all rounds (from round 3 to 6) is larger for the soft-skills training than for the control and combined training groups, but the effect is not statistically significant. It represents an increase of 8 percentage points over a control mean of 30%. This result is very similar to that found by Alan et al. (2019).[31] Moreover, there is also a statistically significant impact of the soft-skills training on the number of rounds in which participants choose the difficult task and on choosing the difficult task for a potential next survey round in six months.[32] Finally, when combining all outcomes in the table into a standardized summary index, an effect of the soft-skills training of 0.21sd is observed, which is statistically significant at the 10% level.

The second incentivized task was similar to the first one. Participants had to count the number of triangles in a figure and to also draw each triangle. They were given two options: 1) choosing to solve the task by themselves and getting JMD 2,000 if they succeeded, or 2) getting help (being told the number of triangles) and getting JMD 1,000 if they succeeded. This was designed to be a behavioral measure of personal initiative. Online Appendix Table OA10 shows that none of the training programs had any effect on these choices. In the control group, 52% of participants chose not to get assistance before knowing the difficulty of the task, and 67% did so after seeing the difficulty of the task (a relatively easy figure was provided). The value is slightly larger, but not statistically different, for the treatment groups.

In conclusion, the first game gives some evidence that the soft-skills training actually generated behavioral changes in perseverance, which were still observed 12 months after

[30] In fact, only one participant solved it correctly. The easy figure provided in round 1 was solved correctly by 92% of participants, not differentially by treatment arm. For examples of one easy and one difficult figure see Online Appendix Figure OA2. To ascertain the level of difficulty for a number of figures, a pilot study was conducted with 20 Jamaican entrepreneurs before the implementation of the game.

[31] In their sample A of children, they find an effect of 8.5 percentage points over a control mean of 25%.

[32] At the time of the twelve-month follow-up, there were plans to conduct another survey. However, due to the large costs incurred in the twelve-month follow-up, this ended up not being possible.

the training.[33] This is in line with the significant effects for the perseverance index captured by the Action Principle Scale presented above. On the other hand, the second game provides no evidence for changes in initiative, in line with the null effects on the personal initiative index presented above.[34]

Another piece of evidence that the training did have effects after 12 months is provided in Online Appendix Table OA11. In the twelve-month follow-up survey, entrepreneurs were asked if they had set a goal for their business and to describe that goal. In both training courses, participants learned how to set SMART (specific, measurable, ambitious, realistic, and time-bound) goals that included personal initiative components. No effects are found on the probability of setting a goal, but statistically significant effects of both training programs are detected on the degree to which goals comply with the principles of SMART personal initiative goal setting.[35] This indicates that a fraction of the entrepreneurs incorporated what they learned in the training to set their business goals.

In-depth interviews with six participants were conducted 12 months after the start of the second follow-up survey. The goal of these interviews was to better understand how participants made use of the content and what prevented them from implementing it if they did not. Besides goal setting, dealing with financial barriers turned out to be a recurring theme, especially among entrepreneurs who attended the soft-skills training. Participants who attended the combined training were also more likely to recall content from the personal initiative training, particularly on being self-starting and thinking outside the box.

[33]The statistical significance of these results does not survive to correcting for the fact that hypotheses are being tested for seven outcomes and two treatments, but the effect on the overall index is statistically significant at the 10% level.

[34]It is possible, however, that the first game was better at capturing the relevant soft skill than the second game. Some positive and statistically significant correlations were found between the measures of perseverance in the first game and working hours and investment decisions. Nevertheless, no correlations were found between the outcome of the second game and the personal initiative index or other business outcomes.

[35]Two independent graders rated the goals.The score assigned was: 0 if the goal did not follow any of the principles of SMART goal-setting, 1 if it was compliant with some of the principles, 2 if it was compliant with all of the principles but did not include any element of personal initiative, and 3 if it was compliant with all of the principles and included elements of personal initiative. Inter-rater reliability had an ICC of 0.79. The goal quality variable was computed as an average of the two independent ratings. A score of 0 was given for those who did not report a goal or did not have a business.

4.5 Heterogeneity of Treatment Effects by Gender

Table 8 introduces the interaction between the treatment dummies and an indicator for being a woman to study heterogeneity of effects on business outcomes in the three-month follow-up. A clear pattern is observed: all positive effects on business outcomes are driven by men, with no effects for women. Indeed, statistically significant and large effects of the soft-skills training on having positive profits and on the sales and profits index are only observed for men. Effects of the combined training on profits are also larger for men.[36] The null hypothesis that the effects of the two training programs are the same for men cannot be rejected, but they are statistically different from the effects for women. In the twelve-month follow-up (Online Appendix Table OA12), negative coefficients for the interaction between treatment and a female dummy are reported, and no significant positive effects for either gender are found.

Consistent with the effects on business outcomes being driven by men, most of the effects on intermediate outcomes are also driven by men. Online Appendix Table OA13 shows that three months after the training, there are effects of the soft-skills training on innovation for men, but not for women. All interaction coefficients with a female dummy are negative, except for that on business practices.[37] After 12 months, no effects on most intermediate outcomes are found, except for an effect for men on business loans requested. This effect leaves open the option that men might be investing more in their business (see Online Appendix Table OA14), which is not yet reflected in other outcomes.

The hypothesis that the main mechanism for the short-run average treatment effect on profits is the change in business practices is confirmed by mediation analysis. When executing this analysis for the samples of men and women separately, it is found again that

[36] Bernhardt et al. (2019) find that when they look at profits from all businesses of the household instead of focusing on those of women they see significant effects of business grants, suggesting that the same might be observed for business training. This study did not collect data on all businesses of the household, but the twelve-month follow-up survey asked about profits from all other businesses in which the respondent was involved. If profits from all businesses are included, results are similar to those presented in the text for profits from the main business.

[37] Even when each individual practice is evaluated, no significant differences in the treatment effect for men and women after three months or after twelve months are observed.

the main indirect effect of training is that on business practices (see Online Appendix Tables OA15 and OA16). This means that the soft-skills training fosters the adoption of some of the recommended business practices for both men and women, but this translates into short-run improvements in business outcomes only for men.

Treatment effects of the soft-skills training on both the soft-skills index and the difficult-task index are half the size for women than for men (results available upon request). The impact on the soft-skills index is statistically significant only for men, although the difference across genders is not statistically significant.

Finally, Online Appendix Table OA17 shows that baseline characteristics for female and male entrepreneurs are quite similar in several dimensions. They are comparable in terms of education, age, access to the internet, having parents who were entrepreneurs, access to finance, and soft skills. They differ, however, in that male entrepreneurs are more likely to be married and are more willing to take risks. In terms of their business, men-headed businesses are more likely to have employees and to be registered; they have larger sales volumes and are more likely to introduce innovations, but the difference in average profits is not significant, and they do not have a higher adoption of recommended business practices.

Overall, the short-run effects of the soft-skills training are driven by men, while women do not obtain better business outcomes due to the training. While short-run changes in business practices are also observed for women, persistent effects on soft skills are only seen for men.

5 Discussion

The results of this study differ from those of the previous literature in three key aspects: 1) the average effects of the soft-skills training are only observed in the short run, 2) these short-run effects are only observed for men, and 3) there are no effects of the training

combining hard and soft skills even in the short run. This section discusses these three points and closes with practical implications for the design of future programs.

Lack of Persistent Effects of Soft-Skills Training

So far, the literature evaluating the effects of soft-skills training focused on personal initiative notes two results: large and persistent effects in Togo (Campos et al., 2017) and lack of any effects in Ethiopia (Alibhai et al., 2019). The study in Ethiopia attributes the lack of effects to the low-quality of the teachers, while this did not seem to be a problem in Jamaica. How, then, can the lack of persistence in the effects in Jamaica be explained?

One potential explanation is that owners of small firms in the developing world face an ever evolving and idiosyncratic set of problems. Therefore, entrepreneurs might need personalized follow-up interventions to help them implement and sustain the changes recommended in soft-skills training.[38] The persistent effects found by the study in Togo may have been due to the fact that the intervention complemented soft-skills training with post-training individual business visits for the next four months, while no follow-up intervention was offered in Jamaica. Indeed, follow-up visits to entrepreneurs who participated in the training could have been used as an instrument to boost motivation, foster adoption of recommended practices, and transfer the knowledge required to implement the ideas developed in the training. In-depth interviews with participants in Jamaica confirmed that entrepreneurs faced problems in sustaining their efforts.

An alternative explanation is that the cultural, institutional, and contextual characteristics that differentiate the study in Jamaica from that in Togo may have interacted with the treatment. This could explain why the positive effects of personal initiative training on business outcomes persisted over two years for the sample in Togo but not for that in Jamaica.[39] Additional points of evidence are needed to settle this question.

[38] In a recent review of the literature, Quinn and Woodruff (2019) make a similar argument to explain why business training focused on generic skills does not help many firms.

[39] For example, the poverty rate in Togo stood at 55% in 2015, compared to 21% in Jamaica for the same year.

Lack of Effects of Soft-Skills Training for Women

The study in Togo finds effects of soft-skills training that are large and positive for both men and women, whereas the positive short-run effects in Jamaica are completely driven by men. The follow-up visits could have played an important role motivating women to implement recommended changes in Togo.[40] Among the four in-depth interviews conducted with trained female entrepreneurs in Jamaica, three of them mentioned lack of motivation or confidence to implement the changes recommended in the training.

Even though this study does not obtain effects on business outcomes for women, it does find an impact for women on adoption of recommended business practices in the short run. Moreover, regression analysis using control group observations indicates that the endogenous effect of business practices on the sales and profits index is not smaller for women than for men. One hypothesis of why the effect on business practices does not translate into business outcomes for women is that there is a moderating role of soft skills. Indeed, the stronger change in soft skills observed for men could have complemented the increase in business practices to generate larger effects on business outcomes. In line with this argument, Campos et al. (2017) find a stronger effect of personal initiative training than traditional training on business outcomes, even when the effect on business practices was the same for both training programs.

Finally, the differences in results between Togo and Jamaica could be due to the characteristics of the samples studied. A much larger share of the sample of Togolese women is married than in the sample of Jamaican women (63% vs. 39%). They are also much less likely to be educated (40% did not earn a diploma, while in the Jamaican sample only 2% of women did not earn one). Both factors could explain the different results if the personal initiative training was more effective at relaxing constraints for married, uneducated women. Campos et al. (2018) find no evidence of heterogeneity in treatment effects among

[40] Valdivia (2015) finds that general business training combined with out-of-class technical assistance has stronger effects on female business outcomes than general business training alone after seven months, although the effects for both treatments converge after two years. Lafortune et al. (2018) show that a one-time presentation of a successful business peer can boost the effects of general training.

women by educational attainment. However, it is possible that married women face additional intra-household constraints that could be relaxed with personal initiative training. In the Jamaican sample, women do not report that their domestic partner is a factor restricting the growth of their business, which might be linked to the fact that 61% of female entrepreneurs in the sample are single or that the Jamaican context is more favorable to women working on their own initiative.

