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The Impact of Soft-Skills Training for Entrepreneurs in Jamaica

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ABSTRACT

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

A randomized control trial with 945 entrepreneurs in Jamaica shows positive shortterm impacts of soft-skills training on business outcomes. The effects are concentrated among men, and disappear twelve months after the training. We argue that the main channel is increased adoption of recommended business practices, exclusively observed in the short run. We see persistent effects on an incentivized behavioral measure of perseverance after setbacks, a focus of this training. We compare a course focused only on soft-skills to one that combines soft-skills training with traditional business training. The effects of the combined training are never statistically significant.

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1 Introduction

A key question in the developing world is whether it is possible to transform the myriad self-employed subsistence workers into innovative entrepreneurs who can spur a Schumpeterian process of creative destruction. The billions of dollars spent subsidizing training programs targeted at small business owners indicate that donors and policy makers believe this transformation is possible. The assumption behind this belief is that we can create entrepreneurs by teaching self-employed individuals what they need to know to succeed in their business.

Traditional business training courses have focused on teaching participants how to incorporate a set of recommended business practices that have been shown to increase productivity even for small firms (McKenzie and Woodruff, 2017). As the first round of field experiments in this area shows, most of these courses have managed to foster the adoption of some business practices, but with an intensity that does not seem sufficient to translate into statistically significant effects on business outcomes, particularly for women (McKenzie and Woodruff, 2014).

One potential explanation for the lack of transformative power of traditional business training is that entrepreneurs in developing countries face an ever-evolving and idiosyncratic set of problems that cannot be addressed by imparting some general recommendations.[1] Soft-skills training programs follow a new approach focused on changing the way entrepreneurs think about their business. They are psychology-based programs that, instead of recommending a standard set of business practices, aim at changing a particular set of soft skills related to successful entrepreneurship. The idea of psychology-based programs, as the one we used for our study, is that entrepreneurs develop a proactive entrepreneurial mindset by becoming active already during the training. By developing a proactive mindset, participants will be better prepared to deal with unexpected problems.

The first study comparing the effectiveness of a soft-skills versus a traditional business training for entrepreneurs is Campos et al. (2017). The authors study a psychology-based training that encourages personal initiative, defined as a self-starting, future-oriented, and perseverant mindset (Campos et al., 2017; Frese and Gielnik, 2014). Entrepreneurs who develop a mindset with strong personal initiative are more inclined to try to differentiate themselves by introducing changes in their business, anticipating problems, overcoming obstacles, and planning for the future (Glaub et al., 2014). Campos et al. (2017) conducted a large randomized controlled trial in Togo where they compared this new approach with

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[1] In a recent review of the literature, Quinn and Woodruff (2019) make a similar argument and claim that it is not surprising that business training focused on generic skills does not help many firms. A series of recent studies have analyzed the effect of training programs that focus on more specific concepts and have found more positive results (Anderson-Macdonald et al., 2018; Berge et al., 2014; Drexler et al., 2014).

the traditional one teaching business knowledge, both coupled with a four-month post-training mentorship. They found that while both training courses have similar effects on increasing business practices, the one focused on personal initiative had significantly larger effects on business profits. These effects were observed for both men and women and persisted even two years after the training.

Our paper builds on the results of Campos et al. (2017). If there are important complementarities between soft skills and business knowledge, entrepreneurs will benefit not only from learning how to change their mindset and to introduce new changes, but also from gaining knowledge about the type of modifications in terms of business practices that can be more profitable for their business. Given the success of the personal initiative training in Togo, we test its external validity by studying a different context and whether combining this innovative training with material covered by traditional training programs can increase its impact. We conduct a randomized controlled trial with small-scale business owners in Jamaica including two treatment arms comparing two different courses and one control group. Both courses start with five classes fostering participants' personal initiative. While one course (soft-skills training) adds five classes that cover the personal initiative material in greater depth focusing on perseverance after setbacks, the other one (combined training) includes five additional sessions on traditionally recommended business practices.

Our sample consists of 945 Jamaican entrepreneurs. It was obtained by using the mailing list of our business training partner organization and a list of contacts we obtained from a national census of informal entrepreneurs. The majority of participants run small businesses with no employees. We randomly assigned entrepreneurs in equal proportions to the two treatment arms and a control group.

In order to make the two training programs comparable, the same team of psychologists prepared the material based on psychological and business content used in previous research and trained the local trainers on these materials (Glaub et al., 2014; Frese et al., 2016). Moreover, the same set of Jamaican trainers taught both courses. The courses were of equal length, they followed a module-based structure, and participants were not aware of the existence of two types of courses. Therefore, selection into the course was not differential across the two treatment arms.

We find statistically significant short-term effects of the soft-skills training on business outcomes. Three months after the training, we see an increase of 0.28 standard deviations on an aggregate index of standardized z-scores of different profits and sales measures. These effects are concentrated among men, with no significant effects for women. The effects are only statistically significant for the soft-skills training, while those for the combined training (combining soft skills and business practices) are positive (0.13 standard

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deviations), but not statistically significant. However, in most cases we cannot reject equality of effects for the two training programs. All treatment effects vanish twelve months after the training, when the coefficients on the business outcomes index are negative and not statistically significant for either of the two training programs. Our data are affected by relatively large attrition levels, but our robustness checks indicate that the finding of null effects for both training programs after 12 months is robust to different assumptions about the distribution of attriters. The short-run effects of the soft-skills training are a bit less robust to differential attrition, but they still hold under moderate assumptions.

We study several potential mechanisms that could explain the short-run effects. We find statistically significant effects of soft-skills training (but not of the combined training) on adoption of business practices and innovation (new products or production techniques), which are observed only in the short run.[2] Mediation analysis indicates that the improvement in business practices is indeed the main channel by which the effects were generated.

In our second follow-up survey, 12 months after the training, we included detailed modules to measure soft skills using both self-reports and incentivized games. We find persistent effects of the soft-skills training on an index measuring self-reported soft skills targeted by the program (including perseverance, overcoming barriers, and grit). Correspondingly, our behavioral game based on the instrument used by Alan et al. (2019) to measure grit yields evidence of a positive effect on perseverance for the soft-skills training. This indicates that it might be possible to achieve longer-term changes in the entrepreneurial mindset and soft skills even for adults. However, within our context, greater perseverance does not lead to better business outcomes for the majority of entrepreneurs.

Our paper contributes to the literature evaluating business training programs (McKenzie and Woodruff, 2014). In particular, to the study of whether relevant soft skills related to entrepreneurship can be taught. The closest paper is Campos et al. (2017), which compares a soft-skills training focused on personal initiative with a traditional business training focused on business practices. While our methodology and family of outcomes are directly comparable to that paper, the treatments differ as, on top of personal initiative, our soft-skills training added a focus on perseverance, and the combined training added business practices. In addition, none of our interventions included mentorship components, while theirs included four months of post-training mentorship. The fact that we decoupled the effects of the training from those of the mentorship is particularly important when considering scaling up the program. While adding an additional layer of mentorship to the training increases the intensity of the treatment, it also raises both the operational costs and the managerial complexity of the program, making it potentially less attractive for those

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[2] In terms of business practices, participants offered the soft-skills training are more likely to report setting sales targets, recording transactions, getting feedback from customers and negotiating prices.

agencies interested in replication and expansion.

