

# The Economics of Women's Entrepreneurship\*

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## Abstract

Existing evidence shows that even with access to capital and skills training, many microenterprises in low-income countries do not grow. Furthermore, women-owned businesses are often less profitable than their male-owned counterparts. We ask whether business skills interventions paired with psychological support help women overcome constraints to entrepreneurship, run and grow businesses, and alleviate poverty. We randomize a holistic entrepreneurship program targeting ultra-poor women in Uganda. The program generates large effects on business creation and increases profits by 102% relative to the control group. However, while children benefit indirectly from changes in the local business environment, it does not immediately improve household outcomes. Instead, treated women re-invest their profits, investing 136% more in their businesses than the control group and quickly opening additional microenterprises. Our results highlight the benefits of holistic entrepreneurship programs for women and provide novel evidence on whether such programs are effective tools for poverty alleviation and private sector development.

KEYWORDS: Entrepreneurship, Firm growth, Intergenerational spillovers, Psychology and economics.

JEL CODES: D13, D23, D91, J16, O12

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# 1 Introduction

A growing body of evidence shows that few microenterprises in low-income countries grow into small and medium enterprises even after alleviating capital constraints and improving business skills (e.g., Mel, McKenzie, and Woodruff (2014), Blattman, Fiala, and Martinez (2014), S. Quinn and Woodruff (2019), McKenzie (2020)). This is particularly true for women-owned enterprises, which are often less profitable than those run by men (Ashraf, Delfino, and Glaeser (2019)). We present experimental evidence on the effects of a holistic entrepreneurship program targeting ultra-poor women in Uganda to better understand which constraints women entrepreneurs face and whether and how they work to overcome those constraints to run and grow businesses.

The program we study teaches business skills in eight 2–3 hour modules over six months, which are accompanied by individual mentoring and role model interventions where program alumni share their success stories. Our sample is 940 women in five peri-urban to rural locations in central Uganda. We follow women over 18–24 months by collecting baseline data before the intervention begins, midline data shortly after women graduate from the program, and endline data 12–18 months after graduation.<sup>1</sup> Weekly SMS surveys on revenues complement in-depth survey modules on business outcomes and practices, household expenditures, consumption, and assets. At baseline and endline, we also interview all children aged 10–17 who are dependents of women in the sample. Network data from the children allows us to estimate the direct treatment effect of living with a treated woman and the indirect effect of each additional treated woman in the child’s social network at baseline, differentiating between effects on children driven by changes within households versus effects driven by changes in the local business environment.

The program is successful in fostering business creation along three dimensions. First, women in the treatment group are 16% more likely to have an active business when graduating from the program than women in the control group and own 0.21 more businesses on average at endline. Second, the program leads to a 102% increase in profits in the main business and an 88% increase in profits from all other businesses. Third, treated women use the profits they make from their main business to reinvest and start additional business ventures. Examining dynamic treatment effects shows that women first invest in their main business, increasing the value of business assets in their main business by 122% compared to the control group at midline. By contrast, there are no effects on additional business creation at midline. The opposite is true at endline: treated women invest 136% more in other businesses at endline but no longer show any significant differences in investments in their main business relative to the control group. Improvements in firm creation and performance are mainly driven by improved price management, higher grit, and greater

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<sup>1</sup>These differences in timing for the endline survey were caused by COVID-19 restrictions that prevented our enumerator team from traveling within Uganda.

effort in terms of working hours.

Within the period of our study, these patterns do not translate into household outcomes and poverty alleviation. Despite earning 102% higher profits in the main business and 88% higher profits in other business activities, treated women experience only small, insignificant increases in household expenditures relative to the control group. They are less likely to be able to smooth across temporary negative consumption shocks as evidenced by higher rates of food insecurity. This suggests that the program is highly effective at instilling the importance of separating business and household finances (similar in spirit to Drexler, Fischer, and Schoar (2014)), but highlights the limitations of women’s entrepreneurship as a tool for poverty alleviation in the short to medium-run.

The program also impacts children, but only indirectly. In line with the null effects on general household outcomes, there are no direct effects on children from living with a woman who participated in the program. Instead, we observe positive effects from having one additional treated woman in a child’s social network at baseline. Children who know more women in the treatment group have significantly higher leadership scores.

Our results have two implications for women’s entrepreneurship in general and for the households of these women specifically. First, it is unlikely that these micro-enterprises will grow into small and medium enterprises (SMEs) that will generate jobs and contribute to private sector development. Our results show that women prefer to start new microenterprises rather than further investing in their original businesses despite high growth in profits. Second, re-investing keeps profits within women’s businesses rather than benefiting the household in the short- to medium-run, both in general and when households face temporary negative shocks. Our result suggests that by investing in illiquid business assets, the women in our sample may be more vulnerable to food insecurity during negative shocks than they would be if they held more liquid assets. However, our results are in line with other studies that document long-run gains for households as a result of such investments.

These results contribute to our understanding of entrepreneurship training. Evidence on traditional business skills interventions reports effects that are overwhelmingly small and typically short-term, both in terms of profits and in terms of implementing the skills learned in training (McKenzie and Woodruff (2014), S. Quinn and Woodruff (2019) and McKenzie (2020) provide overviews). Similarly, the literature on the returns to capital in developing countries among female-owned enterprises provides mixed results, suggesting that overcoming credit and liquidity constraints alone does not always foster business growth (Mel, McKenzie, and Woodruff (2014); Blattman, Fiala, and Martinez (2014)). However, interventions that aim to change a firm owner’s mindset and tackle behavioral constraints seem promising in improving business practices and firm outcomes. Campos et al. (2017) evaluate the effectiveness of personal initiative training and find positive effects on profits compared to no effects from a traditional business practices intervention. Similarly, Batista

and Seither (2021) find that a brief video intervention designed to change firm owners' aspirations improves firm outcomes and Seither (2021) shows that correcting entrepreneurs' beliefs about their relative performance increases sales up to one year after the intervention. Dalton et al. (2021) furthermore provides evidence that skills training effectively changes business practices only when combined with behavioral interventions. In line with this evidence, we find large effects on profits from a program that does not provide capital but teaches business skills while also addressing psychological constraints.<sup>2</sup> As such, we contribute to the evidence identifying psychological constraints as a key barrier to entrepreneurial success and demonstrate the effectiveness of simultaneously addressing skills-based and psychologically rooted constraints specifically for women entrepreneurs.

Our study provides novel evidence on the growth strategies of micro-entrepreneurs and a potential explanation for why micro-enterprises rarely grow into SME's.<sup>3</sup> Despite providing evidence on the positive impact of behavioral interventions, much of the current literature focuses on identifying constraints to firm performance but not firm growth. In this paper we provide evidence that individual firms' growth can stall if the dominant investment strategy is to invest in multiple businesses rather than growing the main business. Studies that focus on firms as the unit of analysis and those that only analyse impacts for one follow-up period cannot capture the dynamic treatment effects on profits and investments that we report.

Beyond entrepreneurship, our work speaks to a rich literature on anti-poverty programs. Recently, studies of comprehensive poverty reduction programs that provide intensive skills training, cash transfers, and social support have found positive impacts on poverty alleviation (Banerjee et al. (2015)). Our work highlights the potential importance of cash transfers in such programs not as a way to facilitate access to capital, but as a form of consumption support. We find evidence that household welfare may decline when entrepreneurs face transitory negative shocks after investing in their businesses. Providing consumption support or other types of protection from negative shocks may allow for entrepreneurship programs to alleviate poverty in the short-term while fostering economic growth in the long-run.

Finally, we contribute to the growing evidence on the importance of positive role models for children (e.g., Riley (2021)). Our evidence suggests that even if economic benefits do not materialize for children within our study period, simply being exposed to more successful women significantly improves leadership outcomes for children.<sup>4</sup> Our results further suggest that programs like the one we study have positive spillovers at a

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<sup>2</sup>Unlike many studies in the McKenzie and Woodruff (2014) review, we did not design the content of the program we study: our implementing partner had been refining the curriculum for over a decade prior to the start of our study, which may partially explain why our results are larger than others in the literature.

<sup>3</sup>McKenzie (2017) finds positive evidence of a cash grant on business growth for winners of a business plan competition in Nigeria. While these businesses start similarly small, self-selection into a business plan competition suggests that these firm owners are significantly different from our sample and the population of firm owners commonly found in developing countries.

<sup>4</sup>The literature on social networks finds that both the size and composition of an individual's network can have large effects on outcomes ranging from employment to technology adoption (e.g., Munshi (2003); Bandiera and Rasul (2006); J. R. Magruder (2010); Beaman and J. Magruder (2012); Beaman, Keleher, and J. Magruder (2018); Munshi and Rosenzweig (2016)), but

community level in addition to household-level impacts.

## 2 Background and Context

The program we study is designed to teach practical business skills in a way that does not require a high level of formal education and provide individualized guidance and support to the women who participate. Coaches mobilize in a new community by speaking with community leaders and visiting households to inform them about the program. During mobilization, they invite any woman who is interested to attend an orientation day. At the orientation day, coaches tell interested women more about what is involved if they choose to participate in the program and introduce them to successful graduates of the program from other communities. At the end of the orientation day, women who want to participate sign up.

After orientation, coaches begin a series of modules as well as individualized coaching. In the first month, they schedule three different sessions lasting 2–3 hours each. The first is called “getting out of your comfort zone” and aims to help participants realize that they have untapped potential that they could be using to better their circumstances. The second is business opportunity identification, which focuses on helping participants identify potential business opportunities that may be successful in their communities. The third is called “finding capital and starting small.” The program does not provide capital, so this module is designed to help participants understand how to raise capital to start a business and to teach that even small amounts of resources may be enough to start growing an enterprise. In addition to these modules, coaches also try to meet with each participants individually in the first month to establish a mentoring relationship.

In the second month, the program schedules two modules. The first is bookkeeping and record keeping, where coaches teach simple techniques for bookkeeping and discuss the importance of keeping records. The second module is called “market research”, and is designed to help participants think about how they can understand the local market before investing their time and resources to start a business. The third month only has one module: business planning. In this module, coaches show participants the steps to planning a business and emphasize the benefits of developing a plan before trying to start a business. The third month is also when coaches complete the second individual coaching visit with each participant, ideally at her business if she has one. This visit is focused on individualized business advice and support.