Lack of Effects of Training Combining Soft and Hard Skills

The finding of lack of effects at any horizon of the combined training implies that crowd-out effects may be stronger than crowd-in effects when combining soft skills and traditional business training programs focused on teaching hard skills. It is possible that only five classes on personal initiative are not enough, and it is necessary to teach at least 10 classes to achieve some impact.

Practical Implications for the Design of Soft-Skills Training

In terms of practical implications, the study raises two main questions: First, how do entrepreneurship training programs need to be designed to generate long-term effects? Second, which features need to be added to ensure that female entrepreneurs benefit from soft-skills training in the short run as well?

As mentioned above, this study did not include any follow-up coaching or mentoring. At this moment, there is not enough evidence to say whether such interventions are crucial. In Togo, follow-up visits were added to both traditional training and personal initiative training, while only personal initiative training had a persistent impact (Campos et al., 2017). This implies that follow-up interventions may interact with the content of the training. Moreover, a few studies in the psychological transfer-of-training literature discuss post-training interventions, but point to the need for further research (Ford et al., 2018). One option for the design of future training programs is to offer booster interventions

conducted online or by phone, which can help sustain motivation and foster adoption of practices recommended in the training at a low cost.

Post-training interventions may be of particular importance to also achieve short-run effects of personal initiative training for women. Sustaining personal initiative requires a high degree of effort (Mensmann and Frese, 2019), which might be comparatively more taxing for women given that they usually face additional demands for their time from family members (Arraiz et al., 2019). Future training programs can facilitate the transfer-of-training by involving other training participants (female friends or the husband) as accountability partners to help them implement their plans. Indeed, there is evidence that inviting a female friend to attend business training can make a significant difference in the impact of the training for female entrepreneurs (Field et al., 2016). Understanding the role of husbands in supporting or constraining female entrepreneurial activities may also be critical. It would be promising to involve women's husbands in the training to turn them into facilitators of the women's businesses. Additional research is needed to determine whether this and other variations of personal initiative training can deliver stronger effects.

6 Conclusion

The main findings of this paper indicate that the intensive soft-skills training was effective at improving business outcomes (i.e., sales and profits), but only in the short term and among men. In terms of monthly profits, the effect after three months was of the order of US$107 on unwinsorized profits and US$75 on winsorized profits (columns 1 and 2, Panel B of Appendix Table A3). The actual cost of the training per participant invited to the training was around US$212.[41] Then, even if treatment effects only lasted three months, the program would just pass a cost-benefit analysis.[42]

[41]The total cost of offering each training program to 315 participants was US$66,737. This amount can be decomposed into the following components: teacher stipend (37%), food and drinks for participants (24%), venue rental (13%), training coordination (7%), recruitment and mobilization of participants (6%), and teaching material (5%).

[42]Taken at face value, the US$75 effect on winsorized profits after three months, if constant over those three months, would imply a return to investment (ROI) of 6% (75*3/212-1). If the effect had lasted six months, then the ROI would have been 112%. However, given the lack of robust statistical significance on the winsorized

The positive effects of the intensive soft-skills training were mainly mediated by improved business practices. Given that this training did not teach about direct implementation of business practices, the study's short-run results are consistent with the view that entrepreneurs who develop a mindset with strong personal initiative and perseverance are more inclined to try to differentiate themselves by introducing changes in their business. By contrast, no effects were found for the combined training, which added five classes focused on recommending some generic practices that entrepreneurs should adopt. An interesting research question that follows from this study is whether the combined training led to a dilution of clear messages and, as a result of this, participants were less motivated to follow through on intentions developed during the training.

One year after the training implementation, the effects on business outcomes entirely vanished. However, there are persistent effects of the soft-skills training on some of the skills targeted by the program (i.e., perseverance and overcoming barriers), which are confirmed with an incentivized game measuring perseverance after experiencing setbacks. Nevertheless, these effects on soft skills do not translate into business outcomes, at least after one year.

A limitation of the study is the relatively high level of survey attrition, which is normal in the context of entrepreneurs in Jamaica. The main results are robust to different assumptions about the entrepreneurs who answered the follow-up surveys. However, attrition reduced the sample size and limited statistical power to detect smaller treatment effects and to conduct further heterogeneity analysis. Additional research working in similar contexts should use large sample sizes, when possible, to deal with these issues.

The results presented in this study support the possibility that soft-skills training alone might not be sufficient to generate persistent effects on business outcomes. Therefore, an open question for future research is to compare the effects of personal initiative training for a given setting with and without personalized follow-up interventions. Furthermore, future studies should find cheaper, more scalable, personalized interventions, such as men-

profits variable, this calculation should be interpreted with caution.

torship conducted online or by phone that can be used to boost motivation and to foster adoption of practices recommended in the training.

Finally, soft-skills training could be combined with other interventions that help overcome gender constraints. This could be additional training focusing on gender barriers (e.g., intra-household division of tasks, networking, socio-cultural norms), including the husband in the training, and adapting the training logistics by making it more amenable to women's needs (e.g., by offering childcare facilities).

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7 Tables

Table 1: Baseline Balance

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Control group (C)		Soft-skills training (T1)		Combined training (T2)		T1=C	T2=C	T1=T2=C
	Mean	SD	Mean	SD	Mean	SD	P-val.	P-val.	P-val.
Panel A. Stratification variables									
Female	0.58	0.49	0.59	0.49	0.58	0.49	0.87	1.00	0.98
Has employees	0.30	0.46	0.30	0.46	0.30	0.46	0.86	0.91	0.98
Education: more than secondary	0.61	0.49	0.61	0.49	0.60	0.49	0.87	0.81	0.97
Course in Kingston	0.72	0.45	0.72	0.45	0.72	0.45	1.00	1.00	1.00
Course in Clarendon	0.12	0.32	0.12	0.33	0.12	0.33	0.90	0.90	0.99
Course in St. Thomas	0.07	0.25	0.07	0.26	0.07	0.25	0.87	1.00	0.98
Panel B. Owner characteristics									
Age	42.43	11.92	41.29	10.78	42.20	11.83	0.22	0.81	0.42
Black	0.90	0.30	0.92	0.28	0.91	0.28	0.39	0.53	0.68
Married	0.46	0.50	0.39	0.49	0.44	0.50	0.06	0.62	0.14
N. of children	1.79	1.74	1.76	1.80	1.93	2.00	0.86	0.34	0.50
Has internet access	0.85	0.36	0.86	0.35	0.86	0.35	0.66	0.71	0.90
Parents entrepreneurs	0.63	0.48	0.60	0.49	0.60	0.49	0.49	0.53	0.75
Saves in bank account	0.80	0.40	0.77	0.42	0.82	0.39	0.38	0.69	0.43
Can get bank loan for business	0.54	0.50	0.52	0.50	0.55	0.50	0.58	0.75	0.67
Cannot get any loans for business	0.10	0.30	0.12	0.32	0.08	0.28	0.52	0.41	0.34
Set a goal for business	0.84	0.36	0.85	0.36	0.84	0.37	0.77	0.81	0.87
Wants to change sth in business	0.64	0.48	0.63	0.48	0.68	0.47	0.92	0.27	0.41
Satisfied with the job (0-6)	4.15	1.89	4.22	1.87	3.93	2.01	0.63	0.16	0.16
Reservation wage	182,267	470,672	166,810	473,809	161,662	615,503	0.70	0.66	0.89
Personal initiative	6.01	0.77	6.01	0.87	6.07	0.64	0.99	0.32	0.50
Perseverance	6.12	0.72	6.09	0.81	6.21	0.63	0.64	0.09	0.07
Locus of control	5.88	0.80	5.85	0.78	5.91	0.71	0.66	0.54	0.54
Willingness to take risks (0-10)	7.94	1.85	8.10	1.64	8.20	1.66	0.25	0.06	0.17
Household expenditures last month	53,369	60,770	60,274	79,602	55,677	60,111	0.28	0.67	0.55
Took previous business course	0.33	0.47	0.33	0.47	0.34	0.47	0.95	0.74	0.94
Panel C. Firm characteristics									
Operated continuously last 12 m.	0.61	0.49	0.62	0.49	0.58	0.49	0.90	0.38	0.55
Business age: 1 year or less	0.35	0.48	0.33	0.47	0.31	0.46	0.72	0.34	0.62
Keeps formal accounts	0.08	0.27	0.09	0.29	0.13	0.34	0.59	0.03	0.09
Keeps informal accounts	0.50	0.50	0.50	0.50	0.48	0.50	0.90	0.69	0.86
Registered business	0.53	0.50	0.51	0.50	0.54	0.50	0.72	0.69	0.75
Sales in the last month	87,766	155,159	100,744	193,304	75,922	132,758	0.47	0.42	0.32
Profits in the last month	23,073	85,287	25,803	80,838	27,004	65,591	0.75	0.62	0.89
Introduced innovation	0.52	0.50	0.49	0.50	0.54	0.50	0.40	0.69	0.45
Business practices index	0.58	0.28	0.59	0.28	0.61	0.29	0.57	0.18	0.39
Barrier to bus. growth: couple	0.02	0.13	0.03	0.17	0.03	0.17	0.28	0.28	0.42
Panel D. Aggregate orthogonality test for panels B–C									
P-value							0.91	0.52	
Observations	315		315		315				

The table uses values of the variables collected at baseline either on the phone or online (Aug-Sep 2016). Randomization was stratified on gender, education (more than secondary education vs. secondary or less), selected location of the course (4 strata) and having at least one employee. Columns (7)-(9): p-values for tests of equality of means obtained from a regression of each variable on treatment using robust standard errors. For the orthogonality test, missing values are replaced with zeros, and we include dummies for missing observations and randomization strata dummies. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 2: Course Evaluations: Satisfaction and Knowledge Test

	(1)	(2)	(3)	(4)	(5)
	Soft-skills training (T1)		Combined training (T2)		T1=T2
	Mean	SD	Mean	SD	P-value
Panel A. Course satisfaction (1-7)					
Course satisfaction index	6.61	0.49	6.65	0.45	0.455
Likelihood to use the skills	6.87	0.36	6.89	0.46	0.606
Likelihood to recommend the course	6.80	0.43	6.84	0.49	0.492
Willingness to pay for course (JMD)	42,849	67,406	43,976	74,086	0.889
Panel B. Knowledge test					
Correct answer: personal initiative	0.79	0.41	0.79	0.41	0.994
Correct answer: business practices 1	0.60	0.49	0.79	0.41	0.000
Correct answer: business practices 2	0.24	0.43	0.54	0.50	0.000
Correct answer: perseverance 1	0.61	0.49	0.21	0.41	0.000
Correct answer: perseverance 2	0.59	0.49	0.54	0.50	0.383
Observations	180		175		

Columns (1) and (2) contain mean and standard deviation for individuals who attended soft-skills training at class 9 out of 10. Columns (3) and (4) present the same statistics for individuals who attended the combined training at class 9. Column (5) reports the p-value of the test for difference in means between the two treatment groups, using robust standard errors.