While Campos et al. (2017) find persistent effects of personal initiative training (coupled with mentorship) on business outcomes both for men and women in Togo, we find that the effects of soft-skills training (without mentorship) in Jamaica are observed only for men and only in the short run. Moreover, we find that a training program that combines the approach of the personal initiative training with traditional business training does not even have short-term impact, implying crowding-out effects are stronger than crowding-in effects when combining both training programs.

Both the socio-demographic characteristics of the sample and the context are different in the two studies. Togo has much higher poverty levels, and women seem to have much lower educational attainment and decision power than in Jamaica.[3] It is possible that effects of personal initiative training are stronger for poor, less-educated women with low bargaining power.[4] Furthermore, we hypothesize that one key reason we might not have found persistent training effects is that we did not include any follow-up intervention with participants. On top of the training, Campos et al. (2017) included trainer visits to participants' businesses for the four months after the training. Mentors assisted participants in implementing the concepts learned during the training, and they may have helped entrepreneurs introduce promising changes in their business.[5]

As Brooks et al. (2018) argue, mentorship can be a better solution than traditional business training to address the ever-evolving and idiosyncratic set of problems that firms face. Their field experiment indeed shows positive effects on business outcomes from mentorship and not from traditional business training. However, they find only short-term effects of mentorship, which they associate to the fact that entrepreneurs need ongoing tailored advice in order to keep their business alive (Brooks et al., 2018).[6] By combining training on soft skills with mentorship, it is possible that the intervention in Campos et al. (2017) was able to generate more long-lasting effects.[7]

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[3] The poverty rate in Togo stood at 55.1 percent in 2015, compared to 21.2 percent in Jamaica for the same year.

[4] Campos et al. (2018) find that within their sample of women, there is no heterogeneity in treatment effects for different measures of human capital, including education. Our sample size does not give us enough statistical power to study heterogeneity of treatment effects within our sample of women.

[5] Alternatively, mentors might have boosted motivation among participants of the training and encouraged them to apply the concepts learned in class. Lafortune et al. (2018) find that a one-time presentation of a successful business peer can boost the effects of general training.

[6] Fischer and Karlan (2015) argue that given the large heterogeneity in the knowledge gap that small firms face, it is very hard for interventions that aim to improve managerial capital and business outcomes to detect average effects.

[7] In this direction, 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.

Our paper also contributes to the literature studying the relationship between soft skills and entrepreneurship. Several papers in economics study the role of different dimensions of personality traits in the entrance into and persistence in self-employment (Lazear, 2005; de Mel et al., 2010; Levine and Rubinstein, 2017; Hamilton et al., 2018).[8] We find some evidence that training focused on soft skills can affect these skills, but with limited effects on business outcomes.[9] Our paper is unique in introducing a behavioral measure corresponding to one personality trait that is believed to be essential for success in entrepreneurship: perseverance after setbacks.[10]

The paper proceeds as follow: Section 2 describes the characteristics of the study. We describe the sampling procedure and the contents of the training program; we characterize the sample and the data and present the econometric specification. Section 3 presents the results reporting treatment effects on business outcomes, mechanisms, and measures of soft skills. Section 4 discusses the heterogeneity of effects by gender, and Section 5 concludes.

2 Context, Experimental Design and Data

2.1 Setting

Our intervention took 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. In 2014, the non-agricultural informal sector captured 38% of employment, almost the same share of employment which operated within the formal sector (STATIN, 2014).

According to World Bank Group (2019), the costs of doing business as a formal establishment are high in Jamaica. While Jamaica 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.[11]

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[8] A large literature in psychology also studies these issues. See Frese and Gielnik (2014) for a review of these studies.

[9] Premand et al. (2016) find that an entrepreneurship track at a university in Tunisia had limited effects on personality and entrepreneurial traits, and mainly affected 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.

[10] Alan et al. (2019) show that perseverance towards a set goal (i.e., a behavioral measure of grit) can be changed with school interventions and that this change has long-term impacts on educational outcomes.

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

In this context, we partnered 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.

We worked with JBDC to review their existing training courses. Their courses already covered material on soft skills and standard business practices, but they were not offering a standard training package. We therefore designed two new training courses that would be tested during our intervention. Members from our team, who have expertise on entrepreneurship, organizational behavior, and work psychology, adapted the material of the training to the Jamaican context. Similar material has been used in other contexts (Campos et al., 2017; Glaub et al., 2014).

2.2 Sampling and Randomization

In order to recruit entrepreneurs for the training, we 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, we also placed radio advertisements and promoted the program 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 on the 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 (approximately 7,700 USD).[12] These criteria

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[12] Throughout the paper we use a nominal exchange rate of 130 JMD to 1 USD, which was approximately

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. We only dropped from the sample a few entrepreneurs with firms that were outliers in terms of size (specifically, those with more than five employees).

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. We believe that this additional step involving the re-confirmation of interest among potential participants before conducting the randomization is important 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, our final sample consists of 945 entrepreneurs.

We randomly assigned entrepreneurs in equal proportions to the two treatment arms and one control group. The randomization was conducted privately using the software 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 we will detail within our results, participation was not perfect, as is typically the case in business training programs.

2.3 Training Program

Entrepreneurs assigned to either of the two treatment groups were invited to a 40-hour free business-training course. The course was provided over 10 weeks in four-hour sessions from October to December 2016.[13] It was implemented in Kingston (72 percent of participants) and in three nearby parishes.

We kept the design and implementation of the two courses as similar as possible: they were prepared by the same team, the same team trained JBDC trainers in delivering the two types of courses, both were taught by the same teachers, both had the same cost per participant, and both were conducted in the same facilities (Appendix Table A1).[14] The two courses never overlapped in time in order to avoid communication among participants of different treatment groups. Furthermore, participants did not know that there were two different types of courses, and the first five classes of each course were indeed identical.

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constant over the whole period of the study.

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

[14] Members from our team adapted the training material initially prepared by the Frese Group at Leuphana University.

As shown in Appendix Table A1, the first five classes of each course focused 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 approach was hands-on, with many examples from the local context and exercises applied to the businesses of the participants. The modules of this course related personal initiative to different steps of the entrepreneurial process such as identifying opportunities, setting goals, planning, and overcoming barriers. The course encouraged entrepreneurs to become active already during the training.

The second five classes differed across treatment arms. The soft-skills training went more in depth over the material related to personal initiative. It focused on concepts related to perseverance, including creative problem-solving, learning from mistakes, anticipating barriers, 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 (Duckworth et al., 2007; Mooradian et al., 2016; Von Culin et al., 2014). In the combined training, the additional five classes covered generic material that is usually included in standard business-training courses (e.g., ILOs Improve your Business). They covered content on strategic management, stocking, financial management, record keeping, costing, customer care, and business plan formulation.