Month four of the program has two modules. The first is “growing your customer base”, which covers topics like actively pursuing customers, customer service, and offering promotions. The second module is “money management”, which teaches the value of saving and budgeting and provides tools to help participants start

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women often benefit less from these social networks. For instance, J. R. Magruder (2010) finds that inter-generational network effects only increase employment rates for sons, and Beaman and J. Magruder (2012) show that women are less likely to get job referrals than equally qualified men.

separating and prioritizing personal versus business expenses. Month five is entirely given to implementation. Ideally, participants start or continue working on their business in this month using the skills they have learned. Month six involves the final coaching visit, where coaches assess the progress that each woman has made, help her troubleshoot any challenges, and think through ways to improve her business. It is also when the program holds a formal, public graduation ceremony to celebrate the achievements of the women who participated.

While our partner implements its programs throughout Uganda, the women in our sample reside in five communities in central Uganda. Our implementing partner selected all study locations based on conversations with community leaders, their evaluation of the economic needs of the communities, and their estimate of the population of women who might be interested in participating. Allowing our partner to select the study locations precludes random site selection; however, we argue that it yields representative study sites given that the program we study and others like it are unlikely to work in communities that are uninterested or otherwise unable to participate.

Of the five communities where we work, four are rural and one is peri-urban. On average, 52% of women in our sample report being regularly employed at baseline with estimates ranging from 43%–61% depending on location. Most of those women are working for at least part of their time in their own business: 38% – 60% of women who sign up have businesses at baseline, with mean monthly profits between UGX 45,000 and UGX 64,000 (USD 12.16–17.29). The most common types of businesses are those selling food products, both perishable and non-perishable, but over 5% of women also have businesses raising livestock, selling energy sources like charcoal, vending clothes, and selling drinks.

## **3 Experimental Design**

### **3.1 Sampling Frame**

Our implementation partner recruited participants in each study location over several days. Program coaches undertook the same type of mobilization they typically do, but over a slightly larger area to accommodate the sample required for the RCT. Mobilization typically includes speaking to community leaders, advertising the program locally, and distributing leaflets door to door throughout the community. During these efforts coaches emphasize that the program does not provide any financial assistance but offers skills training and guidance on how to become a successful entrepreneur. Coaches then invite all women interested in the program to an orientation day at a central location. There are no restrictions on who can participate other than gender.

At the orientation days for the sites in the RCT, coaches did all of their usual orientation activities but the RCT project manager also introduced the study and explained that by signing up to participate, the women would be randomly assigned to one of three groups. She emphasized that all groups would eventually get to participate in the program but that some would need to wait until the end of the study. The orientation meeting in itself bears some similarities to an aspirations intervention, as it aims to convince women to enroll in the program. Coaches explain the structure of the six months, the official graduation ceremony, and show testimonials of program alumni. This is accompanied by singing and dancing as well as chants of affirmations of female strength.

After the orientation meeting we enlisted all interested women in the study by collecting their contact details, obtaining consent, and taking pictures of all women. With these pictures, we printed photo books to identify social network connections between women at baseline, midline, and endline within each location. The photo books also allow us to establish connections between sampled women and children in a location.

By using this sampling strategy, we maintain the self-selection that typically occurs at the start of the program. In total, we enrolled 940 women in five different communities over the course of fifteen months (August 2018–October 2019). We worked in five communities to build a large enough sampling frame to adequately power our study. Capacity constraints within our implementation partner prevented us from working in more than one location at once, which is why we enroll the sample over time. While these logistical considerations were the primary motivators for our sampling frame, it enables us to effectively stratify on location, though the strata are not precisely equal in size. Our sample consists of 163 women in the first location, 220 in the second, 185 in the third, 217 in the fourth, and 155 in the fifth.

To additionally build our sample of children, we survey all minors between the ages of 10 and 17 who either live with the respondent (regularly eat and sleep) in the same house or who are primarily supported by the respondent even if they attend school elsewhere, as boarding school is common in Uganda. 55% of the women in our sample have dependent children in this age range, with an average of 2.1. This leads to a total sample of 1,075 children of which 47% are boys and 53% are girls.

### **3.2 Assignment to Treatment**

We randomized participants at the end of the baseline survey, which took place in the two weeks following orientation in each location. At the end of the survey, the enumerator asked each woman to draw a colored candy from a paper bag. In accordance with the candy color, women received a colored paper with information about the time, date, and venue of the first training session. Whereas time and date were the same for all groups, the venue differed depending on treatment status. We changed the color of the candies corresponding

to each group in each new location and never revealed the correspondence to the enumerators.

All participants could be assigned to one of three groups. We invited the first group to participate in the program as it is typically implemented, which includes 3 one-on-one visits with program coaches at the participant’s business or home. We term this group the mandatory mentoring group. We invited the second group to participate in a modified version of the program that included all of the same modules but asked participants to either stay after the modules or come to the training venue on specially designated days to meet with coaches for individualized mentoring. We call this group the opt-in mentoring group, as women in this group have to actively choose to pursue mentoring. The third group was the control group, who we invited to participate in the program at the conclusion of the study. While the control group did not receive any training or resources during the RCT, women in this group received a placebo treatment during the very first day of the program where we invited them to participate in one session during which they were able to get to know each other.

Program coaches took careful attendance to ensure compliance with treatment, particularly during the first month. Monitoring from the coaches largely succeeded in limiting non-compliance: 86.7% of participants report attending their assigned group at midline. Most non-compliance occurred between the two treatment arms: 11.7% of participants moved between the two treatment arms. Encouragingly, an identical number of participants moved from the traditional version of the program to the modified version and vice versa, likely indicating that the non-compliance was not driven by concerns about program quality so much as convenience of the training location or the desire to go to the same training as other women in a participant’s social network. 1.7% of participants in the control group did manage to enter one of the treatment arms. Our main results show average treatment effects based only on the randomly assigned treatments, but instrumenting for each participant’s actual group with their treatment assignment yields qualitatively similar results.

We define the direct treatment status of children by the treatment status of the woman they live with or, if the child is in boarding school, the treatment status of the woman on whom they are dependent. In addition, we assign an indirect treatment status, which we define as a continuous measure of the treatment status of women in their social network based on network data gathered at baseline.

### **3.3 Timeline and Data**

We conducted three in-person surveys with each woman in our sample: once at baseline in the two weeks following orientation, once at midline in the 2–3 weeks following graduation from the program, and once at endline approximately eighteen months after graduation. The surveys for women consist of five modules. The first covers household characteristics and the socio-economic background of women. The second asks



about household consumption decisions, including information on the overall contributions of household members to household income as well as expenditures in various consumption categories. The third covers business outcomes: established measures of sales and profits, business practices, investment decisions, and expectations about future business growth, profits, and variability. Fourth, we collect detailed data on psychometric indicators including locus of control, self-efficacy, grit, and various measures of expectations and aspirations for the future. Finally, we obtain detailed network data between participants using the photo books produced at baseline in each location.

We interview children twice: once at baseline and once at endline. For any children who are currently in boarding school, we collect baseline data during the first school holiday after collecting baseline data from the women. The children’s survey covers aspirations and forward-looking behavior, time use, time and risk preferences, selected psychometric measures, and gender attitudes. We obtain the relationship of children to our study participants with the help of photo books showing pictures of the women in both control and treatment groups (without revealing which women are in which group).

We complement sales and profit data from our in-person surveys with high-frequency data collected through SMS surveys. Starting the week after baseline surveys were completed, respondents received a weekly text message on a randomly selected day asking them to report total sales revenue from the previous day. We incentivized responses by offering participants UGX 1,000 in airtime. Each month, an enumerator supplemented the SMS surveys by calling each woman who had not responded to any SMS survey in the past month.

The government of Uganda imposed two national lockdowns during our study period due to COVID-19: April–September 2020 and June–July 2021. During these lockdowns, we worked with our implementation partner to add a food insecurity question to our SMS survey to understand how many times a week the women in our sample and their families did not have enough to eat.

Figure 1 shows a complete timeline including all data collection, implementation of the program, and COVID-19 lockdowns. We only completed data collection in the first of our five locations prior to the first COVID-19 lockdown. For locations 2–4, the first lockdown fell after graduation but before the endline survey. The first lockdown delayed graduation in our fifth location. The timeline highlights two important considerations. First, we had originally intended to collect endline data 18 months after the baseline survey, but the COVID-19 lockdown pushed back our timeline. Therefore, our endline survey in all but the first location occurs around two years after baseline. Second, the delay in implementation for the fifth location means that the endline survey occurs around one year after midline (the same spacing as in the first location), whereas locations 2–4 have the endline 18 months after midline.

## 4 Effects on Women Entrepreneurship

### 4.1 Balance and attrition

We check for baseline balance between the three groups on the following dimensions: age, marital status, educational attainment, parental educational attainment, employment status, household size, number of minors, business ownership, and network size. We test for selective attrition along the same dimensions.

In [Table 1](#) we show that the three groups are generally balanced. We observe a slight imbalance on education levels but this is inline with what we would expect by chance given the number of covariates we test. As we show in [Table 2](#), attrition is correlated with some baseline covariates: women with lower levels of formal education are significantly less likely to drop out of the sample than those with higher levels of education, business owners are less likely to drop out than non-business owners, and women who are employed are more likely to drop out than those who are not, although the latter two only apply to the midline survey. There is no differential attrition by treatment status and no differential selection into responding to the SMS survey by treatment status. We do find that women who are older, unmarried, and have larger social networks are more likely to respond to the SMS survey.

### 4.2 Estimation Strategy

Our design permits us to obtain intent to treat (ITT) effects of the program. For any outcome of interest in a given survey round,  $O_{it}$ , we estimate the following ANCOVA specification:

$$O_{it} = \alpha + \beta_1 Treat_{it} + \beta_2 Treat * Mentoring_{it} + \delta_1 X_i + \delta_2 O_{i0} + \epsilon_{it}$$

$\beta_1$  gives the ITT effect of participating in the main modules of the program.  $\beta_2$  estimates the additional effect of receiving home mentoring visits. We control for a range of baseline covariates: age, marital status, household size, and the number of minors living in a household as well as location and survey round fixed effects.  $O_{i0}$  is the outcome variable at baseline. We cluster standard errors at our level of randomization, the individual. We are interested in variation in treatment effects over time, so we estimate effects wave by wave rather than pooling data over both survey rounds.