Table 3: Impacts on Business Outcomes by Survey Wave

	(1)	(2)	(3)	(4)	(5)	(6)
	Firm survival		Positive profits		Sales and profits index	
	3-month follow-up	12-month follow-up	3-month follow-up	12-month follow-up	3-month follow-up	12-month follow-up
Soft-skills training	0.05	-0.02	0.11**	0.00	0.28**	-0.08
	(0.03)	(0.03)	(0.05)	(0.05)	(0.14)	(0.10)
Combined training	-0.03	0.01	0.07	-0.07	0.13	-0.08
	(0.03)	(0.02)	(0.05)	(0.05)	(0.12)	(0.10)
Mean control group	0.81	0.93	0.47	0.47	0.00	0.00
P-value equal t.e.	0.014	0.170	0.355	0.196	0.318	0.972
Observations	786	673	633	575	618	565

OLS regressions with randomization strata and month of survey fixed effects. Standard errors robust to heteroskedasticity are reported in parenthesis. We control for baseline covariates; we replace missing values with zeros and include dummies for covariates with missing values. Firm survival is a binary variable taking the value 1 if the business still exists at the moment of the survey. Positive profits is a binary variable taking value 1 if profits in the previous month were greater than 0. The sales and profits index is the mean of standardized z-scores of diverse profits and sales measures (see Online Appendix B). Columns (1), (3), and (5) report the treatment effect for the 3-month follow-up, for both treatment arms independently. Columns (2), (4) and (6) are analogous, for the 12-month follow-up. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 4: Mechanisms (3-month follow-up)

	(1) Business practices	(2) Personal initiative	(3) Capital and labor inputs	(4) Introduced innovation	(5) Loan requested
Soft-skills training	0.09***	0.09	0.02	0.12**	0.04
	(0.03)	(0.09)	(0.06)	(0.04)	(0.03)
	[0.045]	[0.668]	[0.823]	[0.182]	[0.568]
Combined training	0.04	-0.03	0.04	0.04	0.04
	(0.03)	(0.09)	(0.06)	(0.05)	(0.03)
	[0.506]	[0.743]	[0.651]	[0.698]	[0.710]
Mean control group	0.46	0.00	0.00	0.36	0.08
P-value equal t.e.	0.066	0.188	0.808	0.084	0.965
Observations	712	691	712	712	712

OLS regressions with randomization strata and month of survey fixed effects. Standard errors robust to heteroskedasticity are reported in parenthesis. P-values corrected for multiple hypothesis testing are reported in square brackets. We control for baseline covariates; we replace missing values with zeros and include dummies for covariates with missing values. The outcome variable in column (1) is an index for seven business practices reported to be adopted in the last 3 months. The outcome variable in column (2) is an index for seven Likert-scale type questions taking values from 1 (strongly agree) to 7 (strongly disagree) related to taking initiative. The outcome variable in column (3) is an index including 3 questions about employees and 2 questions about capital investments. The outcome variable in column (4) is an indicator for having introduced new products or production techniques in the business. The outcome variable in column (5) is an indicator for having applied for a loan for the business. See Online Appendix B for more details. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 5: Mechanisms (12-month follow-up)

	(1) Business practices	(2) Personal initiative	(3) Capital and labor inputs	(4) Introduced innovation	(5) Loan requested
Soft-skills training	0.04	0.14	0.04	0.05	0.09*
	(0.03)	(0.10)	(0.06)	(0.05)	(0.05)
Combined training	0.03	-0.13	0.09	0.01	0.05
	(0.03)	(0.10)	(0.07)	(0.05)	(0.05)
Mean control group	0.55	0.00	0.00	0.46	0.33
P-value equal t.e.	0.634	0.008	0.406	0.431	0.540
Observations	575	562	575	575	575

OLS regressions with randomization strata and month of survey fixed effects. Standard errors robust to heteroskedasticity are reported in parenthesis. P-values corrected for multiple hypothesis testing are reported in square brackets. We control for baseline covariates; we replace missing values with zeros and include dummies for covariates with missing values. The outcome variable in column (1) is an index for seven business practices reported to be adopted in the last 3 months. The outcome variable in column (2) is an index for seven Likert-scale type questions taking values from 1 (strongly agree) to 7 (strongly disagree) related to taking initiative. The outcome variable in column (3) is an index including 3 questions about employees and 2 questions about capital investments. The outcome variable in column (4) is an indicator for having introduced new products or services in the business. The outcome variable in column (5) is an indicator for having applied for a loan for the business. See the Online Appendix B for more details. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 6: Measures of Soft Skills Targeted by the Training (12-month follow-up)

	(1) Grit	(2) Perseverance (APS)	(3) Perseverance	(4) Personal initiative	(5) Future orientation	(6) Barriers index	(7) Soft skills index
Soft-skills training	0.16	0.22**	0.06	0.14	0.06	0.18*	0.14**
	(0.10)	(0.09)	(0.10)	(0.10)	(0.10)	(0.09)	(0.06)
	[0.695]	[0.152]	[0.957]	[0.698]	[0.927]	[0.588]	
Combined training	0.02	-0.09	0.00	-0.13	-0.05	0.00	-0.04
	(0.11)	(0.10)	(0.10)	(0.10)	(0.11)	(0.10)	(0.06)
	[0.926]	[0.962]	[0.968]	[0.990]	[0.967]	[0.940]	
Mean control group	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P-value equal t.e.	0.199	0.002	0.514	0.008	0.333	0.070	0.006
Observations	562	562	562	562	562	562	562

OLS regressions with strata and month fixed effects. Standard errors robust to heteroskedasticity are reported in parenthesis. P-values corrected for multiple hypothesis testing are reported in square brackets. Regressions in columns (1) and (5)-(7) do not include controls for baseline value of the dependent variable since these variables were not collected at baseline. Regressions in columns (2)-(3) include a control for perseverance as measured at baseline. The regression in column (4) includes a control for personal initiative at baseline. The outcome variables in columns (1)-(6) are indexes for Likert-scale type questions taking values from 1 (strongly agree) to 7 (strongly disagree). They are standardized with respect to the control group. The outcome variable in column (7) is an index built as the mean of all the previous outcomes in this table. The outcome variables in columns (2) and (3) differ in that the former is perseverance built according to the Action Principles Scale, while the latter is perseverance as measured at baseline. See the Online Appendix B for more details on how variables were constructed. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 7: Choice of Difficult Task in Game 1 (12-month follow-up)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Chose difficult in Game 1							Difficult task index
	Round 3	Round 4	Round 5	Round 6	All rounds	Num. of rounds	Next wave	
Soft-skills training	0.06	0.09	0.10*	0.08	0.08	0.32*	0.13**	0.21*
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.16)	(0.05)	(0.11)
	[0.803]	[0.577]	[0.422]	[0.633]	[0.547]	[0.412]	[0.112]	
Combined training	0.14**	0.00	-0.04	-0.02	0.00	0.08	0.07	0.05
	(0.06)	(0.05)	(0.06)	(0.05)	(0.05)	(0.16)	(0.05)	(0.11)
	[0.067]	[0.935]	[0.968]	[0.964]	[0.945]	[0.806]	[0.578]	
Mean control group	0.49	0.46	0.53	0.56	0.30	2.05	0.52	0.00
P-value equal t.e.	0.117	0.112	0.012	0.056	0.108	0.156	0.258	0.147
Observations	530	529	527	527	527	527	527	503

OLS regressions with strata and month fixed effects. Robust standard errors are reported in parenthesis. P-values corrected for multiple hypothesis testing are reported in square brackets. The outcome variables in columns (1)-(4) are indicators for choosing the difficult task in each round from 3 to 6. The outcome variable for column (5) is an indicator for choosing the difficult task in all rounds from 3 to 6. The outcome variable for column (6) is the number of rounds the respondent chose the difficult task. The outcome variable for column (7) is an indicator for choosing to play the difficult task in a potential next round of surveys 6 months later. The outcome variable in column (8) is an index of all the previous variables in the table. To build the summary index, we standardized all the outcomes in columns (1)-(7) with respect to the control group, then we kept only the observations for which all components of the index were not missing, and finally computed the mean over the standardized outcomes. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 8: Differential Impacts on Business Outcomes by Gender (3-month follow-up)

	(1) Firm survival	(2) Positive profits	(3) Sales and profits index
Soft-skills training	0.08	0.19***	0.66**
	(0.05)	(0.07)	(0.29)
Combined training	0.03	0.12*	0.33
	(0.05)	(0.07)	(0.20)
Soft-skills training × female	-0.06	-0.13	-0.64**
	(0.06)	(0.09)	(0.32)
Combined training × female	-0.10	-0.08	-0.32
	(0.07)	(0.09)	(0.26)
Mean control women	0.85	0.45	-0.01
Mean control men	0.77	0.48	0.01
P-value equal t.e. for men	0.263	0.340	0.227
Observations	786	633	618

OLS regressions with randomization strata and month of survey fixed effects. Standard errors robust to heteroskedasticity are reported in parenthesis. We control for baseline covariates; we replace missing values with zeros and include dummies for covariates with missing values. Firm survival is a binary variable taking the value 1 if the business still exists at the moment of the survey. Positive profits is a binary variable taking value 1 if profits in the previous month were greater than 0. The sales and profits index is the mean of standardized z-scores of diverse profits and sales measures (see Online Appendix B). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Appendix A

Table A1: Comparison of the two types of training

	Soft-skills training Personal Initiative and Persistence	**Combined training** Personal Initiative and Business Practices
Delivery and costs of delivery		
Length	40 hours (20 hours on Personal Initiative + 20 hours on Persistence)	40 hours (20 hours on Personal Initiative + 20 hours on Business Practices)
Costs per participant	USD 212	USD 212
Methodology	Action-oriented methodology (lectures, individual and group exercises, presentations including subsequent feedback)	Combination of: • Action-oriented methodology (lectures, individual and group exercises, presentations including subsequent feedback) in weeks 1-5 • Knowledge transfer-oriented methodology (mostly lectures, individual work) in weeks 6-10
Language	English	
Logistics and attendance		
Groups	• 10 in Kingston/St. Andrew • 2 in May Pen, Clarendon • 1 in Morant Bay, St. Thomas • 1 in Spanish Town, St. Catherine	
Spacing of classes	10 weekly classes of four hours each (e.g., the first groups met every Monday morning between 9 am and 1 pm over a period of 10 weeks)	
Venues	Local conference and seminar rooms (Kingston, St. Thomas, St. Catherine), local church (Clarendon)	
Size of groups	Up to 29 assigned	Up to 30 assigned
Attending at least 1 class	79%	81%
Attending at least 5 classes	60%	61%