Therefore, the main difference between the two training arms is that one group is only trained on soft skills related to the development of a personal initiative mindset, while the other group also gets traditional training on recommended business practices. A comparison of the two training groups will measure the differential effect added to a personal initiative course of teaching material that is typically covered in business training courses versus continuing with a soft skills approach focused on perseverance after setbacks.

Throughout the course we implemented several methods to ensure quality. First, trainers collected feedback from participants after each class, which was analyzed by an external evaluator and the project coordinator. Second, an external evaluator from our team (with expertise in the training material) attended a random set of lectures and provided feedback to trainers. Third, toward the end of the course, we distributed evaluation forms among all participants attending the training. The evaluations included questions on their satisfaction with the course and a knowledge test related to the material covered in the course.

2.4 Sample Characteristics

Table 1 presents the balance check for the sample using data from our baseline survey.[15] Overall, the randomization worked well, and we see very few imbalances 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).

If we look at the control group, we can see that 58 percent of the business owners are female. The average age is 42 years old, 46 percent are married, and 61 percent have more than secondary education. Most entrepreneurs have parents who also were entrepreneurs (63 percent). Financial access is good; most people save money at formal institutions (80 percent), more than half of participants think they can get a bank loan for their business, and only 10 percent indicate they would not be able to get any business loan. On average, satisfaction with the current occupation is 4.15 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 (or 1,400 USD), with a median of JMD 80K, compared to reported average monthly household expenditures of JMD 53K (median JMD 35K). Looking at soft skills, we find a high value of 6 (out of 7) for both the self-reported personal initiative and perseverance indexes, while the average for the locus of control index is 5.9 (out of 7). Willingness to take risk is also high, with a mean of about 8 (out of 10).

Focusing on firm characteristics, only 30 percent have at least one paid employee. About half of them are registered with the Companies Office of Jamaica (COJ). There is room for improvement in terms of business practices, with the average firm implementing four out of the seven business practices we measure (58 percent), and only 8 percent keeping formal business records (with 50 percent doing so informally). Moreover, 64 percent 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 percent) and retail (19 percent). It is important to note that only 61 percent of the businesses had operated continuously the previous year, and 35 percent of the firms were created during the year before the survey.

We also collected businesses outcomes, but we must note that the number of missing values is very high, perhaps due to the fact that people were uncomfortable with reporting sensitive information on the phone or online at the first contact.[16] Monthly sales average

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[15] 46 percent of the sample completed the survey online, while the others completed it on the phone. This share is balanced across treatment arms.

[16] Missing values for profits and sales in the last 30 days were 41% and 39%, respectively. We also asked about profits and sales for a typical month, and in that case missing values were 15% and 13%, respectively.

JMD 88K (median 30K), while profits average JMD 23K (median 5K). About half of the sample reports introducing some innovation during the previous year (either a new product or a new process). Finally, a low share of entrepreneurs report that the growth of their firm is constrained by their partner (2 percent).

2.5   Data

We have attendance records from the program and a course evaluation filled by participants, and we conducted two follow-up surveys. The intervention was implemented between October and December 2016. In February 2017, JBDC re-contacted all participants in our baseline sample to update their contact details. Then, in order to conduct a first follow-up survey, we hired an international survey firm with an office in Kingston. The survey was designed to be completed in 20 minutes. Its aim was to confirm the location of entrepreneurs businesses and to 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 percent. There were slightly higher response rates for the two treatment arms (75 percent in both) than the control group (69 percent), a difference that is statistically significant at the 10 percent level. The main reasons for attrition were refusals (14 percent of the total sample) and not finding the respondent (13 percent). The largest difference between the control and treatment groups came from the share refusing to answer: it was 17 percent in the control group and 12-13 percent in the treatment arms. The main reasons given by participants for refusal were being busy (46 percent) and not being interested in the survey (36 percent). 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, we hired a quality control firm and a research assistant in the field to supervise 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 percent. In this case, attrition rates were similar across treatment arms. Response rates were 59 percent in the control group, 62 percent in the soft-skills training, and 58 percent in the combined training. Differences between response rates by treatment arm are not statistically significant.

As we 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.[17] On top of this, we detected a concerning procrastinating behavior. Participants would repeatedly postpone the interview at the last minute, not refusing to be surveyed, but just changing the date of the interview. We 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.

Our second follow-up survey uses a 90-minute questionnaire that we prepared based on Campos et al. (2017) in order to get comparable measurements. It includes detailed modules on business inputs and outcomes (investments, assets, costs, sales, profits, innovation, etc.), demographics and household characteristics of the entrepreneur, detailed psychological modules to measure a range of soft skills, and a long list of recommended business practices (the full list from McKenzie and Woodruff (2017)).

One innovation we introduced in this second survey is a behavioral measure of perseverance, based on a game with real monetary incentives designed to measure grit by Alan et al. (2019). In our version of the game, participants had to count the number of triangles that appear in a figure. In the first two rounds, participants were provided with 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 for payment.[18] 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 enumerator told participants whether the question was solved correctly or not. We designed the difficult task in round two in such a way that very few participants could solve it, and thus it was a potential frustration device.For example We wanted to check whether treated participants were more likely to choose the difficult task even after failing in order to get a measure of perseverance.

In a second game, participants not only had to count the number of triangles, but also to draw each of the triangles. We gave them two options: 1) choosing to solve the task by themselves and getting JMD 2,000 in case of success, or 2) getting help by being told the number of triangles and receiving JMD 1,000 in case of success. Participants were informed that only one round of one of the two games would count for real, and that this round would be randomly selected at the end of the survey. If they succeeded in that round, they were paid the reward with 100 percent probability.

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

[18] Note that JMD 2,000 is equivalent to two days of median business sales.

2.6 Econometric Specification

In order to analyze the results, we follow the published version of Campos et al. (2017) in the specification of most variables, regressions, and analysis, to avoid any possible data fishing or p-hacking. Online Appendix B reports the details on how each outcome variable was computed.

We conduct ANCOVA regressions, wherever baseline values of the outcomes are available, to estimate treatment effects of interest. We estimate intention-to-treat effects considering those originally assigned to training regardless of whether they participated in the training. We use the following regression model:

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

where Y_{it} is the outcome for individual i at the first or second follow-up. 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. We also include fixed effects for randomization strata, and month of the survey.[19] We compute heteroskedasticity-robust standard errors in all our analyses.

We account for multiple hypothesis testing by aggregating variables into pre-defined families of outcomes and studying the effect of treatment on an index for each family.[20] When we study individual components of the indexes, we use the testing procedure described in List et al. (2016), which asymptotically controls the familywise error rate.

3 Results

3.1 Take-up

As illustrated in Appendix Table A1, around 80 percent of participants in each of the two training arms came to at least one class of the course, and 60 percent came to 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.[21] Attendance to the second part of the course, when the two courses differed, was 3.2 out of five classes

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

[20] We follow Campos et al. (2017) in the definition of the indexes, see Online Appendix B for more details.