To estimate spillover effects on children, we combine our ITT estimating equation with the specification used in Fafchamps, Vaz, and Vicente (2020). This specification allows us to estimate (i) the direct effect (the effect of being targeted versus non-targeted) for each treatment and (ii) the indirect effect (the effect of additional treated women in a child’s network) for targeted children. We estimate these effects using the following specification:

$$y_{it} = \alpha + \theta_1 Treat_{it} + \eta p \sum Treated_{ip0} + \delta p \sum g_{ip0} + \delta_1 X_i + \delta_2 O_{i0} + \epsilon_{it}$$

In this estimating equation,  $Treat_{it}$  is equal to one if child  $i$  lives with a woman who has been randomly assigned to the treatment in period  $t$ . Therefore,  $\theta_1$  quantifies the direct intergenerational effect.  $\eta$  quantifies the indirect effect of being connected to an additional woman in a given treatment arm at baseline.  $\delta p \sum g_{ip0}$  controls for the overall number of women in the study to whom a child is connected at baseline. We include individual covariates, the time period, and the lagged outcome variable, and cluster standard errors at the level of the individual child.

### 4.3 Results on Business Outcomes

Table 3 shows results on five business outcomes: owning any business, the number of businesses owned, sales revenues and profits for the respondent’s main business, and combined profits in all other businesses that the respondent may own. The results show that the program is highly effective at generating persistent improvements along all five outcomes. Column (1) shows that at midline, women in either treatment group are 15.8pp (28.4%) more likely to own a business than women in the control group. The effect on our binary indicator of business ownership declines to 7.5pp (11.2%) at endline as the rate of business ownership in the control group grows. However, column (2) shows that the program generates large and persistent impacts on the number of businesses owned, indicating that the program is effective along the extensive margin of business creation.

Women in the treatment groups also generate significantly higher revenues and profits than those in the control group. Column (3) shows that women in either treatment group have 151% higher sales revenues in their main business at midline than women in the control group. At endline, the effect retains its magnitude and significance for women in the opt-in mentoring group but declines significantly for women in the mandatory mentoring group. Column (4) shows somewhat similar patterns: profits in the main business are 233% higher at midline for women with opt-in mentoring than those in the control group, although the effect declines to 102% by endline. At both midline and endline, women in the mandatory mentoring group have significantly lower profits than those in opt-in mentoring. We explore these differences further when we consider potential mechanisms. It is again worth noting that declining treatment effects for the main business at endline are driven by increased sales and profits among women in the control group rather than lower sales and profits for women in the treatment group.

Figure 2 shows dynamic effects by quarter of the experiment separately for the mandatory mentoring

group and the group with opt-in mentoring. We estimate these effects by aggregating weekly responses to SMS surveys on sales revenues in the main business to the quarterly level. The results align closely with those in [Table 3](#). Sales revenues increase more dramatically for women in the opt-in group than for those in the mandatory mentoring group. The increase appears to start soon after graduation from the program (the third quarter). The dynamic effects also allow us to see when women in the control group begin to catch up: around one year after the end of the program.

The patterns for businesses other than the main business are strikingly different. As column (5) of [Table 3](#) shows, the program does not lead to a significant increase in profits in other businesses at midline, but it does increase profits in other businesses by 88% at endline. Furthermore, the mean of profits in other businesses is virtually the same at midline and endline for the control group, in contrast to the increasing means we see for our other business outcomes. Combined with the persistent effect on the number of businesses owned, this suggests that the program helps women move beyond a single business to operate multiple businesses.

To better understand our results on multiple businesses, we test whether the program changes investments and savings. [Table 4](#) shows effects on total savings, investments in the main business, and investments in all other businesses. Column (1) shows that the program does not lead to any change in the amount being held as savings, either at midline or endline. However, the program leads to large increases in business investments. Column (2) shows that treated women have invested 121.8% more in the main business at midline than women in the control group. This effect does not persist at endline, but this is likely because women in the control group are investing more in their first business, while treated women have instead started increasing investments in other businesses. Column (3) shows that the program leads to 135.5% higher investments in other businesses at endline. Our results indicate that women prefer to invest in multiple small businesses rather than growing a single enterprise. Such patterns may be caused by constraints in the business environment, but they could also reflect a risk-reduction strategy wherein women start multiple businesses in different sectors as a way to diversify their income streams.

Next, we consider potential mechanisms that may explain the effects on business ownership, sales, and profits. Before we present results on pre-registered mechanisms, we provide descriptive evidence on program participation to better understand differences between mandatory mentoring and opt-in mentoring. Women in both treatment groups attend five of the eight sessions, on average. While mentoring is supposed to be mandatory for one group, only 75.3% of women in the mandatory mentoring group actually attend a mentoring session at their home or business. Of the women in the mandatory mentoring group who attend at least one mentoring session, 21.7% attend one session, 35% attend two sessions, and 43.3% attend all three. By contrast, only 44.8% of women in the treatment group with opt-in mentoring attend at least one mentoring session. Of those who attend, the overwhelming majority (97%) attend only one session.

Such stark differences in mentoring participation combined with differences in business performance indicate that the change in the format of the mentoring may have meaningfully changed participants' experiences with the program. One possibility is that the different formats are appealing to different types of participants. In [Table 5](#), we compare baseline characteristics of women who attend at least seven modules in the mandatory mentoring group and the opt-in mentoring group. Attendance in the opt-in group is high among women who are currently married and who have never been married as well as women with smaller social networks, while attendance in the mandatory mentoring group is highest among widowed and divorced women and those with larger social networks. We do a similar analysis for women who attend at least one mentoring session and find similar patterns (see [Table A1](#)). However, we find little heterogeneity in business outcomes based on marital status, suggesting that differences in selection into attendance and mentoring are not necessarily driving differences in business outcomes between the two groups (see [Table A2](#)).

The results on selection into attendance and mentoring suggest that different mentoring formats significantly impact which women choose to invest time and effort in the program, but selection alone cannot explain why mandatory mentoring does not outperform opt-in mentoring. To better understand differences between mentoring formats, we draw on conversations Street Business School held with participants after the completion of the study. An overwhelming majority of participants expressed a preference for opt-in mentoring. Stated reasons ranged from being unable to focus while caring for children or trying to run their business to discussions about increased scrutiny and social pressure from neighbors when they saw mentors visiting the women at their homes. These conversations suggest that opt-in mentoring provides a greater sense of privacy and ability to focus than mandatory mentoring. Scrutiny and social pressure may affect selection into attendance and mentoring but also have direct effects on business outcomes. For instance, women in the mandatory mentoring group may choose to start businesses that are easier to hide, limiting their growth potential. Similarly, women in the mandatory mentoring group may be deriving fewer benefits from the mentoring than women in the opt-in group if it is difficult for them to focus.

Next, we consider a range of business practices to test whether any modules in the program appear to be particularly important, and to see whether the differences in selection that we document have any impact on the types of skills participants acquire. [Table 6](#) shows the results. While we do not see any significant improvements in business tracking or goal setting scores (columns (1) and (3)), we see relatively large and persistent impacts on our price management score. The price management score combines questions about researching competitor prices, running promotions to attract customers, comparing supplier prices, and negotiating for better prices with suppliers. Column (4) further shows that women in the treatment group invest more personal effort in their business, working 8.4 more hours per week in their main business, on average, than women in the control group at midline. The effects on working hours decline by endline, again

largely due to increases in the control group. While we do not see any significant differences between the two treatment groups, we do see a consistent pattern of negative effects from mandatory mentoring relative to opt-in mentoring at endline, which aligns with our results on business outcomes.

Like many programs, the program we study aims to go beyond simply teaching business skills: it seeks to change women’s mindsets to make them feel empowered and self-confident. We examine such psychological mechanisms by presenting results on a range of psychometric outcomes in [Table 7](#). While we see no effect on generalized self-efficacy, we see significant, persistent impacts on grit (column (2)). Interestingly, the effects on grit are entirely driven by women in the opt-in mentoring group: women in the mandatory mentoring group exhibit significantly lower grit scores at both midline and endline than women in the opt-in mentoring group. We see similar patterns for the internality component of our locus of control measure at endline: women in the opt-in mentoring group have significantly higher internality scores than those in the mandatory mentoring group. These patterns suggest one potential mechanism that may be driving differences between the two groups. Opt-in mentoring may encourage greater perseverance and independence than mandatory mentoring.

It is clear that the program we study leads to large, significant, and persistent increases in business creation, sales revenues, and profits. In the next section, we consider whether these impacts on business outcomes translate into household welfare.

#### 4.4 Results on Household and Children’s Outcomes

We estimate whether gains in profits lead to improvements in household outcomes by evaluating treatment effects for household expenditures, the marginal utility of expenditures (MUE) ([Ligon \(2020\)](#)), a binary indicator for whether the household observed food insecurity more than once over the six months before the survey, and remittances received by the household. [Table 8](#) displays the results. Column (1) shows that we find small, statistically insignificant effects of the treatment on daily household expenditures at both midline and endline. Though not displayed here, we find similarly small, insignificant results on measures of monthly and annual expenditures. While we find no effects on the marginal utility of expenditure at midline (column (2)), we see an increase among women in the opt-in mentoring group at endline. This suggests that households with a treated woman value each additional dollar more than those in the control group, indicating lower household welfare. Somewhat in line with this result, column (3) shows that women in the opt-in mentoring treatment are more likely to have suffered multiple episodes of food insecurity over the six months prior to the midline survey, though we see no effects at the endline survey. Column (4) shows that treated women report that their households have received 94.5% lower remittances at midline and 72.5% lower remittances at endline compared to households in the control group, though the magnitudes of remittances in levels are

relatively small.

We also consider impacts on children using data collected from children at baseline and endline. Here we measure the direct effect of living with a woman in either treatment group and the indirect effect of having one additional treated woman in a child’s social network at baseline. Our results, displayed in [Table 9](#), suggest that there is no direct effect, but being connected to a larger number of treated women significantly increases the leadership scores of boys.

Our results on household outcomes and inter-generational spillovers suggest that increased profits in women’s businesses are not leading to any significant improvements in household welfare within the time frame of our study. If anything, it appears that the treatments may actually slightly lower household welfare. Considering the results on household welfare alongside those on investments, it appears that women become slightly less able to smooth across negative consumption shocks because their savings are invested in illiquid business assets. Our results on savings and investment indicate that the program is highly effective at convincing women to keep business funds separate from household funds, allowing women to reinvest their profits in business activities but leading to no improvements in household welfare in the short- to medium-run.