Content

Content weeks 1-5	• Introduction (1 hour) • being self-starting (2 hours) • innovation and opportunity identification (4 hours) • goal-setting (2 hours) • sourcing of finances, bootstrapping (2.5 hours) • action planning (1.5 hours) • feedback (0.5 hours) • overcoming barriers (0.5 hours) • review of content, personal project (3 hours)*	
Content weeks 6-10	• Creative problem-solving (2 hours) • learning from errors (1.5 hours) • anticipating, embracing barriers (4 hours) • dealing with emotional setbacks (2.5 hours) • maintaining effort, deliberate practice (4 hours) • review of content, personal project (2 hours in addition)*, **	• Business idea and strategic management (4 hours) • operations, buying, stock control, funding (3.5 hours) • financial management (4.5 hours) • marketing (4 hours) • business formalization, writing of a business plan (4 hours)

Trainers

Trainers	3 JBDC Business Development Officers and 3 contracted Business Service Providers (same individuals for both trainings)
Training of trainers	March 1 – 11, 2016
Selection criteria for trainers	• Nominated by the Jamaica Business Development Corporation • Experience working with entrepreneurs • Good explanation of personal initiative during a pilot training which was an element of the training of trainers workshop • Charismatic behavior shown during pilot training • Good time management skills during the pilot training • Teaching style activated participants during the pilot training • Good explanation of business content while presenting business practices modules during the training of trainers workshop

* In the personal initiative and persistence training components, trainers were instructed to start and close each day with an interactive summary and to ask participants to complete transfer sheets before leaving the classroom. As these elements of the training could not be assigned to particular modules, the overall duration of the personal initiative training (for both groups) adds up to only 17 hours and the persistence training (for groups attending the soft-skills training) adds up to only 16 hours in this table.

** For participants attending the soft-skills training, the review of content and personal project was extended to 5 hours in total and moved to weeks 9 (review of content) and 10 (personal project).

Table A2: Determinants of Attendance

	(1)	(2)	(3)	(4)	(5)	(6)
	Attended at least 1 class		Log attendance		Log attendance 2nd part	
	Coeff.	SE	Coeff.	SE	Coeff.	SE
Combined training	-0.00	0.03	-0.09	0.07	-0.04	0.05
Female	0.01	0.03	0.07	0.07	-0.01	0.05
Has employees	0.01	0.04	-0.05	0.09	-0.05	0.06
Education: more than secondary	0.02	0.04	0.13	0.09	0.02	0.06
Course in Kingston	0.07	0.07	0.24	0.16	-0.04	0.10
Course in Clarendon	0.05	0.08	0.22	0.18	0.00	0.11
Course in St. Thomas	-0.12	0.10	0.37*	0.22	0.10	0.13
Age	0.00**	0.00	0.01**	0.00	0.01**	0.00
Black	-0.05	0.06	-0.06	0.13	-0.20**	0.09
Married	-0.00	0.04	0.04	0.08	0.06	0.06
N. of children	-0.01	0.01	-0.01	0.03	-0.02	0.02
Has internet access	-0.00	0.06	0.08	0.14	-0.07	0.08
Parents entrepreneurs	0.00	0.04	0.02	0.08	-0.04	0.05
Saves in bank account	0.06	0.05	0.06	0.10	0.08	0.07
Can get bank loan for business	0.06	0.04	-0.12	0.07	-0.12**	0.05
Cannot get any loans for business	0.06	0.05	-0.17	0.13	-0.08	0.10
Set a goal for business	0.11*	0.06	0.22*	0.13	0.06	0.08
Wants to change sth in business	0.06	0.04	0.13	0.09	0.06	0.06
Satisfied with the job (0-6)	-0.00	0.01	0.02	0.02	-0.01	0.01
Reservation wage	-0.00	0.00	-0.00***	0.00	0.00	0.00
Personal initiative	-0.05*	0.03	-0.01	0.06	0.03	0.04
Perseverance	0.05	0.03	0.15*	0.08	-0.00	0.05
Locus of control	0.01	0.03	-0.11**	0.06	-0.07	0.04
Willingness to take risks (0-10)	-0.01	0.01	-0.00	0.02	0.01	0.02
Household expenditures last month	-0.00	0.00	-0.00	0.00	-0.00	0.00
Took previous business course	0.05	0.03	0.08	0.07	-0.04	0.05
Operated continuously last 12 m.	-0.05	0.04	-0.01	0.09	0.02	0.06
Business age: 1 year or less	-0.03	0.04	0.11	0.09	0.03	0.06
Keeps formal accounts	-0.05	0.06	0.15	0.12	0.17*	0.09
Keeps informal accounts	-0.05	0.04	0.04	0.09	0.09	0.07
Business registered	0.17*	0.10	-0.22	0.21	-0.01	0.16
Sales in the last month	-0.00	0.00	-0.00	0.00	-0.00	0.00
Profits in the last month	-0.00	0.00	0.00	0.00	0.00	0.00
Introduced innovation	-0.14	0.10	0.22	0.21	0.11	0.16
Business practices index	0.02	0.06	-0.05	0.14	0.07	0.09
Barrier to bus. growth: couple	-0.08	0.10	-0.18	0.20	0.01	0.15
Mean (both treat. arms)	0.80		1.73		1.27	
Adj. R-squared	0.043		0.038		-0.002	
Observations	630		503		419	

OLS regressions with robust standard errors in parentheses. The dependent variable for column (1) is a dummy for attending at least one class of the course. The dependent variable for columns (2) and (3) is the logarithm of the number of classes taken, conditional on taking at least one class, for the first and second part of the course, respectively. We replace missing values in covariates with zeros and include dummies for variables with missing values. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A3: Components of the Sales and Profits Index (3-month follow-up)

	(1) Not winsorized	(2) Winsorized	(3) IHS-transformed
Panel A. Sales last month			
Soft-skills training	69,792	14,906	1.12**
	(66,655)	(13,493)	(0.50)
Combined training	-19,659	-4,212	0.39
	(31,672)	(13,477)	(0.54)
Mean control group	68,118	59,913	6.65
P-value equal t.e.	0.260	0.149	0.129
Observations	618	618	618
Panel B. Profits last month			
Soft-skills training	14,723*	10,581*	1.26**
	(8,265)	(6,365)	(0.63)
Combined training	19,042**	9,698	1.23*
	(9,172)	(6,333)	(0.63)
Mean control group	18,233	21,690	4.58
P-value equal t.e.	0.644	0.900	0.962
Observations	618	618	618

OLS regressions with randomization strata and month of survey fixed effects. Standard errors robust to heteroskedasticity are reported in parenthesis. We control for the baseline value of the outcome (using the same transformation as the outcome of interest) and covariates. The outcome variable in Panel A is sales expressed in Jamaican dollars (JMD). The outcome variable in Panel B is profits in JMD. In column (1), sales and profits are as reported by respondents. In column (2), sales are winsorized at the 99th percentile, and profits are winsorized at the 1st and 99th percentiles. In column (3), sales and profits are converted using the inverse hyperbolic sine transformation. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A4: Components of the Sales and Profits Index (12-month follow-up)

	(1) Not winsorized	(2) Winsorized	(3) IHS-transformed
Panel A. Sales last month			
Soft-skills training	-40,466	-28,634	-0.89*
	(30,775)	(20,692)	(0.50)
Combined training	-4,110	4,292	-0.39
	(34,497)	(22,552)	(0.49)
Mean control group	147,394	131,769	9.12
P-value equal t.e.	0.192	0.147	0.330
Observations	565	565	565
Panel B. Profits last month			
Soft-skills training	23,043	-4,146	-0.21
	(26,794)	(10,051)	(0.98)
Combined training	12,424	-13,927	-1.55
	(25,160)	(10,406)	(1.04)
Mean control group	-7,005	14,716	2.02
P-value equal t.e.	0.445	0.387	0.196
Observations	565	565	565

OLS regressions with randomization strata and month of survey fixed effects. Standard errors robust to heteroskedasticity are reported in parenthesis. We control for the baseline value of the outcome (using the same transformation as the outcome of interest) and covariates. The outcome variable in Panel A is sales expressed in Jamaican dollars (JMD). The outcome variable in Panel B is profits in JMD. In column (1), sales and profits are as reported by respondents. In column (2), sales are winsorized at the 99th percentile, and profits are winsorized at the 1st and 99th percentiles. In column (3), sales and profits are converted using the inverse hyperbolic sine transformation. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A5: Attrition

	(1)	(2)	(3)	(4)	(5)	(6)
	Attriter					
	3-month follow-up		12-month follow-up		Both follow-ups	
Soft-skills training (T1)	-0.06*	-0.39	-0.03	-0.39	-0.06**	-0.59
Combined training (T2)	-0.06*	-0.49	0.01	-0.45	-0.07**	-0.57*
Panel A. Stratification variables						
T1 × Female		0.05		0.02		0.01
T2 × Female		0.01		-0.04		-0.04
T1 × Has employees		-0.15*		-0.17*		-0.16**
T2 × Has employees		-0.14		-0.03		-0.09
T1 × Education: more than secondary		-0.10		-0.02		-0.10
T2 × Education: more than secondary		-0.08		-0.03		-0.09
T1 × Course in Kingston		0.11		0.11		0.14
T2 × Course in Kingston		-0.07		0.05		0.02
T1 × Course in Clarendon		0.06		-0.07		0.07
T2 × Course in Clarendon		-0.03		-0.03		0.06
T1 × Course in St. Thomas		0.15		0.09		0.16
T2 × Course in St. Thomas		0.06		0.05		0.02
Panel B. Owner characteristics						
T1 × Age		-0.00		-0.00		-0.00
T2 × Age		0.00		0.00		-0.00
T1 × Black		0.04		0.19		0.07
T2 × Black		0.02		0.39***		0.18*
T1 × Married		-0.10		-0.02		-0.02
T2 × Married		-0.10		-0.08		-0.04
T1 × N. of children		0.01		-0.00		0.01
T2 × N. of children		-0.02		-0.01		-0.00
T1 × Has internet access		-0.11		0.14		-0.01
T2 × Has internet access		0.02		0.18		0.02
T1 × Parents entrepreneurs		0.02		-0.12		0.02
T2 × Parents entrepreneurs		-0.02		-0.04		0.00
T1 × Saves in bank account		-0.09		0.01		-0.05
T2 × Saves in bank account		-0.01		0.13		0.03
T1 × Can get bank loan for business		0.05		0.05		0.02
T2 × Can get bank loan for business		0.12		0.05		0.02
T1 × Cannot get any loans for business		-0.14		-0.17		-0.07
T2 × Cannot get any loans for business		-0.07		-0.13		-0.11
T1 × Set a goal for business		-0.10		-0.00		-0.05
T2 × Set a goal for business		-0.06		-0.07		-0.08
T1 × Wants to change sth in business		0.11		-0.02		0.03
T2 × Wants to change sth in business		0.11		-0.07		0.08
T1 × Satisfied with the job (0-6)		0.01		0.06**		0.04**
T2 × Satisfied with the job (0-6)		0.01		0.03		0.01
T1 × Reservation wage		-0.00		0.00*		0.00
T2 × Reservation wage		-0.00***		0.00		-0.00

Table continues in the next page...