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

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 coming to at least one class of the training on observable characteristics. We do not find many significant covariates, 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 is statistically significant at the five percent 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.

Course Satisfaction and Knowledge Test

During class 9 out of 10, we distributed course satisfaction questionnaires among participants still attending the course at that stage; 97 percent of participants completed the evaluations.[22] We asked for their satisfaction with the course regarding different aspects (content, delivery, length, difficulty, exercises, relevance). As 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. We also included Likert scales for whether entrepreneurs plan to use the skills they learned in the course, and whether they would recommend the course to their peers. Again, answers were very close to the maximum score for both courses. Finally, we asked about their willingness to pay for a similar course. The average amount reported was 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). These answers, however, should be taken with caution, first because they exclude participants who dropped out from the course, and second because the presence of the teacher during the class when evaluations were conducted could have influenced participant responses, even when the forms were distributed and collected by an external evaluator.

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[22] The sample attending the course at class nine represented 54 percent of those assigned to treatment, and 67 percent of those who attended at least one class. Of course, results should not be considered as representative of the whole sample since those who dropped out might have had worse evaluations of the course.

The questionnaires also included a short knowledge test with questions related to the content of each training course. We included one question related to the material on personal initiative (covered in both courses), two questions related to the material on perseverance (only covered in the soft-skills training) and two questions on business practices (only covered in the combined training). The results shown in Panel B of Table 2 are consistent with participants having learned the material taught in their assigned course. While in both treatment arms 79 percent of participants correctly answered the question on personal initiative, the share of correct answers clearly differs across treatments for the other questions. For the questions on business practices, correct answers were 60 and 24 percent, respectively, in the soft-skills training, while they were 79 and 54 percent in the combined training. For the questions on perseverance, correct answers were 61 and 59 percent, respectively, in the soft-skills training, and 21 and 54 in the combined training.

3.2 Impact on Business Outcomes

We estimate the effect of being offered the training on the main business outcomes: survival, sales and profits. Following Campos et al. (2017), we compute a sales and profits index, defined as the mean of standardized z-scores of diverse profits and sales measures detailed in Online Appendix B. Table 3 presents the intention-to-treat impacts of being assigned to each of our training arms by survey wave.

Focusing on the sales and profits index, we see positive and statistically significant effects of the soft-skills training after three months, which vanish after one year in the second follow-up survey. The increase in the short run is of 0.28 standard deviations for the soft-skills training and 0.13sd for the combined training. The effects are not statistically distinguishable across treatments, but only that of the soft-skills training is statistically significant. Twelve months after the treatment, the estimated effects are negative and not statistically significant for any training.

In terms of business survival, we do not observe statistically significant impacts. However, although imprecisely estimated, we obtain a positive impact of the soft-skills training in the three-month follow-up. This impact is significantly different from the one of the combined training. In addition, it is also significantly different from the 12-month impact of the same soft-skills training.[23] Therefore, we find some suggestive evidence of a bene-

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[23] The difference in the mean of survival in the control group between round 1 and round 2 is not due to differential selection into answering the survey since the means are similar if we restrict the sample to those who answered both the first and second follow-up surveys. We believe they are due to a change in how the question of "having a business" was interpreted by enumerators, which led more entrepreneurs to report having a business in the second follow-up. The change in this measure of survival should not affect the treatment effects estimates for a given round.

fit derived from the soft-skills training on firm survival, in line with the fact that only the soft-skills training had a perseverance focus. The effect is only observed in the short-term.[24]

Figure 1 presents quantile treatment effects for the sales and profits index. Panel A presents results for the three-month follow-up. For the soft-skills training, effects are positive at almost all quantiles, except for the tails. Quantile treatment effects are estimated with more noise than average treatment effects, and we cannot reject null effects at the 5 percent level for any quantile. Towards the median of the distribution, we see effects that are statistically significant at the 10 percent level. For the combined training, effects are of a smaller magnitude, and we cannot reject statistically that they are equal to zero for any quantile. Panel B presents results for the twelve-month follow-up. For both training courses, the treatment effects are negative at all quantiles, although not statistically different from zero.

Overall, we conclude that only the soft-skills training generated some impacts on business outcomes in the short run. After 12 months, we cannot detect statistically significant effects for either of the two training courses.

Robustness of Impact on Business Outcomes

Appendix Tables A3 and A4 present the results for each component of the sales and profits index for each wave of data collection, respectively. In Appendix Table A3, we can see that results using the inverse hyperbolic sine transformation are more precisely estimated, and we see impacts on both profits and sales that are highly statistically significant with the coefficient on sales being twice as large for the soft-skills training. The values in levels (winsorized or non-winsorized) are much noisier. While the effects on sales are much larger for the soft-skills training than for the combined training, the effects on profits are similar for both training courses. However, even for sales we cannot claim that effects for the two training programs are statistically different.[25] For the second follow-up, Appendix Table A4 shows that most of the coefficients are negative and not statistically significant.

As an additional analysis, we studied the effect on costs measured by total business expenses in the last full month. Columns (1) and (2) of Online Appendix Table OA1 show that the coefficients are negative for both waves, but none of them is statistically significant. Consistent with our previous results of larger effects on sales for the soft-skills training

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[24] The number of observations is larger for business survival than for the business outcomes index because we were able to ask information about the existence of the business of some entrepreneurs who refused to complete the full survey or to provide data on business outcomes.

[25] In the first follow-up only, we included questions on sales and profits for a typical month (instead of the last month), which show similar patterns as our main results. The only difference is that the effect on typical month profits using the inverse hyperbolic sine transformation is statistically larger for the soft-skills training than for the combined training. Results are available upon request.

after three months, but similar effects on profits when measured in levels, costs appear to be lower in the combined-trained group in the first follow-up. In addition, columns (1) and (2) of Online Appendix Table OA2 show results for an indirect measure of profits constructed as the difference between reported sales and costs.[26] In this case, all effects are positive, more imprecisely estimated and again not statistically significant, but larger in the soft-skills training for the first follow-up.[27]

Finally, columns (3) and (4) of Online Appendix Table OA1 present treatment effects on an indicator variable taking the value of 1 if the entrepreneur reports positive profits instead of null or negative profits. As expected, since binary outcomes are more precisely measured, our statistical power to detect effects improves. We see an effect of 11 percentage points over a control group mean of 47 percent on the probability of reporting positive profits for the soft-skills training after three months, which is statistically significant at the 5 percent level. The effect for the combined training is almost half of that of the soft-skills training and not statistically significant. Twelve months after the training, coefficients for both treatments are negative and not statistically significant.

Dealing with Large Attrition

The main robustness check for our results is their sensitivity to different assumptions about the entrepreneurs who did not answer our follow-up surveys. Appendix Table A5 shows that attrition in the control group was very large, with 31 percent of entrepreneurs not answering the three-month follow-up, 41 percent not answering the twelve-month follow-up, and 21 percent not providing answers for either of the two follow-up surveys.