## 5 Conclusion

Our paper shows that a well-tailored program to encourage women’s entrepreneurship is highly effective at promoting business ownership, increasing micro-enterprise profits and revenues, and encouraging business investments. Marked improvements in skills-based measures like price management alongside higher psychometric outcomes like grit suggest that combining skills-based training with psychological support is highly effective for the women in our sample. Interestingly, the less intensive version of the program that offers opt-in mentoring performs as well as, and sometimes better than, the version with extensive, mandatory mentoring. While we cannot precisely identify the mechanism driving differences between the two versions of the program, our results on psychometric measures suggest that opt-in mentoring leads to significantly higher grit, or perseverance. Qualitative evidence further suggests that opt-in mentoring may carry unexpected benefits such as greater privacy and a better ability to focus compared to mentoring that takes place within participants’ homes and businesses. Combined, these results contribute to our understanding of the effective design of micro-entrepreneurship programs for women.

In ongoing work, we explore two key questions about the entrepreneurship program in this paper. First, can the program scale, or are the large effects that we document dependent on the highly motivated, experienced coaches who implemented the program in our study? Second, is the program more effective for women than it is for men? We are implementing a second RCT among organizations trained by our implementation

partner to answer both questions.

Despite such positive results on business outcomes, practices, and investments, we observe no improvements in household welfare and poverty alleviation in the short to medium-run. We show that when there are incentives to fix capital in assets, households may experience no gain in welfare and may even be less able to smooth across negative consumption shocks. Our results point to an alternative role for cash grants and even loans for micro-enterprises. While such measures are often propose as a way to facilitate access to capital, they may play equally important roles as consumption support as entrepreneurs invest in illiquid business assets.

The investment behavior we observe indicates that women prefer to start new micro-enterprises rather than investing in growing existing businesses, either due to constraints on business growth or because they place a high value on diversifying income sources to reduce risk. Such behavior indicates that micro-enterprises are unlikely to grow into SMEs. In future work, we plan to further examine the constraints and incentives that encourage the formation of multiple micro-enterprises over the growth of a single business to better understand what types of policies and programs are best at spurring private sector development.



## References

- Adler, N. E. et al. (2000). “Relationship of subjective and objective social status with psychological and physiological functioning: preliminary data in healthy white women”. *Health Psychology: Official Journal of the Division of Health Psychology, American Psychological Association* 19, 586–592.
- Anderson, M. (2008). “Multiple inference and gender differences in the effects of early intervention: A reevaluation of the Abecedarian, Perry preschool, and early training projects.” *Journal of the American Statistical Association* 103, 1481–1495.
- Ashraf, Nava, Alexia Delfino, and Edward L. Glaeser (2019). “Rule of law and female entrepreneurship”. NBER Working Paper No. 26366.
- Bandiera, Oriana and Imran Rasul (2006). “Social Networks and Technology Adoption in Northern Mozambique”. *The Economic Journal* 116, 869–902.
- Banerjee, Abhijit et al. (2015). “A multifaceted program causes lasting progress for the very poor: Evidence from six countries”. *Science* 348.
- Batista, Catia and Julia Seither (2021). “Aspirations, Expectations, Identities: Behavioral Constraints of Micro-Entrepreneurs”.
- Beaman, Lori, Niall Keleher, and Jeremy Magruder (2018). “Do Job Networks Disadvantage Women? Evidence from a Recruitment Experiment in Malawi”. *Journal of Labor Economics* 36, 121–157.
- Beaman, Lori and Jeremy Magruder (2012). “Who Gets the Job Referral? Evidence from a Social Networks Experiment”. *American Economic Review* 102, 3574–93.
- Blattman, Christopher, Nathan Fiala, and Sebastian Martinez (2014). “Generating Skilled Self-Employment in Developing Countries: Experimental Evidence from Uganda”. *The Quarterly Journal of Economics* 129, 697–752.
- Campos, Francisco et al. (2017). “Teaching personal initiative beats traditional training in boosting small business in West Africa”. *Science* 357, 1287–1290.
- Dalton, Patricio et al. (2021). “Curating Local Knowledge: Experimental Evidence from Small Retailers in Indonesia”. *Journal of the European Economic Association* 19, 2622–2657.
- Drexler, Alejandro, Greg Fischer, and Antoinette Schoar (2014). “Keeping It Simple: Financial Literacy and Rules of Thumb”. *American Economic Journal: Applied Economics* 6, 1–31.
- Duckworth, Angela L. et al. (2007). “Grit: perseverance and passion for long-term goals”. *Journal of Personality and Social Psychology* 92, 1087–1101.
- Duckworth, Angela Lee and Patrick D. Quinn (2009). “Development and validation of the short grit scale”. *Journal of Personality Assessment* 91, 166–174.

- Fafchamps, Marcel, Ana Vaz, and Pedro C. Vicente (2020). “Voting and Peer Effects: Evidence from a Randomized Controlled Trial”. *Economic Development and Cultural Change* 68(2).
- Levenson, H. (1973). “Multidimensional locus of control in psychiatric patients”. *Journal of Consulting and Clinical Psychology* 41, 397–404.
- Ligon, Ethan (2020). “Estimating Household Welfare from Disaggregate Expenditures”.
- Magruder, Jeremy R. (2010). “Intergenerational Networks, Unemployment, and Persistent Inequality in South Africa”. *American Economic Journal: Applied Economics* 2, 62–85.
- McKenzie, David (2017). “Identifying and spurring high-growth entrepreneurship: Experimental evidence from a business plan competition”. *American Economic Review* 107, 2278–2307.
- (2020). “Small Business Training to Improve Management Practices in Developing Countries : Reassessing the Evidence for ’Training Doesnât Work””. *Policy Research Working Paper; No. 9408. World Bank, Washington, DC.*
- McKenzie, David and Christopher Woodruff (2014). “What Are We Learning from Business Training and Entrepreneurship Evaluations around the Developing World?” *The World Bank Research Observer* 29, 48–82.
- Mel, Suresh de, David McKenzie, and Christopher Woodruff (2014). “Business training and female enterprise start-up, growth, and dynamics: Experimental evidence from Sri Lanka”. *Journal of Development Economics* 106, 199–210.
- Munshi, Kaivan (2003). “Networks in the Modern Economy: Mexican Migrants in the U. S. Labor Market\*””. *The Quarterly Journal of Economics* 118, 549–599.
- Munshi, Kaivan and Mark Rosenzweig (2016). “Networks and Misallocation: Insurance, Migration, and the Rural-Urban Wage Gap”. *American Economic Review* 106, 46–98.
- Quinn, Simon and Christopher Woodruff (2019). “Experiments and entrepreneurship in developing countries”. *Annual Review of Economics* 11, 225–248.
- Riley, Emma (2021). “Role models in movies: the impact of Queen of Katwe on students’ educational attainment”. *Review of Economics and Statistics* forthcoming.
- Schwarzer, R. and M. Jerusalem (1995). “Generalized self-efficacy scale”. *Measures in Health Psychology: a user’s portfolio.*
- Seither, Julia (2021). “Keeping Up With the Joneses: Economic Impacts of Overconfidence in Micro-Entrepreneurs”.

## 6 Tables and Figures

Table 1: Balance Table

	(1)	(2)	(3)	(4)
	Control	Mandatory Mentoring	Opt-in Mentoring	p-value
Age	37.911 (0.776)	37.537 (0.689)	38.061 (0.678)	0.861
Married	0.620 (0.029)	0.622 (0.026)	0.682 (0.026)	0.192
Divorced	0.180 (0.023)	0.201 (0.022)	0.169 (0.021)	0.565
Single	0.085 (0.017)	0.071 (0.014)	0.070 (0.014)	0.754
Widowed	0.116 (0.019)	0.106 (0.017)	0.080 (0.015)	0.300
Primary Education	0.449 (0.030)	0.478 (0.027)	0.528 (0.028)	0.141
Secondary Education	0.414 (0.029)	0.428 (0.027)	0.370 (0.027)	0.301
Father Primary Education	0.242 (0.025)	0.260 (0.024)	0.297 (0.026)	0.288
Father Secondary Education	0.168 (0.022)	0.142 (0.019)	0.127 (0.019)	0.340
Mother Primary Education	0.344 (0.028)	0.310 (0.025)	0.345 (0.027)	0.556
Mother Secondary Education	0.126 (0.020)	0.088 (0.015)	0.111 (0.018)	0.307
Employed	0.535 (0.030)	0.496 (0.027)	0.540 (0.028)	0.463
HH Size	4.225 (0.147)	4.230 (0.142)	4.408 (0.150)	0.603
Minors in HH	2.926 (0.124)	2.991 (0.114)	3.174 (0.120)	0.321
Having a business	0.551 (0.030)	0.490 (0.027)	0.521 (0.028)	0.313
Network Size	4.554 (0.210)	4.873 (0.178)	4.911 (0.203)	0.388

*Note:* Mean baseline covariates by treatment group. Standard deviations are in parentheses. Column 4 reports p-values associated with F-tests of joint equality between the three groups.

Table 2: Attrition

	(1) At Exit	(2) At Endline
Mandatory Mentoring	0.020 (0.025)	0.006 (0.023)
Opt-in Mentoring	-0.012 (0.024)	0.001 (0.024)
Age	-0.001 (0.001)	-0.003*** (0.001)
Married	0.046 (0.032)	0.007 (0.029)
Divorced or separated	0.003 (0.032)	0.008 (0.031)
Single or never married	0.055 (0.053)	0.087 (0.057)
Primary education of respondent	-0.089** (0.041)	-0.066* (0.040)
Secondary education of respondent	-0.085** (0.042)	-0.107*** (0.040)
Primary education of father	-0.015 (0.026)	0.008 (0.025)
Secondary education of father	0.006 (0.033)	0.009 (0.031)
Primary education of mother	-0.004 (0.025)	0.034 (0.023)
Secondary education of mother	-0.026 (0.035)	0.009 (0.033)
Employed	0.058** (0.026)	0.033 (0.024)
HH Size	0.006 (0.010)	0.004 (0.008)
Minors	-0.014 (0.012)	-0.011 (0.009)
Own a Business	-0.074*** (0.025)	-0.028 (0.023)
Network Size	-0.004 (0.002)	-0.002 (0.002)
Observations	914	914

Note: For the marital status, the omitted dummy is widowed. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*,  $p < 0.01$ .