Table A5: Attrition (ctd.)

	(1)	(2)	(3)	(4)	(5)	(6)
	Attriter					
	3-month follow-up		12-month follow-up		Both follow-ups	
T1 × Personal initiative		-0.09		-0.07		-0.08
T2 × Personal initiative		-0.05		-0.02		-0.01
T1 × Perseverance		0.16**		0.09		0.14**
T2 × Perseverance		0.08		0.05		0.07
T1 × Locus of control		0.01		-0.06		-0.00
T2 × Locus of control		0.03		-0.04		-0.00
T1 × Willingness to take risks (0-10)		-0.02		0.01		0.01
T2 × Willingness to take risks (0-10)		-0.01		-0.00		-0.00
T1 × Household expenditures last month		-0.00**		0.00		-0.00
T2 × Household expenditures last month		-0.00**		-0.00		-0.00
T1 × Took previous business course		0.00		-0.04		-0.06
T2 × Took previous business course		0.13		0.03		0.07
Panel C. Firm characteristics						
T1 × Operated continuously last 12 m.		0.06		0.22**		0.15**
T2 × Operated continuously last 12 m.		0.02		0.02		0.11
T1 × Business age: 1 year or less		0.14		0.03		0.14*
T2 × Business age: 1 year or less		-0.06		-0.08		-0.01
T1 × Keeps formal accounts		0.12		-0.18		0.05
T2 × Keeps formal accounts		-0.22		-0.34**		-0.13
T1 × Keeps informal accounts		0.05		-0.13		0.01
T2 × Keeps informal accounts		0.05		-0.15		0.05
T1 × Registered business		-0.20		-0.18		-0.08
T2 × Registered business		-0.18		-0.02		-0.01
T1 × Sales in the last month		0.00		-0.00		0.00
T2 × Sales in the last month		0.00		-0.00		-0.00
T1 × Profits in the last month		0.00		0.00*		0.00
T2 × Profits in the last month		0.00		0.00		0.00*
T1 × Introduced innovation		0.27		0.33		0.16
T2 × Introduced innovation		0.23		0.12		0.07
T1 × Business practices index		0.03		-0.20		-0.21
T2 × Business practices index		0.31**		-0.01		0.08
T1 × Barrier to bus. growth: couple		-0.49*		0.24		0.08
T2 × Barrier to bus. growth: couple		-0.22		0.25		0.13
Mean control group	0.31	0.31	0.41	0.41	0.21	0.21
P-value equal t.e.	0.973	0.818	0.388	0.918	0.929	0.950
P-value joint sign. T1 inter.		0.230		0.098		0.228
P-value joint sign. T2 inter.		0.043		0.590		0.662
Observations	945	945	945	945	945	945

OLS regressions with randomization strata fixed effects in columns (1), (3) and (5). Columns (2), (4) and (6) do not include strata fixed effects to avoid collinearity with stratification variables that are included in levels, all covariates in levels are included in the regressions but not displayed (we replace missing values in covariates with zeros and include dummies for variables with missing values). Robust standard errors are reported in parenthesis. The dependent variable for columns (1) and (2) is an indicator for not participating in the 3-month follow-up. Columns (3) and (4) are analogous for the 12-month follow-up. The dependent variable in columns (5) and (6) is an indicator for being an attriter in *both* follow-up surveys. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A6: Effect on Comprehensive List of Business Practices (12-month follow-up)

	(1) All business practices	(2) Marketing	(3) Accounting	(4) Operations management	(5) Information seeking	(6) Hum. res. management
Soft-skills training	0.04	0.04	0.03	0.04	0.04	0.04
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.05)
Combined training	0.03	0.05	0.03	0.03	0.04	0.03
	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.05)
Mean control group	0.46	0.44	0.42	0.54	0.59	0.49
P-value equal t.e.	0.947	0.784	0.984	0.647	0.956	0.750
Observations	575	575	575	575	575	575

OLS regressions with strata and month fixed effects. Standard errors robust to heteroskedasticity are reported in parenthesis. This table presents the results for a comprehensive list of 25 business practices asked in the 12-month follow-up, aggregated into one full index and 5 sub-indexes. Regressions use the same specification as in our main tables, except for the fact that our baseline outcome here is an index for 7 business practices measured at baseline. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A7: Mediation Analysis (3-month follow-up)

	(1)	(2)	(3)	(4)	(5)
	Effect on sales and profits index				
	MV: Business practices	MV: Personal initiative	MV: Capital and labor inputs	MV: Introduced innovation	MV: Loan requested
Soft-skills training (T1)	0.17	0.27*	0.22*	0.25*	0.27**
	(0.13)	(0.14)	(0.12)	(0.14)	(0.13)
Combined training (T2)	0.10	0.16	0.07	0.12	0.12
	(0.11)	(0.12)	(0.11)	(0.12)	(0.12)
Business practices	1.19***				
	(0.16)				
Personal initiative		0.18***			
		(0.03)			
Capital and labor inputs			0.80***		
			(0.19)		
Introduced innovation				0.22*	
				(0.12)	
Loan requested					0.52*
					(0.28)
Mean MV control group	0.46	0.00	0.00	0.36	0.08
Monte Carlo 95% C.I. for T1	[0.040,0.169]	[-0.007,0.060]	[-0.045,0.111]	[-0.000,0.061]	[-0.025,0.033]
Monte Carlo 95% C.I. for T2	[-0.096,0.029]	[-0.061,0.008]	[-0.052,0.107]	[-0.025,0.020]	[-0.019,0.040]
Observations	618	597	618	618	618

OLS regressions with strata and month fixed effects; robust standard errors (reported in parenthesis). Coefficients represent the direct effect of treatment when controlling for the mediator. Square brackets report Monte Carlo 95% confidence intervals for the indirect or mediation effects of treatment on the profits and sales index through the respective mediator. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Appendix B Variable Definitions. Online Appendix (NOT FOR PUBLICATION)

This section describes how we constructed each variable that is used as an outcome.

Some of the outcomes used are indexes. Unless otherwise specified, in order to build the indexes we computed the z-score of each component by subtracting the mean of the control group and then dividing by the standard deviation of the control group. Indexes were then computed by averaging the z-scores of the variables considered.

We transformed some of the monetary variables (which were then used as stand-alone outcomes or as components of the indexes). These variables may be winsorized at the top 99th percentile or at both the bottom 1st and top 99th percentiles. They may be transformed with the inverse hyperbolic sine (IHS), by adding 1 to the square of the variable, taking the square root of this amount, summing the amount of the variable itself and finally taking the natural logarithm.

The outcome variables of Tables 3 and 8 are defined in the following way:

- **Firm survival**: A dummy variable taking value 1 if the respondent was self-employed in his/her own business at the time of the interview. This variable also includes information on entrepreneurs not taking part to the follow-up surveys. When respondents were contacted on the phone, they were asked if they were self-employed. For entrepreneurs deciding not to take part in the survey, we used this information (when available) to generate the firm survival dummy.
- **Sales and profits index**: An index built as the average of the z-scores of the following variables:
  - Sales in the last full month before the interview, unwinsorized
  - Sales in the last full month before the interview, winsorized at the 99th percentile
  - Sales in the last full month before the interview, transformed using the inverse hyperbolic sine
  - Profits in the last full month before the interview, unwinsorized

- Profits in the last full month before the interview, winsorized at the 1st and 99th percentiles
- Profits in the last full month before the interview, transformed using the inverse hyperbolic sine

Before being standardized, all the variables in the sales and profits index were recoded to 0 for those who were not self-employed. The sales and profits index was recoded to missing if the sales or the profits in the last month were missing and then it was standardized with respect to the control group.

The outcome variables of Tables 4 and 5 are defined in the following way:

- **Business practices**: An index built as the average of seven dummy variables, each one taking value 1 if the business practice was adopted in the 3 months (6 months for the twelve-month follow-up) before the interview. Business practices were recoded to 0 for those who were not self-employed. The business practices included in this index are the following:
  - Asking existing customers what other products should be offered
  - Using a special offer to attract new customers
  - Attempting to negotiate with a supplier for a lower cost of goods
  - Comparing the prices offered by different suppliers
  - Determining which goods are the most profitable per item sold
  - Recording every purchase and every sale
  - Setting a target for sales over the next year
- **Personal initiative**: An index built as the average of the z-scores of seven variables, each one taking values ranging from 1 ("strongly disagree") to 7 ("strongly agree") depending on how much the respondent agreed with the following statements:
  - "I actively attacked problems"
  - "I took initiative immediately even when others did not"
  - "I used opportunities quickly in order to attain my goals"
  - "Whenever there was a chance to get actively involved, I took it"
  - "I searched for solutions immediately whenever something went wrong"
  - "I usually did more than I was asked to do"

– "I have been particularly good at realizing ideas"

These statements refer to the respondent's behavior in the 3 months (6 months for the twelve-month follow-up) before the interview. The personal initiative index was standardized with respect to the control group.

- **Capital and labor inputs**: An index built as the average of the z-scores of the following variables:

  Labor inputs:

  – Total number of employees (counting part-time employees as 0.5)
  – Number of full-time employees
  – Number of part-time employees

  Capital inputs:

  – A dummy variable taking value 1 if the respondent made a large investment in the 3 months (6 months for the twelve-month follow-up) before the interview
  – The amount of the investment made, winsorized at the 99th percentile and recoded to 0 if no investment was made

  Before computing the z-scores, all the variables in the capital and labor inputs index were recoded to 0 for those who did not have a business.

- **Introduced innovation**: A dummy variable taking value 1 if the respondent introduced some for form of innovation in the business. In particular, at baseline and at the three-month follow-up respondents were asked if they introduced new products or production techniques in the previous 3 months (12 months for baseline). At the twelve-month follow-up respondents were asked if they introduced new products or new services in the previous 6 months. This variable was recoded to 0 for those who were not self-employed.
- **Loan requested**: A dummy variable taking value 1 if the respondent asked for a loan in the 3 months (6 months for the twelve-month follow-up) before the interview. This variable was recoded to 0 for those who were not self-employed.