In the three-month follow-up, attrition was 6 percentage points lower for both treatment arms, a result that is statistically significant at the 10 percent level. The characteristics of attriters in the soft-skills training group and the control group were not statistically different, as the joint test for the coefficients of the interaction between treatment and baseline covariates indicates. However, these characteristics were statistically different when we compare attriters in the combined training with those in the control group (the p-value for joint test of significance for the interactions is 0.043). In particular, entrepreneurs who have lower household expenditures have a higher probability of not answering the three-month

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[26] In columns (3) and (4) of Online Appendix Table OA2, we show that there is no statistically significant effect of any training on the difference between our direct measure of profits and this indirect measure. This indicates that the training did not reduce reporting errors in profits. Even if not statistically significant, the effects are large and negative for the soft-skills training, indicating that there might have been some underestimation of profits, in particular in the second follow-up, but the size of the effect is not large enough to change the conclusion of null effects after 12 months.

[27] The fact that the indirect measure of profits is more imprecise than the direct measure is consistent with the widely cited recommendation of simply asking about profits instead of detailed questions on revenues and expenses (de Mel et al., 2009).

follow-up if they were offered any treatment. We also see differentially higher attrition rates in the combined training for those with a higher value of the business practices index and lower reservation wage. In the twelve-month follow-up survey attrition rates were statistically indistinguishable across the two treatment groups and the control group. Moreover, the characteristics of attriters were not statistically different. Finally, if we consider as an outcome having answered at least one follow-up, we see similar conclusions as those for answering the first follow-up, although the characteristics of attriters are more similar across treatment arms.

To test the robustness of our main results to differential attrition, we estimate bounds using three different procedures (Molina Millan and Macours, 2017). First, we present Lee-style bounds, obtained by re-running our 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.[28] Second, instead of dropping observations in the treatment group, we impute the outcomes of **K** attriters in the control group, picked at random, using percentiles of the observed distribution of the outcome in treatment arms.[29] Finally, following Kling et al. (2007), we present bounds using the mean and standard deviation of the observed treatment and control distributions.[30]

Online Appendix Tables OA3 and OA4 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. Our first main result was the statistically significant effect of 0.28sd on the sales and profits index for soft-skills training after three months. The lower bound for this effect is still statistically significant at the 10 percent level if we impute control observations using the median or the 75th percentile of the observed distribution among the treated (but not if we use the 95th percentile); or if we replace the outcomes for attriters with the one of non-attriters who are 0.10 standard deviations away from the mean (but not if we use 0.25sd). Our second main result was the lack of effects after twelve months, this finding is quite robust, and we can discard effects of more than 0.10sd of the outcome in most cases.[31]

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[28] Given that the size of the groups was identical, this is equivalent to making coincide the share of missing observations in each group.

[29] For the three-month follow-up, where we find positive results, we obtain lower bounds using the 95th, 75th and 50th percentiles of the outcome distribution in the treatment arms. For the twelve-month follow-up, where we found negative results, we obtain upper bounds using the 5th, 25th and 50th percentiles of the outcome distribution in treatment arms.

[30] While Campos et al. (2017) follow only the first two approaches, other papers studying the effects of business training follow the third approach (Karlan and Valdivia, 2011; Drexler et al., 2014).

[31] If we compute 95% confidence intervals for the most conservative Lee-type bounds presented in columns (1) and (2) using the procedure in Imbens and Manski (2004), we get [-0.172, 0.627] and [-0.238, 0.377] for the soft-skills and combined training, respectively, in the three-month follow-up. In the twelve-month follow-up, we obtain [-0.338, 0.148] and [-0.245, 0.085] for the soft-skills and combined training, respectively. Even in this

We also present results from weighted least square regressions, using as weights the inverse of the probability of answering each follow-up survey (IPW). We obtain this probability from a regression of an indicator for being an attriter on baseline characteristics.[32] Online Appendix Table OA5 shows that the effect of the soft-skills training on the sales and profits index for the three-month follow-up goes down from 0.28sd to 0.20sd, and it loses statistical significance. The coefficients for the twelve-month follow-up are almost unchanged.

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

3.3 Impact on Intermediate Outcomes

In order to understand how the effects of the training on short-run outcomes might have arisen, we look at a series of potential mechanisms. We consider five mechanisms: an index for recommended business practices, an index measuring personal initiative, an index for capital and labor inputs, an indicator capturing innovation, and an indicator capturing financial access (whether a loan was requested).

Tables 4 and 5 present results for the three-month and the twelve-month follow-up, respectively. We can see that, 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 percent in the control group. This effect is statistically significant at the 1% level and statistically larger (p-value=0.066) than the one 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, taking into account that we are testing for effects among five outcomes and two treatments. This result seems surprising, since the combined training was the one 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

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extreme case, we can rule out large positive effects of the training after twelve months.

[32] Since correlates of attrition are different across treatment arms and rounds, we estimate separate weights for the treatment and control groups and for each wave.

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 soft skills.

In Online Appendix Table OA6, we present treatment effects for each of the seven business practices that were recorded in the three-month follow-up survey. We see that 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. We see significantly stronger effects for the soft-skills training than the combined training on the recording of transactions and on setting a sales target.[33] In the longer twelve-month follow-up survey we were able to include the comprehensive list of 25 business practices studied by McKenzie and Woodruff (2017). We group them 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.[34]

Both training programs included five classes focused on fostering personal initiative. However, we do not see statistically significant effects for any of them on a personal initiative index (column 2 of Tables 4 and 5). One explanation is that levels of personal initiative were high to begin with and thus there was no margin for improvement. 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) at baseline. Nevertheless, we do see that the soft-skills training, which had five additional classes covering soft skills, has much 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 OA8 and OA9 show the impact on the components of the index. We do not see effects on either the number of part-time or full-time employees. We do see a statistically significant effect of 9 percentage points (over a control mean of 16 percent) 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,

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[33] 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.

[34] Online Appendix Table OA7 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. We see a statistically significant effect on introducing a special offer and negotiating prices 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 if we restrict the sample to entrepreneurs who answered both follow-up surveys, which indicates that results are not due to composition effects.

indicating that all the effects are coming from the extensive margin.[35]

We also see an important effect (33% of the control mean) 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 we do not see effects in any of these outcomes.

In the twelve-month follow-up survey, we 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 OA10 shows no effects of the training in any of these outcomes.

To sum up, the main potential mechanism we find in order to explain the short-term effects of the soft-skills training on business outcomes is an increase in business practices. Consistent with the effects on business outcomes, this increase in adopted practices is observed only in the short run and for the soft-skills training. To provide further evidence for this conclusion, we conducted a mediation analysis.[36]

Appendix Table A7 presents the results for the mediation analysis using as the five mediators our main intermediate outcomes, and the sales and profits index as the main outcome. We find that the only mediator for which we can statistically reject the null hypothesis of a zero indirect effect at the 5 percent 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.[37]

3.4 Self-Reported and Behavioral Measures of Soft Skills

In the twelve-month follow-up survey we introduced modules to measure different dimensions of soft skills. In the first place, we included Likert-type self-reported questions that allow us to construct indexes for different psychological components. We present these results below.[38]

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[35] In the twelve-month follow-up we included a longer list of variables: business assets, inventory stock, number of hours the business operates, number of hours the entrepreneur works. We do not see statistically significant effects for any of them. Results are available upon request.