Table 3: Treatment Effects on Business Outcomes

	Business Creation		Main Business		Other Businesses
	(1) Own a Business	(2) No. Businesses	(3) Sales (IHS)	(4) Profits (IHS)	(5) Profits (IHS)
<i>Panel A: Midline (6 months)</i>					
Treat	0.158*** (0.040)	0.232*** (0.067)	1.513*** (0.482)	2.326*** (0.511)	0.372 (0.412)
Treat x Mentoring	-0.028 (0.038)	-0.019 (0.068)	-0.648 (0.475)	-0.824* (0.499)	0.427 (0.436)
Observations	822	822	802	795	824
MHT q-value Treat	0.010	0.020	0.010	0.010	0.238
MHT q-value TxM	0.782	0.861	0.188	0.188	0.782
Control Mean	0.566	0.832	37674.603	69415.538	18589.105
Adj. R <sup>2</sup>	0.224	0.299	0.219	0.186	0.097
<i>Panel B: Endline (18-24 Months)</i>					
Treat	0.075* (0.041)	0.213*** (0.070)	1.467*** (0.513)	1.022* (0.534)	0.880** (0.418)
Treat x Mentoring	-0.056 (0.039)	-0.110 (0.070)	-1.162** (0.488)	-0.909* (0.507)	-0.376 (0.430)
Observations	828	827	814	810	829
MHT q-value Treat	0.129	0.020	0.050	0.079	0.050
MHT q-value TxM	0.446	0.327	0.059	0.178	0.446
Control Mean	0.667	0.903	43628.016	76934.118	17832.946
Adj. R <sup>2</sup>	0.092	0.165	0.106	0.075	0.059

*Note:* We windsorize all sales and profit measures at the 1st and 99th percentile. Coefficients are ANCOVA estimates that control for the outcome at baseline, the respondent's location, marital status, household size, number of children, and age. IHS indicates that we present results using an inverse hyperbolic sine transformation. We report standard errors clustered at the individual level in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*,  $p < 0.01$ . The Multiple Hypothesis Method p-values reported correspond to the Romano-Wolf q-values.

Table 4: Treatment Effects on Re-Investments

	(1)	(2)	(3)
	Savings (IHS)	Business Assets (IHS)	Investments in Other Businesses (IHS)
<i>Panel A: Midline (6 months)</i>			
Treat	0.433 (0.556)	1.218** (0.502)	0.173 (0.434)
Treat x Mentoring	0.494 (0.510)	-0.409 (0.505)	0.345 (0.433)
Observations	466	824	824
MHT q-value Treat	0.713	0.040	0.713
MHT q-value TxM	0.644	0.673	0.693
Control Mean	258323.353	120251.424	45166.537
Adj. R <sup>2</sup>	0.101	0.151	0.128
<i>Panel B: Endline (18–24 Months)</i>			
Treat	0.119 (0.571)	0.407 (0.536)	1.355*** (0.434)
Treat x Mentoring	-0.263 (0.517)	-0.352 (0.507)	-0.453 (0.464)
Observations	477	829	829
MHT q-value Treat	0.832	0.703	0.010
MHT q-value TxM	0.950	0.931	0.931
Control Mean	253495.326	127104.992	29836.047
Adj. R <sup>2</sup>	-0.004	0.100	0.053

*Note:* We winsorize all savings and investment measures at the 1st and 99th percentile. Coefficients are ANCOVA estimates that control for the outcome at baseline, the respondent's location, marital status, household size, number of children, and age. IHS indicates that we present results using an inverse hyperbolic sine transformation. Savings is the total amount held in all financial savings instruments. Business assets is the estimated monetary value of all assets held in the main business. Investments in other businesses is the total estimated monetary value of all investments in businesses other than the main business. We report standard errors clustered at the individual level in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*,  $p < 0.01$ . The Multiple Hypothesis Method p-values reported correspond to the Romano-Wolf q-values.

Table 5: Differences in Selection into Attendance

Variable	(1)		(2)		T-test Difference (1)-(2)
	Opt-In N	Mentoring Mean/SE	Mandatory N	Mentoring Mean/SE	
Single	95	0.095 (0.030)	107	0.019 (0.013)	0.076**
Married	95	0.663 (0.049)	107	0.495 (0.049)	0.168**
Divorced	95	0.179 (0.040)	107	0.318 (0.045)	-0.139**
Widowed	95	0.063 (0.025)	107	0.168 (0.036)	-0.105**
Primary education	97	0.515 (0.051)	107	0.486 (0.049)	0.029
Secondary education	97	0.412 (0.050)	107	0.449 (0.048)	-0.036
HH Size	97	4.649 (0.317)	107	4.467 (0.231)	0.182
Minors	97	3.371 (0.244)	107	3.150 (0.191)	0.222
Age	95	38.674 (1.202)	99	40.606 (1.273)	-1.932
Own a Business	97	0.546 (0.051)	107	0.570 (0.048)	-0.024
Network Size	97	4.722 (0.323)	107	5.570 (0.363)	-0.848*
Employed	97	0.505 (0.051)	107	0.542 (0.048)	-0.037
Profits	94	71976.596 (21730.347)	106	70933.962 (14598.044)	1042.633
Grit	97	29.186 (0.600)	107	30.159 (0.508)	-0.973
Internal Locus of Control	97	16.124 (0.195)	107	15.813 (0.237)	0.311
Self-efficacy	97	39.340 (0.682)	107	39.009 (0.682)	0.331

*Notes:* Mean baseline covariates by treatment group for women who attend 7 or 8 modules. Single, married, divorced, and widowed are indicators equal to one if a woman holds that marital status. Primary and secondary education are indicators equal to one if the woman's highest level of education is primary school or secondary school, respectively. HH size is the number of people who regularly eat and sleep in a woman's household. Minors is the number of minors in the woman's household. Age is the woman's age in years. Own a business is an indicator equal to one if the woman owns a business. Network size is the number of women in the RCT in the woman's location who she knows. Employed is an indicator equal to one if the woman is employed. Profits are profits from the last month in the main business in Ugandan shillings. Grit, internal locus of control, and self-efficacy are psychometric indices. Standard errors are in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .



Table 6: Treatment Effects on Business Practices

	(1) Tracking	(2) Price Mgmt.	(3) Goal Setting	(4) Work Hours
<i>Panel A: Midline (6 months)</i>				
Treat	0.179 (0.154)	0.374** (0.176)	0.063 (0.149)	8.420* (4.454)
Treat x Mentoring	0.132 (0.157)	-0.057 (0.177)	0.228 (0.167)	2.933 (4.665)
Observations	434	422	364	379
MHT q-value Treat	0.119	0.050	0.119	0.030
MHT q-value TxM	0.921	0.921	0.485	0.921
Control Mean	0.957	1.012	0.643	28.431
Adj. R <sup>2</sup>	0.107	0.134	0.119	0.205
<i>Panel B: Endline (18–24 Months)</i>				
Treat	0.187 (0.162)	0.336* (0.191)	0.133 (0.165)	4.521 (4.718)
Treat x Mentoring	-0.156 (0.159)	-0.223 (0.180)	0.039 (0.164)	-3.615 (4.699)
Observations	431	415	358	389
MHT q-value Treat	0.356	0.356	0.356	0.356
MHT q-value TxM	0.891	0.812	0.891	0.891
Control Mean	1.133	1.239	0.688	35.130
Adj. R <sup>2</sup>	0.008	-0.010	-0.003	0.079

*Note:* Coefficients are ANCOVA estimates that control for the outcome at baseline, the respondent's location, marital status, household size, number of children, and age. Tracking combines multiple questions about record keeping for the business. Price management combines multiple questions about setting prices, running promotions, comparing prices with competitors, and negotiating for better prices with suppliers. Goal setting combines multiple questions about setting goals for the business over various time horizons. Work hours is the number of hours the respondent typically works in her main business. We report standard errors clustered at the individual level in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*,  $p < 0.01$ . The Multiple Hypothesis Method p-values reported correspond to the Romano-Wolf q-values.

Table 7: Treatment Effects on Psychometric Measures

	Locus of Control					Aspirations	
	(1) Self-Efficacy	(2) Grit	(3) Internal	(4) PO	(5) Chance	(6) Income (IHS)	(7) Social Status
<i>Panel A: Midline (6 months)</i>							
Treat	0.525 (0.589)	1.071** (0.495)	0.061 (0.222)	-0.108 (0.420)	0.177 (0.355)	-0.171 (0.224)	0.152* (0.091)
Treat x Mentoring	-0.368 (0.567)	-0.823* (0.487)	0.069 (0.215)	0.004 (0.412)	0.275 (0.335)	-0.253 (0.265)	-0.205** (0.090)
Observations	819	820	819	819	820	654	809
MHT q-value Treat	0.980	0.317	1.000	1.000	0.950	0.980	0.416
MHT q-value TxM	0.842	0.347	0.772	0.842	0.921	0.535	0.139
Control Mean	38.605	29.488	15.836	-12.914	-14.645	1481436.681	3.079
Adj. R <sup>2</sup>	0.108	0.104	0.026	0.123	0.078	0.001	0.090
<i>Panel B: Endline (18–24 Months)</i>							
Treat	0.586 (0.637)	0.957* (0.517)	0.459* (0.255)	0.144 (0.460)	-0.430 (0.363)	-0.124 (0.117)	0.028 (0.094)
Treat x Mentoring	-0.529 (0.583)	-1.329*** (0.458)	-0.395* (0.237)	0.054 (0.418)	0.101 (0.343)	-0.035 (0.108)	-0.045 (0.087)
Observations	821	822	821	821	822	677	809
MHT q-value Treat	0.772	0.307	0.545	0.772	0.812	0.277	0.812
MHT q-value TxM	0.931	0.069	0.594	0.960	0.960	0.931	0.960
Control Mean	39.289	30.094	15.801	-12.121	-14.191	1577983.402	2.992
Adj. R <sup>2</sup>	0.105	0.107	0.059	0.045	0.037	0.039	0.037

*Note:* Coefficients are ANCOVA estimates that control for the outcome at baseline, the respondent’s location, marital status, household size, number of children, and age. IHS indicates that we present results using an inverse hyperbolic sine transformation. We measure generalized self-efficacy following Schwarzer and Jerusalem (1995). Our measures of grit follow Angela L. Duckworth et al. (2007) and Angela Lee Duckworth and P. D. Quinn (2009). We draw our locus of control measures from Levenson (1973) and our measure of subjective social status from Adler et al. (2000). We report standard errors clustered at the individual level in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*,  $p < 0.01$ . The Multiple Hypothesis Method p-values reported correspond to the Romano-Wolf q-values.