The outcome variables of Table 6 are indexes built as the average of the z-scores of variables taking values ranging from 1 ("strongly disagree") to 7 ("strongly agree") depending on how much the respondent agreed with a series of statements, referring to the 6 months before the

interview. All outcome variables in this table (except for the soft-skills index) were standardized with respect to the control group. More specifically, the outcome variables are built in the following way:

- **Grit**: An index reflecting how much the respondent agreed with these statements:
  - "I often set goals but later chose to pursue different ones" (*)
  - "I have been obsessed with certain ideas or projects for a short time but later lost interest" (*)
  - "I had difficulty maintaining my focus on projects that took more than a few weeks to complete" (*)
  - "New ideas and projects sometimes distracted me from previous ones" (*)
  - "I finished whatever I began"
  - "Setbacks did not discourage me"
  - "I was diligent"
  - "I was a hard worker"

  Items indicated with a (*) were reversed before being standardized and included in the index.
- **Perseverance (APS)**: An index of perseverance measured according to the Action Principles Scale. In particular, the index considers how much the respondent agreed with these statements:
  - "When I experienced a setback, I usually managed to stay focused"
  - "I liked to experiment in order to find long-term solutions to problems"
  - "I kept on trying until I achieved my goals, even if I had to go the extra mile"
  - "I searched for an opportunity in every problem I encountered"
  - "When I made plans, I immediately came up with a back-up plan"
- **Perseverance**: An index reflecting how much the respondent agreed with these statements:
  - "I generally saw things through to the end "
  - "Unfinished tasks have really bothered me"
  - "I hated to stop once I got going on something"
  - "I finished whatever I started"

  - "I can think of many times when I persisted with work when others quit"
  - "I continued to work on hard projects even when others oppose me"
- **Personal initiative**: The same variable as in Tables 4 and 5. It is an index indicating how much the respondent agreed with these statements:
  - "I actively attacked problems"
  - "I took initiative immediately even when others did not"
  - "I used opportunities quickly in order to attain my goals"
  - "Whenever there was a chance to get actively involved, I took it"
  - "I searched for solutions immediately whenever something went wrong"
  - "I usually did more than I was asked to do"
  - "I have been particularly good at realizing ideas"
- **Barriers index**: An index indicating whether the respondent was able to provide a high number of solutions to barriers. Each respondent was presented with two different business scenarios requiring him/her to find a solution. Once an answer was provided, the interviewer asked the respondent to imagine that the solution did not work and to come up with a different solution (up to a maximum of 5 answers per scenario). If the respondent was not able to provide a solution, the interviewer would move on to the second scenario or to the next section of the survey. To compute this outcome variable for each respondent, we took the average number of solutions provided and we standardized it with respect to the control group.
- **Soft-skills index**: This is an index built by taking the average of the previous 6 variables in Table 6. This variable was not standardized.

The outcome variables of Table 7 are defined in the following way:

- **Chose difficult in round #**: A dummy variable taking value 1 if the respondent chose the difficult task in round # of Game 1 (where # is a round from 3 to 6).
- **Chose difficult in all rounds**: A dummy variable taking value 1 if the respondent chose the difficult task in all rounds from 3 to 6 of Game 1.
- **Number of rounds with difficult chosen**: Number of times the respondent chose to play the difficult task in Game 1. No choice was allowed for rounds 1 (always easy) and 2 (always

difficult), so this variable only considers rounds from 3 to 6. This variable was recoded to missing if the respondent decided not to play any of the rounds from 3 to 6.

- **Chose difficult for next wave**: A dummy variable taking value 1 if the respondent was willing to play the difficult task in the next survey wave.
- **Difficult task index**: An index built as the average of the z-scores of the other 7 variables presented in the table. This index was recoded to missing if any of its components was missing and then standardized with respect to the control group.

Appendix C Online Appendix (NOT FOR PUBLICATION)

Robustness to Attrition

This section discusses whether the main results in the paper are robust to differential attrition. To begin with, attrition bounds using three different procedures are estimated (Molina Millan and Macours, 2017). First, Lee-style bounds are obtained by re-running the main regressions after trimming **K** observations from the top (bottom) of the distribution of the dependent variable in the treatment group, where **K** is the difference between the number of attriters in the treatment groups and the control group. Second, the outcomes of **K** attriters in the control group, picked at random, are imputed using percentiles of the observed distribution of the outcome in treatment arms. For the three-month follow-up, where positive results are found, lower bounds are obtained using the 95th, 75th and 50th percentiles of the outcome distribution in the treatment arms. For the twelve-month follow-up, where negative results are found, upper bounds are obtained using the 5th, 25th and 50th percentiles of the outcome distribution in treatment arms. Finally, bounds using the mean and standard deviation of the observed treatment and control distributions are presented.

Online Appendix Tables OA1 and OA2 present attrition bounds for treatment effects on the sales and profits index for the three-month follow-up and for the twelve-month follow-up, respectively. The first main result of the paper is the statistically significant effect of 0.28sd on the sales and profits index for the intensive soft-skills training after three months. The lower bound for this effect is still statistically significant at the 10 percent level if control observations are imputed using the median or the 75th percentile of the observed distribution among the treated (but not if the 95th percentile is used); or if outcomes for attriters are replaced with that of non-attriters who are 0.10 standard deviations away from the mean. The second main result in the paper is the lack of effects after twelve months. This finding is quite robust, and effects of more than 0.10sd of the outcome can be discarded in most cases.

Table OA3 presents results from weighted least square regressions, using as weights the inverse of the probability of answering each follow-up survey (IPW). The IPW is obtained from regressions of an indicator for being an attriter on baseline characteristics, separately for treatment and control groups and for each wave. The effect of the intensive soft-skills training on the sales and profits index for the three-month follow-up goes down from 0.28sd to 0.21sd, and it loses statistical significance. The coefficients for the twelve-month follow-up are almost unchanged.

Overall, the null effect result for both training programs after 12 months is robust to different assumptions about differential attrition. The only statistically significant result for the intensive soft-skills training in the short run is moderately robust to assumptions about attrition, but it loses significance under more extreme assumptions.

Table OA1: Robustness of Main Results to Differential Attrition (3-month follow-up)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Sales and profit index									
	Main spec.	Trimming treated		Imputing control			Imputing with mean			
		Bottom UB	Top LB	95th pc.	75th pc. LB	50th pc.	-0.25 SD LB	-0.10 SD	+0.10 SD UB	+0.25 SD
Soft-skills training	0.28**	0.38**	-0.05	0.15	0.23*	0.25*	0.07	0.19*	0.35***	0.47***
	(0.14)	(0.15)	(0.08)	(0.14)	(0.14)	(0.14)	(0.10)	(0.10)	(0.10)	(0.10)
Combined training	0.13	0.22*	-0.09	0.02	0.09	0.11	-0.02	0.08	0.22***	0.32***
	(0.12)	(0.12)	(0.09)	(0.12)	(0.12)	(0.12)	(0.08)	(0.08)	(0.08)	(0.08)
Mean control group	0.00	0.00	0.00	0.21	0.05	0.01	0.08	0.03	-0.03	-0.08
P-value equal t.e.	0.318	0.346	0.500	0.400	0.352	0.340	0.390	0.324	0.249	0.202
Observations	618	578	578	638	638	638	851	851	851	851

Column (1) replicates the main results presented in column (4) of Table 3. Columns (2)-(3) present results equivalent to Lee bounds: we re-run the estimations after dropping K observations from the top/bottom of the distribution in the treatment group, where K is the difference between the number of attriters in the treatment groups and the control group. Columns (4)-(6) present similar results, but instead of dropping K observations in the treatment group, we impute the outcomes of K attriters in the control group using the 95th, 75th and 50th percentiles of the observed distribution of the soft-skills training group. Columns (7)-(10) replace the outcomes for attriters in the treatment groups with the mean minus/plus 0.10/0.25 times the standard deviation of the distribution of the respective treatment arm; for the control group, outcomes of attriters are replaced with the mean plus/minus 0.10/0.25 of the observed distribution in that group. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table OA2: Robustness of Main Results to Differential Attrition (12-month follow-up)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Sales and profit index									
	Main spec.	Trimming treated		Imputing control			Imputing with mean			
		Bottom UB	Top LB	5th pc.	25th pc. UB	50th pc.	-0.25 SD LB	-0.10 SD	+0.10 SD UB	+0.25 SD
Soft-skills training	-0.08	0.00	-0.19**	-0.02	-0.05	-0.08	-0.28***	-0.17***	-0.02	0.09
	(0.10)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.06)	(0.06)	(0.06)	(0.06)
Combined training	-0.09	-0.09	-0.08	-0.04	-0.06	-0.08	-0.26***	-0.13**	0.03	0.16**
	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)	(0.06)	(0.06)	(0.06)	(0.06)
Mean control group	0.00	0.00	0.00	-0.12	-0.07	-0.02	0.10	0.04	-0.04	-0.10
P-value equal t.e.	0.959	0.330	0.236	0.824	0.879	0.934	0.683	0.518	0.337	0.236
Observations	565	556	556	585	585	585	923	923	923	923

Column (1) replicates the main results presented in Column (5) of Table 3. Columns (2)-(3) present results equivalent to Lee bounds: we re-run the estimations after dropping K observations from the top/bottom of the distribution in the treatment group, where K is the difference between the number of attriters in the treatment groups and the control group. Columns (4)-(6) present similar results, but instead of dropping K observations in the treatment group, we impute the outcomes of K attriters in the control group using the 5th, 25th and 50th percentiles of the observed distribution of the soft-skills training group. Columns (7)-(10) replace the outcomes for attriters in the treatment groups with the mean minus/plus 0.10/0.25 times the standard deviation of the distribution of the respective treatment arm; for the control group, outcomes of attriters are replaced with the mean plus/minus 0.10/0.25 of the observed distribution in that group. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table OA3: Correction for Attrition with IPW

	(1)	(2)	(3)	(4)
	Sales and profits index			
	Main spec.		IPW	
	3-month follow-up	12-month follow-up	3-month follow-up	12-month follow-up
Soft-skills training	0.28**	-0.08	0.21	-0.06
	(0.14)	(0.10)	(0.13)	(0.09)
Combined training	0.13	-0.08	0.06	-0.08
	(0.12)	(0.10)	(0.12)	(0.10)
Mean control group	0.00	0.00	0.00	0.00
P-value equal t.e.	0.318	0.972	0.329	0.894
Observations	618	565	618	565

Columns (1)-(2) replicate the main results presented in Columns (4) and (5) of Table 3. Columns (3)-(4) re-estimate the regressions using inverse probability weights, where the weights are obtained from the predicted value of a regression of an indicator for being an attriter on baseline characteristics. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Additional Tables

Table OA4: Business Practices (3-month follow-up)