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

[37] We obtained confidence intervals using Monte Carlo simulations. 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.

[38] In addition, we also present in Online Appendix Table OA11 the standard big 5 measures of personality traits. These measures are expected to be relatively stable over the adult life-cycle (Cobb-Clark and Schurer,

Table 6 introduces psychological compounds that were targeted by the program. These include measures of personal initiative, future orientation, and a situational interview on overcoming business-related barriers.[39] These compounds were covered by both training programs. In addition, we also assessed measures of perseverance (two indexes) and grit, mainly covered by the soft-skills training. We only see statistically significant effects on one of the perseverance indexes, which was constructed following the topics taught in the course.[40] As expected, these effects are significantly larger for the soft-skills training. Also, while the effect of the soft-skills training on the personal initiative index is not significantly different from the control group, it is statistically significantly larger than the effect of the combined training. Finally, the standardized summary index reveals a statistically significant overall impact of the soft-skills training on these measures of soft skills, consistent with the fact that coefficients on all components are positive. The effect on the soft-skills index is statistically different from that of the combined training.

Behavioral Measures of Soft Skills

In the second follow-up survey, we introduced two incentivized real effort games to measure perseverance and 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 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 want to get assistance to solve the task. Participants were informed that only one round of one of the two games would count for real, and that this round would be randomly selected at the end of the survey. Responded were paid the reward if they gave the correct answer for the round that was randomly chosen.

In our version of the game, participants had to count the number of triangles that appeared in a figure. In the first game, they played six rounds, and one round was selected

2002), and thus it is not surprising that we do not see overall effects. Although neuroticism seems to be reduced and agreeableness increased by the soft-skills training, the finding is not robust to correction for multiple hypotheses.

[39] This situational interview was a two-item measure that assessed the number of solutions entrepreneurs identified to solve a hypothetical problem such as running out of money to buy necessary supplies. See Glaub et al. (2014) for a detailed description of this instrument.

[40] 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 provided us with a more behavioral measure than the other perseverance index and the grit scale. See Online Appendix B for more details.

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.[41] Before playing the first round, participants were given the option to choose the type of task they want 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 the participant whether the question was solved correctly or not. We designed the difficult task in round two such that very few participants could solve it.[42] This allowed us 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 percent. This result is very similar to the one found by Alan et al. (2019).[43] 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 6 months.[44] Finally, when combining all outcomes in the table into a standardized summary index, we observe an effect of the soft-skills training of 0.21sd, which is statistically significant at the 10 percent level.

The second incentivized task is similar to the first one. In this case, participants not only have to count the number of triangles in a figure, but also to draw each triangle. We give them two options: 1) choosing to solve the task by themselves and getting JMD 2,000 if they succeed, or 2) getting help (being told the number of triangles) and getting JMD 1,000 if they succeed. We thought of this to be a behavioral measure of initiative. Online Appendix Table OA12 shows that none of the training programs had any effect on these choices. In the control group, 52 percent of participants chose not to get assistance before knowing the difficulty of the task, and 67 percent did so after seeing the difficulty of the task (we

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

[42] In fact, only 1 participant solved correctly the difficult figure provided in round 1. The easy figure provided in round 2 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 OA1. To ascertain the level of difficulty for a number of figures, we conducted a pilot study with 20 Jamaican entrepreneurs before the implementation of the game.

[43] In their sample A of children, they find a treatment effect of 8.5 percentage points over a control mean of 25 percent.

[44] At the time of the twelve-month follow-up, we were planning to conduct another survey. However, due to the large costs incurred in the previous survey, this was not possible.

provided a relatively easy figure). The value is slightly larger, but not statistically different, for the treatment group.

In conclusion, the first game gives some evidence that the training focusing on perseverance actually generated some behavioral changes in that direction, which persisted after 12 months.[45] This is in line with the significant effects for the perseverance index captured by the Action Principle Scale. On the other hand, we do not see evidence on trying to solve the task independently, which can be related to initiative, in line with no effects on the personal initiative index.[46]

Another piece of evidence that the training did have some effect after 12 months is provided in Online Appendix Table OA13. In the twelve-month follow-up survey, we asked entrepreneurs if they had set a goal for their business. We do not see any significant effect of treatment on this outcome. Then, we asked them to describe their goal. In both training courses, participants learned how to set SMART (specific, measurable, ambitious, realistic, and time-bound) goals that included personal initiative components. Two independent graders rated the quality of the goals by the degree to which they complied with the principles of SMART personal initiative goal-setting.[47] We see large and statistically significant effects of both training programs on the quality of the goals. This indicates that a fraction of the entrepreneurs incorporated what they learned in the training to set their business goals.[48] However, even in the treatment group, the average score for the quality of the goal among those who set a goal was 0.41 out of 3.

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[45] We should note that the statistical significance of these results does not survive to correcting for the fact that we are testing hypotheses for seven outcomes and two treatments, but we do have a statistically significant effect (at the 10 percent level) for the overall index.

[46] We should also note that we find some positive and statistically significant correlations between the measures of perseverance in the first game and working hours and investment decisions, while for the second game we do not find significant correlations with the personal initiative index or other business outcomes. This indicate that our first game might be better at capturing perseverance than the second game is at capturing initiative.

[47] 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 of SMART goal-setting but did not include any element of personal initiative, and 3 if it was compliant with all of the principles of SMART goal-setting and included elements of personal initiative. Inter-rater reliability had an ICC of 0.79. We computed the goal quality variable 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.

[48] We conducted in-depth interviews with six participants another twelve 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.

4 Heterogeneity by Gender

An important debate in the literature evaluating business training programs is whether the training can also help women grow their own business. Most of the papers have found null or at least weaker effects of business training on women-owned businesses (McKenzie and Woodruff, 2014). There is evidence that women face additional constraints, such as demands from the family or the husband who leads them to divert money from their business (Gine and Mansuri, 2016; 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. It is, therefore, important to provide an additional point of evidence from a similar training program in a different context.

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 our three-month follow-up. We see a clear pattern: all positive effects on business outcomes observed in this round are led by men, with no effects for women. Indeed, we see statistically significant and large effects of the soft-skills training on the sales and profits index for men. Effects of the combined training on profits are also larger for men.[49] In all cases, we cannot reject that the effects of the two training programs for men were the same, but we can claim that they were different from the effects for women. In the twelve-month follow-up (Online Appendix Table OA14), we find negative coefficients for the interaction between treatment and being female, and we do not find significant positive effects for either gender.

Looking at the main intermediate outcomes, we see again that most of the effects that we observed for the average entrepreneur in our sample are led by men. Online Appendix Table OA15 shows that three months after the training, we see effects of the soft-skills training on innovation for men, but not for women. All interaction coefficients are negative, except for that on business practices, which is slightly larger for women.[50] After 12 months, we see no effects on most intermediate outcomes, 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 OA16), which is not yet reflected in other outcomes.