Table 8: Treatment Effects on Household Outcomes

	(1) Daily HH Expenditure (IHS)	(2) MUE	(3) Food Insecurity	(4) Remittances (IHS)
<i>Panel A: Midline (6 months)</i>				
Treat	-0.017 (0.184)	0.097 (0.087)	0.132*** (0.041)	-0.945** (0.382)
Treat x Mentoring	0.127 (0.169)	-0.071 (0.090)	-0.124*** (0.041)	0.201 (0.344)
Observations	819	730	820	800
MHT q-value Treat	0.525	0.525	0.020	0.238
MHT q-value TxM	1.000	0.861	0.010	1.000
Control Mean	10649.521	-0.027	0.270	31172.549
Adj. R <sup>2</sup>	0.191	0.068	0.112	0.236
<i>Panel B: Endline (18–24 Months)</i>				
Treat	0.200 (0.174)	0.183* (0.102)	0.011 (0.041)	-0.725* (0.440)
Treat x Mentoring	0.079 (0.156)	-0.174* (0.101)	-0.027 (0.040)	0.185 (0.420)
Observations	824	725	825	805
MHT q-value Treat	0.406	0.366	0.851	0.406
MHT q-value TxM	0.277	0.277	0.881	0.881
Control Mean	10186.175	-0.076	0.310	25547.619
Adj. R <sup>2</sup>	0.177	0.047	0.080	0.180

*Note:* We winsorize daily expenditures, MUE, and remittances at the 1st and 99th percentile. Coefficients are ANCOVA estimates that control for the outcome at baseline, the respondent's location, marital status, household size, number of children, and age. IHS indicates that we present results using an inverse hyperbolic sine transformation. We calculate the MUE using consumption expenditures over the past week on seventeen food items, following the methods outlined in Ligon (2020). Food insecurity is a binary variable equal to one if the woman reports not having enough food more than once over the six months before the survey. We report standard errors clustered at the individual level in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*,  $p < 0.01$ . The Multiple Hypothesis Method p-values reported correspond to the Romano-Wolf q-values.

Table 9: Inter-Generational Spillovers Effects

	Boys		Girls	
	(1) School Index	(2) Leadership Index	(3) School Index	(4) Leadership Index
<i>Endline (18–24 Months)</i>				
Direct	-0.024 (0.120)	-0.181 (0.139)	0.002 (0.097)	0.085 (0.085)
Indirect	0.042 (0.058)	0.137** (0.066)	0.073 (0.057)	0.015 (0.049)
Observations	434	371	472	420
MHT q-values Direct	0.950	0.406	0.950	0.406
MHT q-value Indirect	0.545	0.099	0.545	0.099
Control Mean	0.098	0.118	0.191	0.130
Adj. R <sup>2</sup>	0.130	0.068	0.162	-0.005

*Note:* Coefficients are ANCOVA estimates that control for the outcome at baseline and a range of other baseline controls: the respondent’s location, age, parental education levels, school attendance, number of siblings, the size of their social network, and whether they ever work for money. Direct is the effect from living with a woman in either treatment group. Indirect is the effect of having one additional treated woman in the child’s social network at baseline. School index is an Anderson (2008) index that combines the days per week the child attends school, two different measures of hours per day spent studying, and the number of hours the child typically spends at school. Leadership index is an Anderson (2008) index that combines questions about speaking up in school, being a leader in school and in the community, and participation in destructive activities like violence and gambling. We report standard errors clustered at the individual level in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*,  $p < 0.01$ . The Multiple Hypothesis Method p-values reported correspond to the Romano-Wolf p-values.

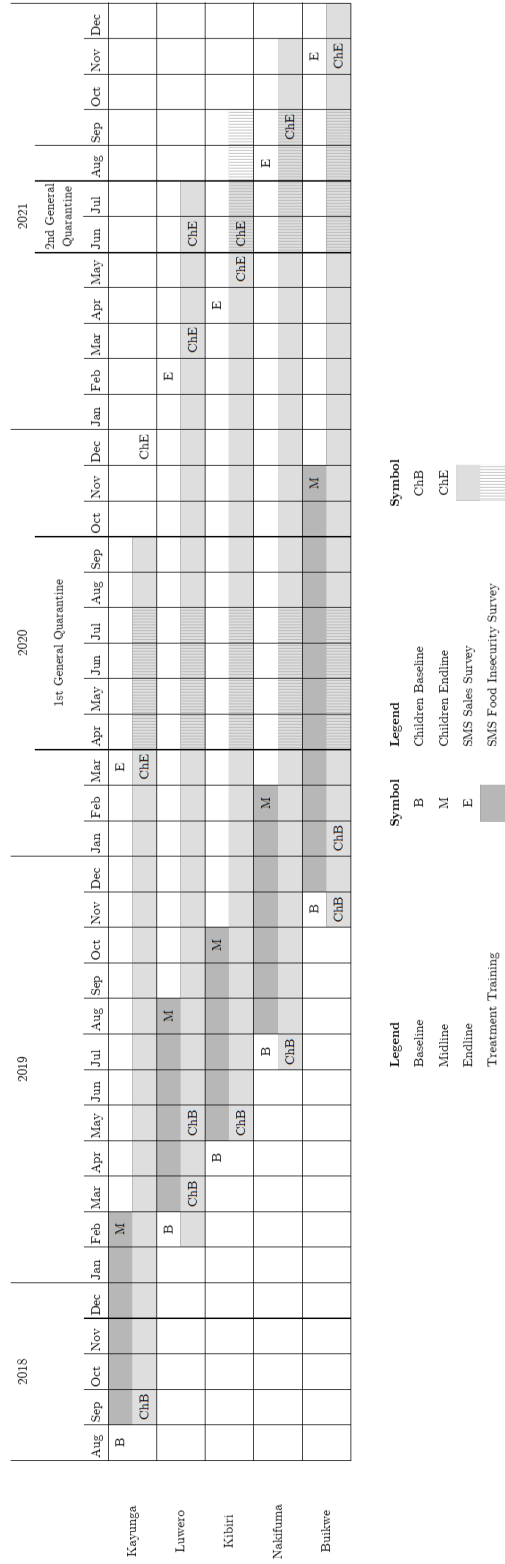
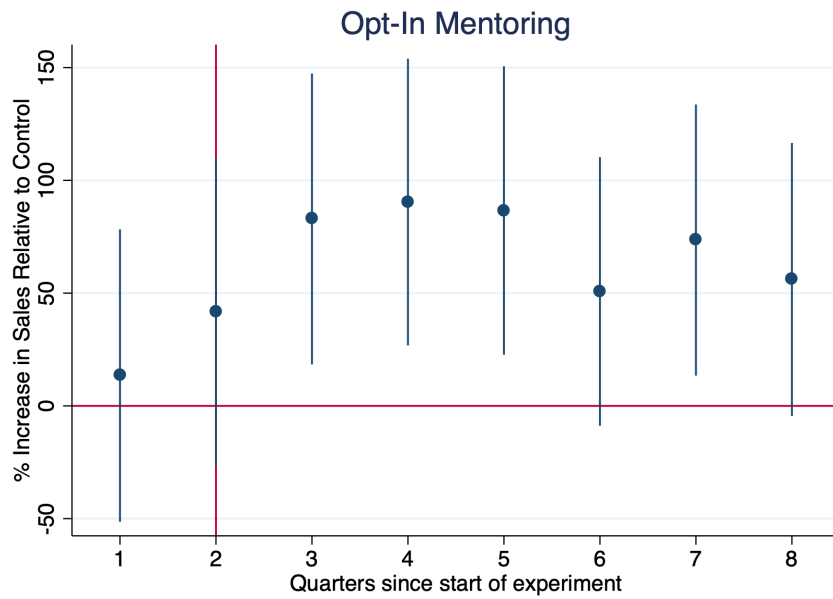
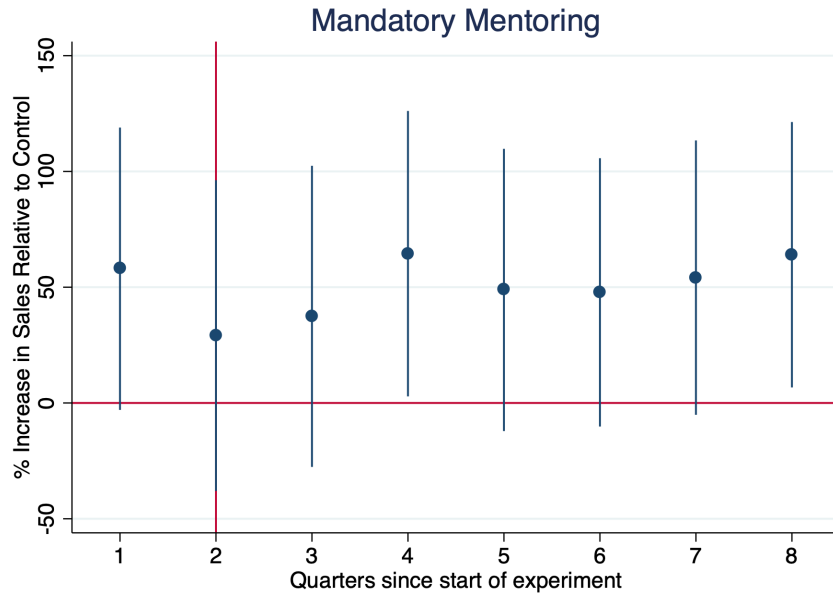


Figure 1: Project Timeline



*Note:* Average treatment effects on sales revenues for each quarter of the experiment, estimated by aggregating responses to weekly SMS surveys. We include fixed effects for respondent location, event quarter, quarter of year, and year by quarter. The vertical red line denotes graduation from the program. The top panel shows effects for women in the mandatory mentoring treatment and the bottom panel shows effects for women in the opt-in mentoring treatment. Blue bars show 90% confidence intervals calculated from standard errors clustered at the individual level.