	(1) Asked customers	(2) Special offer	(3) Negotiated prices	(4) Compared prices	(5) Determined profits per item	(6) Recorded all transactions	(7) Set sales target
Soft-skills training	0.14***	0.03	0.08*	0.06	0.05	0.12***	0.14***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
	[0.074]	[0.869]	[0.379]	[0.787]	[0.831]	[0.158]	[0.038]
Combined training	0.09**	-0.00	0.09**	0.07	0.04	0.02	-0.01
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
	[0.377]	[0.906]	[0.218]	[0.479]	[0.883]	[0.837]	[0.713]
Mean control group	0.40	0.40	0.31	0.60	0.63	0.44	0.46
P-value equal t.e.	0.275	0.488	0.890	0.924	0.668	0.020	0.001
Observations	712	712	712	712	712	712	712

OLS regressions with randomization strata and month of survey fixed effects. Standard errors robust to heteroskedasticity are reported in parenthesis. P-values corrected for multiple hypothesis testing are reported in square brackets. This table present the results for the sub-components of the business practices index (column (1) of Table 4). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table OA5: Business Practices (12-month follow-up)

	(1) Asked customers	(2) Special offer	(3) Negotiated prices	(4) Compared prices	(5) Determined profits per item	(6) Recorded all transactions	(7) Compared sales to targets
Soft-skills training	0.08*	0.10**	0.11**	-0.04	0.02	0.03	0.04
	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.05)	(0.05)
Combined training	0.08*	0.05	0.09*	-0.00	0.00	0.05	0.02
	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.05)	(0.05)
Mean control group	0.55	0.44	0.43	0.71	0.76	0.42	0.53
P-value equal t.e.	0.960	0.275	0.710	0.458	0.692	0.717	0.605
Observations	575	575	575	575	575	575	575

OLS regressions with randomization strata and month of survey fixed effects. Standard errors robust to heteroskedasticity are reported in parenthesis. This table present the results for the sub-components of the business practices index (Column (1) of Table 5). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table OA6: Capital and Labor Inputs (3-month follow-up)

	(1) Total employees	(2) Full-time employees	(3) Part-time employees	(4) Investment	(5) Investment amount
Soft-skills training	-0.08	-0.11	0.07	0.09***	-10,280
	(0.11)	(0.10)	(0.09)	(0.04)	(17,021)
	[0.931]	[0.782]	[0.827]	[0.090]	[0.867]
Combined training	-0.01	-0.06	0.12	0.08**	-18,184
	(0.13)	(0.11)	(0.10)	(0.04)	(16,502)
	[0.883]	[0.781]	[0.226]	[0.122]	[0.927]
Mean control group	0.57	0.40	0.35	0.16	59,134
P-value equal t.e.	0.527	0.587	0.563	0.633	0.572
Observations	712	712	712	712	708

OLS regressions with randomization strata and month of survey fixed effects. Standard errors robust to heteroskedasticity are reported in parenthesis. P-values corrected for multiple hypothesis testing are reported in square brackets. Columns (4)-(5) do not include a control for the baseline value of the outcome variable since it was not available. This table presents the results for the sub-components of the capital and labor index (column (3) of Table 4). The outcome variable in column (1) is the total number of employees, counting part-time employees as half the value of full-time employees. The outcome variables in columns (2) and (3) are the number of full-time and part-time employees, respectively. The outcome variable in column (4) is an indicator for having made a large investment in the last 3 months. The outcome variable in column (5) is the reported amount of the investment made (coded as 0 if no investment was made), winsorized at the 99th percentile and expressed in Jamaican dollars (JMD). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table OA7: Capital and Labor Inputs (12-month follow-up)

	(1) Total employees	(2) Full-time employees	(3) Part-time employees	(4) Investment	(5) Investment amount
Soft-skills training	0.16	0.04	0.23	-0.00	-3,055
	(0.17)	(0.12)	(0.23)	(0.05)	(149,129)
Combined training	0.28	0.08	0.40*	0.02	21,979
	(0.19)	(0.13)	(0.24)	(0.05)	(137,656)
Mean control group	1.11	0.56	1.09	0.32	252,447
P-value equal t.e.	0.494	0.741	0.436	0.607	0.869
Observations	575	575	575	575	574

OLS regressions with randomization strata and month of survey fixed effects. Standard errors robust to heteroskedasticity are reported in parenthesis. Columns (4)-(5) do not include a control for the baseline value of the outcome variable since it was not available. This table presents the results for the sub-components of the capital and labor index (column (3) of Table 5). The outcome variable in column (1) is the total number of employees, counting part-time employees as half the value of full-time employees. The outcome variables in columns (2) and (3) are the number of full-time and part-time employees, respectively. The outcome variable in column (4) is an indicator for having made a large investment in the last 3 months. The outcome variable in column (5) is the reported amount of the investment made (coded as 0 if no investment was made), winsorized at the 99th percentile and expressed in Jamaican dollars (JMD). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table OA8: Other Intermediate Outcomes (12-month follow-up)

	(1) Participated decision-making	(2) Own decision-making	(3) Registered	(4) Networking
Soft-skills training	-0.00	-0.03	-0.02	0.04
	(0.01)	(0.03)	(0.04)	(0.07)
Combined training	-0.03	-0.04	0.05	0.04
	(0.02)	(0.03)	(0.04)	(0.07)
Mean control group	0.94	0.64	0.55	-0.00
P-value equal t.e.	0.171	0.727	0.137	0.961
Observations	562	562	575	575

OLS regressions with randomization strata and month of survey fixed effects. Standard errors robust to heteroskedasticity are reported in parenthesis. Only regressions in column (3) include controls for the baseline value of the dependent variable, because the other variables were not collected at baseline. The outcome variable in column (1) is an index that indicates the percentage of decisions that the respondent made alone or together with someone else. It includes decisions on daily household expenses, income use, actions in case of illness, business investment and working at the business. The outcome variable in column (2) is an index using the same questions on decision making, but counting as one only those decisions that the respondent take alone. The outcome variable in column (3) is an indicator for reporting being registered with the Companies Office of Jamaica. The outcome variable in column (4) is an index built as the average of z-scores for 3 variables: purchasing inputs together with other firms, sharing inputs, tools or equipment, and meeting at least one entrepreneur to discuss business ideas. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table OA9: Big Five Personality Traits (12-month follow-up)

	(1) Neuroticism	(2) Extraversion	(3) Openness	(4) Agreeableness	(5) Conscientiousness
Soft-skills training	-0.24**	0.11	0.15	0.22**	0.16
	(0.10)	(0.11)	(0.10)	(0.11)	(0.10)
	[0.274]	[0.809]	[0.565]	[0.445]	[0.585]
Combined training	-0.08	-0.01	0.00	0.11	-0.05
	(0.11)	(0.11)	(0.11)	(0.12)	(0.10)
	[0.809]	[0.828]	[0.915]	[0.648]	[0.859]
Mean control group	0.00	0.00	0.00	0.00	0.00
P-value equal t.e.	0.128	0.292	0.163	0.326	0.048
Observations	562	562	562	562	562

OLS regressions with strata and month fixed effects. Standard errors robust to heteroskedasticity are reported in parenthesis. P-values corrected for multiple hypothesis testing are reported in square brackets. Regressions do not include controls for baseline value of the dependent variable since these questions were not asked at baseline. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table OA10: Task Choice in Game 2

	(1)	(2)
	Chose NOT to get assistance	
	Before seeing figure	After seeing figure
Soft-skills training	0.03	0.02
	(0.06)	(0.05)
Combined training	0.04	0.03
	(0.06)	(0.05)
Mean control group	0.52	0.67
P-value equal t.e.	0.825	0.808
Observations	516	514

OLS regressions with strata and month fixed effects. Standard errors robust to heteroskedasticity are reported in parenthesis. The outcome variable is an indicator for choosing not to get assistance for solving the game. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table OA11: Goal Setting (12-month follow-up)

	(1)	(2)
	Set goal	Goal quality
Soft-skills training	0.01	0.13***
	(0.04)	(0.05)
	[0.794]	[0.017]
Combined training	0.01	0.14***
	(0.04)	(0.05)
	[0.818]	[0.007]
Mean control group	0.83	0.20
P-value equal t.e.	0.837	0.752
Observations	575	575

OLS regressions with strata and month fixed effects. Robust standard errors are reported in parenthesis. P-values corrected for multiple hypothesis testing are reported in square brackets. The outcome variable for column (1) is an indicator for reporting having set a goal for the business. The outcome variable for column (2) is the measure of quality (from 0 to 3) given by two independent evaluators to the business goal reported by the entrepreneur and computed as the average of the two independent ratings. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table OA12: Differential Impacts on Business Outcomes by Gender (12-month follow-up)

	(1) Firm survival	(2) Sales and profits index
Soft-skills training	-0.02	0.00
	(0.03)	(0.17)
Combined training	0.02	0.19
	(0.03)	(0.19)
Soft-skills training × female	0.00	-0.14
	(0.05)	(0.19)
Combined training × female	-0.01	-0.44**
	(0.05)	(0.21)
Mean control women	0.92	-0.04
Mean control men	0.93	0.06
P-value equal t.e. for men	0.272	0.318
Observations	673	565

OLS regressions with randomization strata and month of survey fixed effects. Standard errors robust to heteroskedasticity are reported in parenthesis. We control for baseline covariates; we replace missing values with zeros and include dummies for covariates with missing values. Firm survival is a binary variable taking the value 1 if the business still exists at the moment of the survey. The sales and profits index is the mean of standardized z-scores of diverse profits and sales measures (see Online Appendix B). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table OA13: Differential Impact on Mechanisms by Gender (3-month follow-up)

	(1) Business practices	(2) Personal initiative	(3) Capital and labor inputs	(4) Introduced innovation	(5) Loan requested
Soft-skills training	0.08*	0.16	0.04	0.18**	0.06
	(0.04)	(0.14)	(0.11)	(0.07)	(0.05)
Combined training	0.04	0.06	0.08	0.04	0.08*
	(0.04)	(0.15)	(0.11)	(0.07)	(0.05)
Soft-skills training × female	0.02	-0.11	-0.03	-0.11	-0.03
	(0.05)	(0.17)	(0.12)	(0.09)	(0.06)
Combined training × female	0.01	-0.14	-0.07	-0.00	-0.06
	(0.05)	(0.19)	(0.13)	(0.09)	(0.06)
Mean control women	0.46	0.01	-0.05	0.37	0.08
Mean control men	0.47	-0.02	0.06	0.33	0.09
P-value equal t.e. for men	0.278	0.513	0.731	0.057	0.656
Observations	712	691	712	712	712

OLS regressions with randomization strata and month of survey fixed effects. Standard errors robust to heteroskedasticity are reported in parenthesis. We control for baseline covariates; we replace missing values with zeros and include dummies for covariates with missing values. The outcome variable in column (1) is an index for seven business practices reported to be adopted in the last 3 months. The outcome variable in column (2) is an index for seven Likert-scale type questions taking values from 1 (strongly agree) to 7 (strongly disagree) related to taking initiative. The outcome variable in column (3) is an index including 3 questions about employees and 2 questions about capital investments. The outcome variable in column (4) is an indicator for having introduced new products or production techniques in the business. The outcome variable in column (5) is an indicator for having applied for a loan for the business. See the Appendix for more details. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table OA14: Differential Impact on Mechanisms by Gender (12-month follow-up)