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[49] 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. We do not have data on all businesses of the household, but we asked in the twelve-month follow-up survey about profits from all other businesses in which the respondent was involved. If we include profits from all businesses, the results are similar to those presented in the text for profits from the main business.

[50] Even when we look at each individual practice, we do not see significant differences in the treatment effect for men and women after three months or after twelve months.

With regards to soft skills, we find that 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). However, the difference across genders is not statistically significant.

Overall, we find that the short-run effects of the soft-skills training are led by men, while women do not obtain better business outcomes due to the training. However, we do see a short-run change in business practices also for women.

We hypothesized above that the main mechanism for the short-run average treatment effect on profits was the change in business practices, which was confirmed by mediation analysis. If we repeat this analysis for the samples of men and women separately, we find again that the main indirect effect of training is the one on business practices (see Online Appendix Tables OA17 and OA18). This means that the soft-skills training fostered the adoption of some of the recommended business practices for both men and women, but this translated into short-run improvements in business outcomes only for men. One explanation for this finding could be that the effects of business practices on business outcomes is stronger for men. However, regression analysis using the control group indicates that the endogenous effect of business practices on the sales and profits index is not larger for men than for women. It is possible that 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, Online Appendix Table OA19 compares baseline characteristics for female and male entrepreneurs. Both types of entrepreneurs are quite similar. They are comparable in terms of education, age, access to the internet, having parents that were entrepreneurs, access to finance and even soft skills (perseverance and personal initiative index, locus of control). They differ in that male entrepreneurs in our sample are more likely to be married and are more willing to take risks (as it is typically found in the literature). In terms of the business, male-led 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. Women do not report that their couple is a factor restricting the growth of their business, which might be linked to the fact that 61 percent of female entrepreneurs in our sample are single or that the Jamaican context is more favorable to women working on their own initiative than other contexts studied in the literature.

A much larger share of the sample of Togolese women studied in Campos et al. (2017) are married than in our sample of Jamaican women (63 percent vs. 39 percent in our sample),

and much less likely to be educated (40 percent did not get any diploma; while in our sample only 2 percent of women did not get any diploma). Both factors can potentially explain the different results if the personal initiative training was more effective at releasing constraints for married, uneducated women.[51] Finally, it is possible that soft-skills training alone would not be sufficient to improve business outcomes for women. However, when combined with post-training mentorship, as it was the case in Togo, soft skills training might have effects also for them.

5   Conclusion

In this study, we implemented a field experiment with entrepreneurs in Jamaica to test the effectiveness of two alternative training programs centered on soft skills. Both programs started with five four-hour weekly sessions fostering personal initiative and differed in the second set of five classes. One course (soft-skills training) added five four-hour weekly classes focusing on perseverance after setbacks, while the other one (combined training) included five additional sessions on traditionally recommended business practices. Both programs had the same costs per participant and were designed and taught by the same team in the same facilities. After completion of the program, we conducted two follow-up measurements: one short-term follow-up after three months of course completion and another longer-term measurement after one year of course completion.

Our main findings suggest that the soft-skills training was effective in improving business outcomes (i.e., sales and profits), but only in the short term and among men. The average effect of being offered the soft-skills treatment is an increase of 0.28sd in a sales and profits index. In terms of monthly profits, the effect after three months was of the order of 107 USD on unwinsorized profits and 75 USD 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 212 USD.[52] Then, even if we assume that the treatment effect only lasted three months, the program would just pass a cost-benefit analysis.[53]

In addition, we observed that the positive effects of the soft-skills training were mainly mediated by improved business practices. Given that this training did not teach about

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[51] However, as noted above, Campos et al. (2018) find no evidence of heterogeneity in treatment effects among women for different measures of human capital, including education.

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

[53] Taken at face value, the 75 USD 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 we assume that the effect lasted six months, then the ROI would have been 112%. However, given the lack of robust statistical significance on the winsorized profits variable, we should be cautious in interpreting the returns to investment.

direct implementation of business practices, our 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 to entrepreneurs some generic practices that they 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 experienced a lower degree of motivation to follow through on intentions developed during the training.

Furthermore, one year after the training implementation, the effects on business outcomes entirely vanished. However, we do observe overall persistent effects of the soft-skills training on some of the skills targeted by the program (i.e., perseverance and overcoming barriers). In addition, relying on incentivized games, we also find longer-run effects of the soft-skills training on perseverance after experiencing setbacks. Nevertheless, we do not observe a direct translation of those soft skills into business outcomes, which might require more time to lapse.

There may be cultural, institutional and background characteristics that differentiate the participants in Jamaica from those studied by Campos et al. (2017) in Togo, and that may explain why the positive effects on sales and profitability persisted over two years in Togo in contrast to the current study in Jamaica. Our results indicate that soft-skills training alone is not sufficient to generate persistent effects on business outcomes in all contexts. The persistent effects of the study in Togo may have been due to the combination of soft-skills training and post-training mentorship. Therefore, new research should examine the effects of soft-skills training in combination with mentorship in other contexts. Mentorship could be used as an instrument to boost motivation and foster adoption of recommended practices or to transfer knowledge that could be required to implement the ideas developed during the training. Therefore, new research should test what type of after-training care complements better with soft-skills training.

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6 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 BC									
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			Sales and profits index		
	3-month follow-up	12-month follow-up	P-value equality across waves	3-month follow-up	12-month follow-up	P-value equality across waves
Soft-skills training	0.05	-0.02	0.038	0.28**	-0.08	0.005
	(0.03)	(0.03)		(0.14)	(0.10)	
Combined training	-0.03	0.01	0.250	0.13	-0.08	0.071
	(0.03)	(0.02)		(0.12)	(0.10)	
Mean control group	0.81	0.93		0.00	0.00	
P-value equal t.e.	0.014	0.170		0.318	0.972	
Observations	786	673		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. The sales and profits index is the mean of standardized z-scores of diverse profits and sales measures (see Online Appendix B). Columns (1) and (4) report the treatment effect for the 3-month follow-up, for both treatment arms independently. Columns (2) and (5) are analogous, for the 12-month follow-up. Columns (3) and (6) report the p-values of the test for the equality of treatment effects across survey waves for the corresponding outcome. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

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) Round 3	(2) Round 4	(3) Round 5	(4) Round 6	(5) All rounds	(6) Num. of rounds	(7) Next wave	(8) Difficult task index
			Chose difficult in Game 1					
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) Sales and profits index
Soft-skills training	0.08	0.66**
	(0.05)	(0.29)
Combined training	0.03	0.33
	(0.05)	(0.20)
Soft-skills training × female	-0.06	-0.64**
	(0.06)	(0.32)
Combined training × female	-0.10	-0.32
	(0.07)	(0.26)
Mean control women	0.85	-0.01
Mean control men	0.77	0.01
P-value equal t.e. for men	0.263	0.227
Observations	786	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. The sales and profits index is the mean of standardized z-scores of diverse profits and sales measures (see Online Appendix B). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