Figure 2: Quarterly ATEs on Sales Revenues

## A Appendix A - Variable definitions

### A.1 Covariates

- **Location:** set of dummy variables that equal to one for the location in which the respondent was enrolled for the study.
- **Marital Status:** set of dummy variables that indicate the marital status of the participant. Participants answer whether they are married, single, widowed or divorced. The categories are mutually exclusive, and we exclude the category “single” given that is the largest group.
- **Household Size:** number of people who regularly eat and sleep in the respondent’s household, taken directly from the survey.
- **Number of Children:** number of dependents under 18 years old live with the respondent in her house, taken directly from the survey.
- **Age:** age of the respondent at baseline.

### A.2 Business Outcomes

- **Own a business:** binary variable equal to one if the respondent answers yes to the question, “Do you currently own a business or engage in self-employment in any way?”, zero if the respondent answers no, and missing if the respondent does not know or chooses not to answer.
- **No. businesses:** count of the number of businesses the respondent reports operating, including her main business and all other businesses.
- **IHS(Sales):** Inverse hyperbolic sine transformation of the amount of revenue reported each day for the 5 best sold items in the respondent’s business in the 3 days prior to the survey. We winsorize sales at the 1st and 99th percentile. When the respondent has missing information for a day, we assign the observation a missing value. In case the respondent has no business, we replace with 0.
- **IHS(Profits) - Main Business:** Inverse hyperbolic sine transformation of the amount of profits earned in the main business of the participant in the last month. We winsorize profits at the 1st and 99th percentile. When the respondent has no business, we replace with 0, we use the the mid point of intervals whenever the respondent cannot provide a number, and missing if the respondent does not know or chooses not to answer.

- **IHS(Profits) - Other Businesses (OB):** Inverse hyperbolic sine transformation of the amount of profits earned in other businesses owned by the participant in the last month. We winsorize profits at the 1st and 99th percentile. When the respondent has no business, we replace with 0, we use the the mid point of intervals whenever the respondent cannot provide a number, and missing if the respondent does not know or chooses not to answer.

### A.3 Business Practices Outcomes

- **Tracking:** score that can take values between 0 and 3. The tacking score depends on the number of “yes” responses to the questions: (1) have a system for keeping track of their business activities, (2) keep track of which customers buy from them on credit and (3) keep track of how much inventory they have. Set to missing if the respondent does not answer any of the three questions.
- **Price Management:** score that can take values between 0 and 4. The price management score depends on the number of “yes” responses to the questions: (1) compared alternative suppliers for their business in the past 6 months, (2) visited a competitor to see what products they were offering in the last 6 months, (3) tried to negotiate a lower price with their supplier in the last 6 months, and (4) offered special prices to attract more clients in the last 6 months. Set to missing if the respondent does not answer any of the four questions.
- **Goal Setting:** score that can take values between 0 and 3. The goal setting score depends on the number of “yes” responses to the questions: (1) have a goal for how much profit they want to make in the next month, (2) have a goal for how much profit they want to make in the next year, and (3) know how much they can spend in business expenses in the next year. Set to missing if the respondent does not answer any of the three questions.
- **Work Hours:** number of hours per week the respondent is personally taking care of her business.

### A.4 Psychometric Outcomes

- **Self-Efficacy:** score that can take values between 10 and 50. The self-efficacy score depends on the sum of the questions: (1) I can always manage to solve difficult problems if I try hard enough, (2) if someone opposes me, I can find the means and ways to get what I want, (3) it is easy for me to stick to my aims and accomplish my goals, (4) I am confident that I could deal efficiently with unexpected events, (5) thanks to my resourcefulness, I know how to handle unforeseen situations, (6) I can solve most problems if I invest the necessary effort, (7) I can remain calm when facing difficulties because I



can rely on my coping abilities, (8) When I am confronted with a problem, I can usually find several solutions, (9) if I am in trouble, I can usually think of a solution, and (10) I can usually handle whatever comes my way. All questions are on a scale of 1–5 where one is “not at all like me” and five is “completely like me.” Higher responses correspond to higher levels of self-efficacy. We have no missing responses for these questions.

- **Grit:** score that can take values between 8 and 40. The grit score depends on the sum of the questions: (1) I stay interested in my goals, even if they take a long time (months or years) to complete, (2) I think about my work even in my dreams and daydreams, (3) I work very hard. I keep working when others stop to take a break, (4) setbacks don’t discourage me. I don’t give up easily, (5) every day, I try to do one thing better than I did the day before, (6) I am constantly asking other people for feedback about how I can improve, (7) I’m never fully satisfied with my performance, and (8) I finish whatever I begin. All questions are on a scale of 1–5 where one is “not at all like me” and five is “completely like me.” Higher responses correspond to higher levels of grit. We have no missing responses for these questions.
- **Locus of Control - Internal:** score that can take values between 4 and 20. The internality score depends on the sum of the questions: (1) when I make plans, I am almost certain to make them work, (2) I am usually able to protect my personal interests, (3) when I get what I want, it’s usually because I worked hard for it, and (4) my life is determined by my own actions. All questions are on a scale of 1–5 where one is “disagree a lot” and five is “agree a lot”. Higher responses indicate greater levels of agreement with statements indicating high levels of internality. We have no missing responses for these questions.
- **Locus of Control - PO:** score that can take values between 5 and 25. The powerful others score depends on the sum of the questions: (1) I feel like what happens in my life is mostly determined by powerful people, (2) my life is chiefly controlled by powerful others, (3) people like myself have very little chance of protecting our personal interests when they conflict with those of strong pressure groups, (4) getting what I want requires pleasing those people above me, and (5) in order to have my plans work, I make sure that they fit in with the desires of people who have power over me. All questions are on a scale of 1–5 where one is “disagree a lot” and five is “agree a lot”. Higher responses indicate greater levels of agreement with statements indicating high levels of belief that powerful others are controlling the respondent’s life, so we multiply all variables by -1 so that higher scores indicate a more internalized locus of control. We have no missing responses for these questions.

- **Locus of Control - Chance:** score that can take values between 5 and 25. The chance score depends on the sum of the questions: (1) to a great extent my life is controlled by accidental happenings, (2) often there is no chance of protecting my personal interests from bad luck happenings, (3) when I get what I want, it's usually because I'm lucky, (4) I have often found that what is going to happen will happen, and (5) it's not always wise for me to plan too far ahead because many things turn out to be a matter of good or bad fortune. All questions are on a scale of 1–5 where one is “disagree a lot” and five is “agree a lot”. Higher responses indicate greater levels of agreement with statements indicating that many things in life are due to chance, so we multiply all variables by -1 so that higher scores then indicate a more internalized/self-driven locus of control. We add up the five questions to generate a chance score for each participant. We have no missing responses for these questions.
- **Income (IHS):** difference between (1) what income do you want to have per month in 10 years? and (2) what income do you currently have per month?
- **Social Status:** Difference between (1) what level of social status do you want to have in 10 years? and (2) what level of social status do you have today?

## A.5 Household Outcomes

- **IHS(Daily HH Expenditure):** Inverse hyperbolic sine transformation of the sum of all the daily contributions to household expenses for all the adults in the respondent's household. We winsorize daily expenses at the 1st and 99th percentile. If answered in a monthly amount, we convert to a daily total.
- **MUE:** the marginal utility of expenditures calculated using consumption expenditures over the past week on seventeen food items, following the methods outlined in Ligon (2020).
- **Food Insecurity:** binary variable equal to one if the respondent answers a lot of times (at least 5 or 6) or some times (2 to 4 times) to the question, "During the last 6 months, how many times, if any, did you experience not having enough food to eat?", zero if the respondent answers only once or never, and missing if the respondent does not know or chooses not to answer.
- **IHS(Remittances):** Inverse hyperbolic sine transformation of the amount of money or goods that the household received from family members or friends during the last month. We winsorize sales at the 1st and 99th percentile. If answered in a daily amount, it was aggregated by month. In case the respondent has no received money or good from them, we replace with 0.

## A.6 Child Outcomes

- **School Index:** index of schooling behavior using the Anderson (2008) method, formulated from questions about days per week attending school, two measures of hours per day studying, and hours spent at school.
- **Leadership Index:** index of leadership using the Anderson (2008) method, formulated with questions about speaking up in class, being a leader in school, being a leader in the community, peer engagement in violence and gambling (reversing signs for the latter two).

## A.7 Savings and Investment Outcomes

- **IHS(Savings):** Inverse hyperbolic sine transformation of the total and daily amount the respondent has saved. We winsorize sales at the 1st and 99th percentile. We provide intervals to probe total and daily savings amounts. For daily, if the respondent chooses one of these intervals, we take the midpoint and multiply by 30.5 to estimate a monthly savings amount.
- **IHS(Business Assets):** Inverse hyperbolic sine transformation of the total value of all assets that a woman's business owns. We winsorize sales at the 1st and 99th percentile.
- **IHS(Investments in Other Businesses):** Inverse hyperbolic sine transformation of the amount that a woman invested in her business during the last six months, either to purchase additional assets or to increase her capital stock. We winsorize sales at the 1st and 99th percentile.

## B Appendix B - Supporting Tables and Figures

## C Appendix C - Robustness

Table A1: Differences in Selection into Mentoring

Variable	(1)		(2)		T-test Difference (1)-(2)
	Opt-In N	Mentoring Mean/SE	Mandatory N	Mentoring Mean/SE	
Single	128	0.070 (0.023)	226	0.049 (0.014)	0.022
Married	128	0.680 (0.041)	226	0.606 (0.033)	0.073
Divorced	128	0.180 (0.034)	226	0.212 (0.027)	-0.033
Widowed	128	0.070 (0.023)	226	0.133 (0.023)	-0.062*
Primary education	130	0.523 (0.044)	226	0.500 (0.033)	0.023
Secondary education	130	0.415 (0.043)	226	0.438 (0.033)	-0.023
HH Size	130	4.531 (0.237)	226	4.535 (0.167)	-0.005
Minors	130	3.277 (0.194)	226	3.252 (0.134)	0.025
Age	129	38.434 (1.073)	218	38.358 (0.815)	0.076
Own a Business	130	0.477 (0.044)	226	0.540 (0.033)	-0.063
Network Size	130	4.608 (0.280)	226	5.310 (0.238)	-0.702*
Employed	129	0.496 (0.044)	226	0.531 (0.033)	-0.035
Profits	128	69064.063 (25019.870)	222	64944.595 (10464.398)	4119.468
Grit	130	29.908 (0.505)	225	29.653 (0.350)	0.254
Internal Locus of Control	129	15.984 (0.197)	225	15.742 (0.167)	0.242
Self-efficacy	129	39.070 (0.608)	225	38.382 (0.479)	0.688

*Notes:* Mean baseline covariates by treatment group for women who attend at least one mentoring session. Single, married, divorced, and widowed are indicators equal to one if a woman holds that marital status. Primary and secondary education are indicators equal to one if the woman's highest level of education is primary school or secondary school, respectively. HH size is the number of people who regularly eat and sleep in a woman's household. Minors is the number of minors in the woman's household. Age is the woman's age in years. Own a business is an indicator equal to one if the woman owns a business. Network size is the number of women in the RCT in the woman's location who she knows. Employed is an indicator equal to one if the woman is employed. Profits are profits from the last month in the main business in Ugandan shillings. Grit, internal locus of control, and self-efficacy are psychometric indices. Standard errors are in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*,  $p < 0.01$ .