	(1) Business practices	(2) Personal initiative	(3) Capital and labor inputs	(4) Introduced innovation	(5) Loan requested
Soft-skills training	0.06	0.17	0.11	0.11	0.18**
	(0.05)	(0.15)	(0.13)	(0.08)	(0.08)
Combined training	0.05	0.05	0.25*	0.05	0.21**
	(0.05)	(0.16)	(0.14)	(0.08)	(0.08)
Soft-skills training × female	-0.02	-0.04	-0.12	-0.10	-0.16
	(0.06)	(0.20)	(0.14)	(0.11)	(0.10)
Combined training × female	-0.03	-0.32	-0.25	-0.06	-0.25**
	(0.06)	(0.21)	(0.16)	(0.11)	(0.10)
Mean control women	0.54	0.06	-0.06	0.49	0.37
Mean control men	0.56	-0.09	0.08	0.43	0.29
P-value equal t.e. for men	0.808	0.459	0.315	0.459	0.751
Observations	575	562	575	575	575

OLS regressions with randomization strata and month of survey fixed effects. Standard errors robust to heteroskedasticity are reported in parenthesis. We control for baseline covariates; we replace missing values with zeros and include dummies for covariates with missing values. The outcome variable in column (1) is an index for seven business practices reported to be adopted in the last 3 months. The outcome variable in column (2) is an index for seven Likert-scale type questions taking values from 1 (strongly agree) to 7 (strongly disagree) related to taking initiative. The outcome variable in column (3) is an index including 3 questions about employees and 2 questions about capital investments. The outcome variable in column (4) is an indicator for having introduced new products or services in the business. The outcome variable in column (5) is an indicator for having applied for a loan for the business. See the Appendix for more details.. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table OA15: Mediation Analysis for Male Sample (3-month follow-up)

	(1)	(2)	(3)	(4)	(5)
	Effect on sales and profits index				
	MV: Business practices	MV: Personal initiative	MV: Capital and labor inputs	MV: Introduced innovation	MV: Loan requested
Soft-skills training	0.52*	0.62**	0.52*	0.58*	0.63**
	(0.28)	(0.30)	(0.26)	(0.32)	(0.29)
Combined training	0.22	0.26	0.14	0.25	0.25
	(0.21)	(0.22)	(0.20)	(0.21)	(0.22)
Business practices	1.38***				
	(0.30)				
Personal initiative		0.23***			
		(0.06)			
Capital and labor inputs			0.70***		
			(0.23)		
Introduced innovation				0.43*	
				(0.23)	
Loan requested					0.52
					(0.46)
Mean MV control group	0.47	-0.02	0.06	0.33	0.09
Monte Carlo 95% C.I. for T1	[-0.007,0.229]	[-0.046,0.093]	[-0.070,0.188]	[-0.004,0.148]	[-0.057,0.054]
Monte Carlo 95% C.I. for T2	[-0.134,0.103]	[-0.074,0.065]	[-0.057,0.213]	[-0.088,0.051]	[-0.026,0.092]
Observations	265	259	265	265	265

OLS regressions with strata and month fixed effects; robust standard errors (reported in parenthesis). Coefficients represent the direct effect of treatment when controlling for the mediator. Square brackets report Monte Carlo 95% confidence intervals for the indirect or mediation effects of treatment on the profits and sales index through the respective mediator. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table OA16: Mediation Analysis for Female Sample (3-month follow-up)

	(1)	(2)	(3)	(4)	(5)
	Effect on sales and profits index				
	MV: Business practices	MV: Personal initiative	MV: Capital and labor inputs	MV: Introduced innovation	MV: Loan requested
Soft-skills training	-0.09	-0.01	0.02	0.01	0.01
	(0.12)	(0.12)	(0.11)	(0.12)	(0.12)
Combined training	0.04	0.10	0.10	0.06	0.06
	(0.14)	(0.15)	(0.13)	(0.15)	(0.14)
Business practices	0.99***				
	(0.16)				
Personal initiative		0.18***			
		(0.04)			
Capital and labor inputs			0.91***		
			(0.32)		
Introduced innovation				-0.00	
				(0.13)	
Loan requested					0.45**
					(0.21)
Mean MV control group	0.46	0.01	-0.05	0.37	0.08
Monte Carlo 95% C.I. for T1	[0.032,0.173]	[-0.014,0.069]	[-0.085,0.110]	[-0.024,0.025]	[-0.027,0.033]
Monte Carlo 95% C.I. for T2	[-0.105,0.027]	[-0.076,0.008]	[-0.132,0.067]	[-0.012,0.013]	[-0.031,0.031]
Observations	353	338	353	353	353

OLS regressions with strata and month fixed effects; robust standard errors (reported in parenthesis). Coefficients represent the direct effect of treatment when controlling for the mediator. Square brackets report Monte Carlo 95% confidence intervals for the indirect or mediation effects of treatment on the profits and sales index through the respective mediator. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

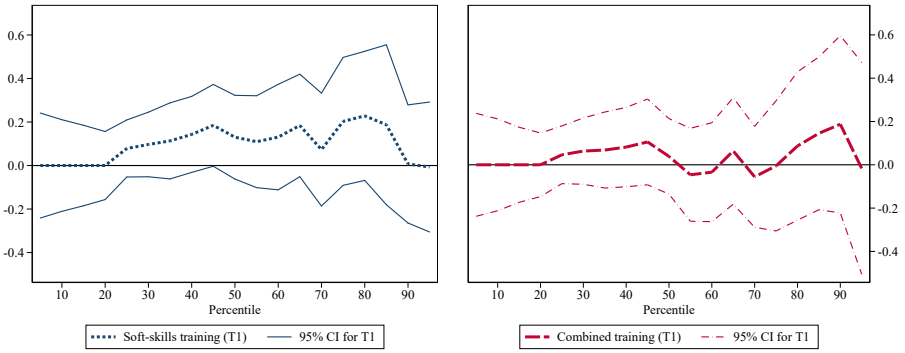
Table OA17: Differences in Characteristics by Gender

	(1)	(2)	(3)	(4)	(5)
	Men (M)		Women (W)		W=M
	Mean	SD	Mean	SD	P-val.
Panel A. Stratification variables					
Has employees	0.33	0.47	0.28	0.45	0.07
Education: more than secondary	0.58	0.49	0.63	0.48	0.14
Course in Kingston	0.70	0.46	0.73	0.45	0.42
Course in Clarendon	0.14	0.35	0.10	0.31	0.10
Course in St. Thomas	0.05	0.23	0.08	0.27	0.14
Panel B. Owner characteristics					
Age	41.26	12.15	42.49	11.03	0.12
Black	0.93	0.25	0.89	0.31	0.03
Married	0.48	0.50	0.39	0.49	0.01
N. of children	1.83	1.87	1.83	1.83	1.00
Has internet access	0.85	0.36	0.86	0.35	0.89
Parents entrepreneurs	0.61	0.49	0.61	0.49	0.90
Saves in bank account	0.82	0.39	0.78	0.41	0.18
Can get bank loan for business	0.54	0.50	0.53	0.50	0.67
Cannot get any loans for business	0.08	0.27	0.12	0.32	0.06
Set a goal for business	0.86	0.34	0.83	0.37	0.19
Wants to change sth in business	0.65	0.48	0.64	0.48	0.74
Satisfied with the job (0-6)	4.13	2.01	4.08	1.87	0.66
Reservation wage	195,943	624,558	152,615	442,329	0.27
Personal initiative	6.06	0.77	6.02	0.77	0.40
Perseverance	6.17	0.72	6.12	0.73	0.29
Locus of control	5.92	0.74	5.85	0.78	0.20
Willingness to take risks (0-10)	8.31	1.65	7.91	1.75	0.00
Household expenditures last month	50,024	46,537	61,119	78,984	0.02
Took previous business course	0.35	0.48	0.32	0.47	0.47
Panel C. Firm characteristics					
Operated continuously last 12 m.	0.61	0.49	0.60	0.49	0.71
Business age: 1 year or less	0.35	0.48	0.32	0.47	0.24
Keeps formal accounts	0.10	0.30	0.10	0.31	0.85
Keeps informal accounts	0.52	0.50	0.47	0.50	0.22
Registered business	0.57	0.50	0.50	0.50	0.03
Sales in the last month	104,557	182,763	76,202	144,950	0.05
Profits in the last month	28,730	81,493	23,023	74,133	0.40
Introduced innovation	0.55	0.50	0.49	0.50	0.05
Business practices index	0.61	0.28	0.58	0.28	0.19
Barrier to bus. growth: couple	0.04	0.19	0.02	0.13	0.07
Observations	391		554		

The table uses values of the variables collected when the application form was completed on either the phone or online (Aug-Sep 2016). Column (5): p-values for tests of equality of means obtained from a regression of each variable on a dummy for women using robust standard errors.

Figure OA1: Quantile Treatment Effects on Sales and Profits Index

A: 3-month follow-up



B: 12-month follow-up

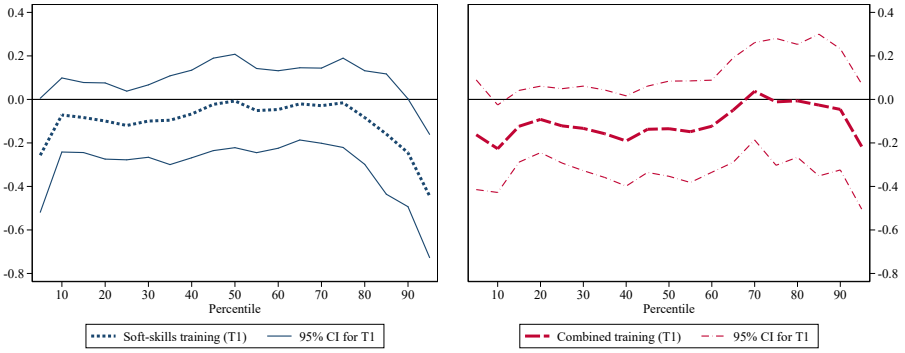
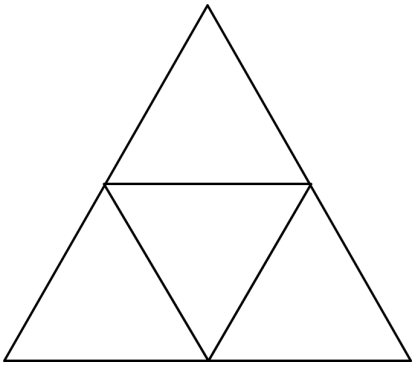


Figure OA2: Figures for Game 1 (12-month follow-up)

A: Easy figure
(solution: 5 triangles)



B: Difficult figure
(solution: 13 triangles)