7 Figures

Figure 1: Quantile Treatment Effects on Sales and Profits Index

A: 3-month follow-up
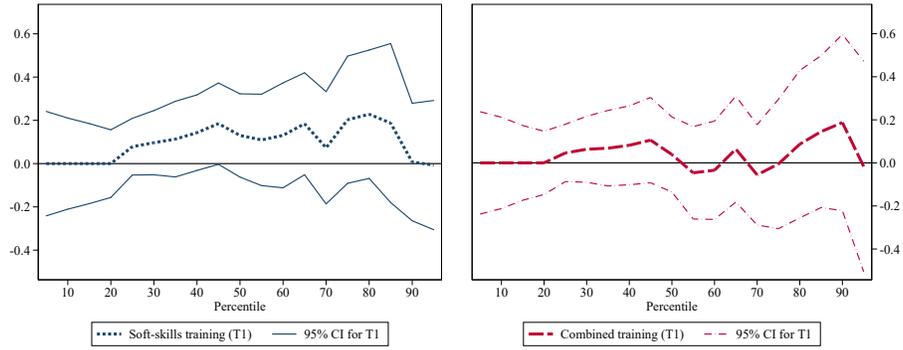
B: 12-month follow-up
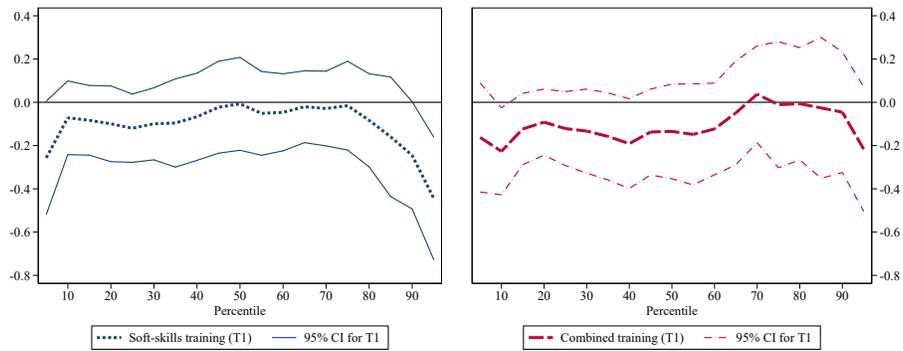
Appendix A

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	62,872	14,377	1.25***
	(61,596)	(13,464)	(0.48)
Combined training	-14,428	-1,903	0.57
	(27,387)	(12,828)	(0.52)
Mean control group	72,261	64,532	6.79
P-value equal t.e.	0.266	0.189	0.144
Observations	660	660	660
Panel B. Profits last month			
Soft-skills training	13,884*	9,785	1.30**
	(8,103)	(6,268)	(0.62)
Combined training	17,112*	8,058	1.20*
	(9,009)	(6,243)	(0.62)
Mean control group	18,678	22,048	4.52
P-value equal t.e.	0.726	0.803	0.856
Observations	633	633	633

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	-41,598	-28,864	-0.87*
	(30,449)	(20,359)	(0.50)
Combined training	-5,889	3,502	-0.37
	(33,832)	(22,007)	(0.49)
Mean control group	146,630	131,086	9.08
P-value equal t.e.	0.186	0.142	0.316
Observations	577	577	577
Panel B. Profits last month			
Soft-skills training	22,023	-4,926	-0.39
	(26,582)	(9,956)	(0.97)
Combined training	11,113	-14,850	-1.66
	(24,798)	(10,273)	(1.02)
Mean control group	-6,667	14,721	2.09
P-value equal t.e.	0.428	0.374	0.214
Observations	572	572	572

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:

I

- **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)

Table OA1: Impact on Business Costs and Making Positive Profits

	(1) Business costs	(2)	(3) Positive profits	(4)
	3-month follow-up	12-month follow-up	3-month follow-up	12-month follow-up
Soft-skills training	-3,191	-32,192	0.11**	-0.00
	(8,742)	(20,919)	(0.05)	(0.05)
Combined training	-11,677	-7,288	0.07	-0.07
	(8,471)	(22,963)	(0.05)	(0.05)
Mean control group	48,581	129,214	0.47	0.47
P-value equal t.e.	0.217	0.192	0.355	0.196
Observations	677	558	633	575

OLS regressions with strata and month 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 dependent variable in columns (1)-(2) is reported total expenditures in the business, winsorized at the 99th percentile and expressed in Jamaican dollars (JMD). The dependent variable in columns (3)-(4) is an indicator for reporting positive profits. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table OA2: Impact on Profits as Sales minus Costs and Reporting Errors

	(1)	(2)	(3)	(4)
	Profits as sales minus costs		Reporting error	
	3-month follow-up	12-month follow-up	3-month follow-up	12-month follow-up
Soft-skills training	16,183	3,108	-15,885	-24,838
	(10,639)	(19,789)	(10,904)	(17,230)
Combined training	4,649	9,157	-2,651	12,989
	(10,566)	(21,105)	(11,884)	(16,662)
Mean control group	19,901	1,618	38,097	63,472
P-value equal t.e.	0.263	0.737	0.176	0.018
Observations	620	539	470	492

OLS regressions with strata and month 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 dependent variable in columns (1)-(2) is profits measured as the difference between reported sales and costs, both winsorized at the 99th percentile and expressed in Jamaican dollars (JMD). The dependent variable in columns (3)-(4) is the absolute value of the difference between the direct measure of profits and the indirect measure calculated as reported sales minus costs. The sample in this regression excludes respondents who do not have a business and whose profits, sales and costs have been coded to 0. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table OA3: 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	-0.10 SD LB	+0.10 SD	+0.25 SD UB
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 OA4: 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.	50th pc. UB	−0.25 SD	−0.10 SD LB	+0.10 SD	+0.25 SD UB
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 OA5: 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	0.20	-0.08
	(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	0.366	0.977
Observations	618	565	601	554

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. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table OA6: 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 OA7: 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 OA8: 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 OA9: 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 OA10: 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 OA11: Big Five Personality Traits (12-month follow-up)

	(1) Neuroticism	(2) Extraversion	(3) Opennness	(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 OA12: 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 OA13: 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 OA14: 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 OA15: 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 OA16: 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 OA17: 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 OA18: 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 OA19: Differences in Characteristics by Gender

	(1) Men (M)	(2) Men (M)	(3) Women (W)	(4) Women (W)	(5) 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: Figures for Game 1 (12-month follow-up)

A: Easy figure
(solution: 5 triangles)
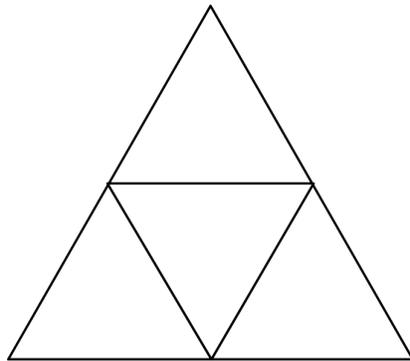
B: Difficult figure
(solution: 13 triangles)