Table A2: Treatment Effects on Business Outcomes by Baseline Marital Status

	Business Creation		Main Business		Other Businesses
	(1) Own a Business	(2) No. Businesses	(3) Sales (IHS)	(4) Profits (IHS)	(5) Profits (IHS)
<i>Panel A: Midline (6 months)</i>					
Treat	0.172*** (0.059)	0.362*** (0.113)	2.518*** (0.768)	2.803*** (0.797)	0.557 (0.695)
Treat x Mentoring	-0.009 (0.066)	-0.086 (0.132)	-1.872** (0.890)	-0.443 (0.910)	0.485 (0.848)
Treat x Single/Married	0.006 (0.059)	-0.120 (0.115)	-1.157 (0.776)	-0.527 (0.814)	-0.222 (0.709)
Treat x Mentoring x Single/Married	-0.040 (0.078)	0.058 (0.149)	1.759* (1.016)	-0.506 (1.060)	-0.126 (0.974)
Observations	825	825	805	798	827
Control Mean	0.566	0.832	37674.603	69415.538	18589.105
Adj. R <sup>2</sup>	0.221	0.274	0.221	0.197	0.089
<i>Panel B: Endline (18–24 Months)</i>					
Treat	0.024 (0.063)	0.094 (0.117)	0.643 (0.814)	0.272 (0.828)	0.877 (0.733)
Treat x Mentoring	-0.045 (0.071)	-0.015 (0.140)	-1.057 (0.891)	-0.399 (0.944)	-0.359 (0.862)
Treat x Single/Married	0.047 (0.065)	0.112 (0.118)	0.992 (0.836)	0.715 (0.844)	-0.167 (0.745)
Treat x Mentoring x Single/Married	0.006 (0.083)	-0.099 (0.159)	0.207 (1.052)	-0.273 (1.098)	0.020 (0.975)
Observations	831	830	817	813	832
Control Mean	0.667	0.903	43628.016	76934.118	17832.946
Adj. R <sup>2</sup>	0.098	0.146	0.116	0.086	0.049

*Note:* We winsorize all sales and profit measures at the 1st and 99th percentile. Coefficients are ANCOVA estimates that control for the outcome at baseline, the respondent's location, marital status, household size, number of children, and age. IHS indicates that we present results using an inverse hyperbolic sine transformation. We report standard errors clustered at the individual level in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*,  $p < 0.01$ .

Table A3: Treatment Effects on Business Outcomes - Other Specifications

	Midline (6 months)			Endline (18–24 Months)		
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Own a Business</b>						
Treat	0.165*** (0.041)	0.153*** (0.042)	0.196*** (0.046)	0.062 (0.039)	0.074* (0.042)	0.075 (0.048)
Treat x Mentoring	-0.024 (0.037)	-0.029 (0.040)	-0.028 (0.042)	-0.035 (0.037)	-0.060 (0.041)	-0.026 (0.047)
Observations	846	823	1690	851	829	1700
<b>No. Businesses</b>						
Treat	0.247*** (0.072)	0.215*** (0.076)	0.283*** (0.069)	0.194*** (0.070)	0.213*** (0.074)	0.187** (0.077)
Treat x Mentoring	0.001 (0.070)	0.030 (0.074)	-0.068 (0.071)	-0.065 (0.069)	-0.086 (0.074)	-0.105 (0.075)
Observations	846	823	1690	850	828	1698
<b>Sales (IHS)</b>						
Treat	1.760*** (0.489)	1.609*** (0.520)	1.744*** (0.523)	1.521*** (0.495)	1.549*** (0.542)	1.486*** (0.556)
Treat x Mentoring	-0.627 (0.471)	-0.772 (0.518)	-0.496 (0.485)	-1.056** (0.472)	-1.260** (0.514)	-0.982* (0.539)
Observations	837	814	1648	845	823	1670
<b>Profits (IHS) - Main Business</b>						
Treat	2.228*** (0.507)	2.152*** (0.540)	2.786*** (0.561)	0.931* (0.502)	1.032* (0.541)	1.191* (0.615)
Treat x Mentoring	-0.692 (0.478)	-0.734 (0.532)	-0.988* (0.539)	-0.585 (0.476)	-0.909* (0.519)	-0.849 (0.578)
Observations	831	808	1634	845	823	1662
<b>Profits (IHS) - Other Businesses (OB)</b>						
Treat	0.308 (0.392)	0.174 (0.431)	0.948** (0.427)	0.780** (0.393)	0.814* (0.423)	1.092** (0.477)
Treat x Mentoring	0.587 (0.403)	0.796* (0.441)	-0.474 (0.466)	-0.162 (0.398)	-0.170 (0.434)	-1.134** (0.480)
Observations	847	824	1694	851	829	1702
Controls		✓			✓	
FE			✓			✓

Note: Columns (1), (2), (4) and (5) present the results of the OLS specification, columns (3) and (6) present the results of the Two-way Fixed Effects specification. We windorize all sales and profit measures at the 1st and 99th percentile. Coefficients in columns (2) and (4) are OLS specifications that control for the respondent's location, marital status, household size, number of children, and age. IHS indicates that we present results using an inverse hyperbolic sine transformation. We report standard errors clustered at the individual level in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table A4: Treatment Effects on Business Practices - Other Specifications

	Midline (6 months)			Endline (18–24 Months)		
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Tracking</b>						
Treat	0.375*** (0.106)	0.346*** (0.113)	0.342*** (0.110)	0.213** (0.106)	0.245** (0.116)	0.141 (0.124)
Treat x Mentoring	-0.111 (0.103)	-0.059 (0.111)	-0.008 (0.110)	-0.130 (0.102)	-0.165 (0.110)	-0.031 (0.120)
Observations	842	819	1676	848	826	1690
<b>Price Mgmt.</b>						
Treat	0.402*** (0.116)	0.373*** (0.123)	0.360*** (0.124)	0.286** (0.120)	0.266** (0.131)	0.193 (0.139)
Treat x Mentoring	-0.062 (0.114)	-0.055 (0.125)	-0.079 (0.125)	-0.181 (0.114)	-0.156 (0.128)	-0.164 (0.133)
Observations	832	809	1642	838	816	1656
<b>Goal Setting</b>						
Treat	0.250*** (0.089)	0.220** (0.093)	0.261** (0.101)	0.161* (0.094)	0.163 (0.103)	0.188 (0.120)
Treat x Mentoring	0.044 (0.090)	0.060 (0.095)	0.068 (0.102)	-0.033 (0.092)	-0.063 (0.101)	0.005 (0.112)
Observations	792	771	1500	779	762	1478
<b>Work Hours</b>						
Treat	12.261*** (3.128)	11.241*** (3.364)	12.759*** (3.338)	6.429** (3.132)	5.562 (3.404)	5.604 (3.743)
Treat x Mentoring	-5.008* (3.010)	-5.307 (3.327)	-2.931 (3.163)	-3.232 (3.052)	-3.527 (3.347)	-1.549 (3.663)
Observations	811	791	1544	833	812	1588
Controls		✓			✓	
FE			✓			✓

*Note:* Columns (1), (2), (4) and (5) present the results of the OLS specification, columns (3) and (6) present the results of the Two-way Fixed Effects specification. Coefficients in columns (2) and (4) are OLS specifications that control for the respondent's location, marital status, household size, number of children, and age. IHS indicates that we present results using an inverse hyperbolic sine transformation. Tracking combines multiple questions about record keeping for the business. Price management combines multiple questions about setting prices, running promotions, comparing prices with competitors, and negotiating for better prices with suppliers. Goal setting combines multiple questions about setting goals for the business over various time horizons. Work hours is the number of hours the respondent typically works in her main business. We report standard errors clustered at the individual level in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*,  $p < 0.01$ .

Table A5: Treatment Effects on Psychometric Measures - Other Specifications Part I.

	Midline (6 months)			Endline (18-24 Months)		
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Self-Efficacy</b>						
Treat	0.663 (0.580)	0.781 (0.614)	-0.087 (0.687)	0.551 (0.595)	0.870 (0.670)	-0.293 (0.706)
Treat x Mentoring	-0.666 (0.554)	-0.641 (0.587)	0.103 (0.658)	-0.461 (0.582)	-0.833 (0.618)	0.233 (0.650)
Observations	846	823	1684	847	825	1686
<b>Grit</b>						
Treat	0.877* (0.494)	1.094** (0.517)	0.829 (0.558)	0.809* (0.485)	1.044* (0.536)	0.517 (0.558)
Treat x Mentoring	-0.699 (0.454)	-0.837* (0.502)	-0.496 (0.535)	-1.300*** (0.450)	-1.415*** (0.473)	-1.028* (0.533)
Observations	846	823	1686	847	825	1688
<b>Locus of Control - Internal</b>						
Treat	0.054 (0.211)	0.068 (0.222)	0.148 (0.283)	0.262 (0.239)	0.441* (0.259)	0.351 (0.283)
Treat x Mentoring	0.174 (0.205)	0.031 (0.216)	0.348 (0.271)	-0.227 (0.226)	-0.442* (0.241)	-0.011 (0.272)
Observations	846	823	1684	847	825	1686
<b>Locus of Control - PO</b>						
Treat	-0.282 (0.422)	-0.307 (0.445)	0.432 (0.472)	0.184 (0.429)	0.124 (0.468)	0.721 (0.530)
Treat x Mentoring	-0.127 (0.400)	-0.075 (0.439)	-0.059 (0.458)	-0.155 (0.402)	-0.053 (0.423)	-0.033 (0.523)
Observations	846	823	1684	847	825	1686
<b>Locus of Control - Chance</b>						
Treat	0.258 (0.343)	0.123 (0.364)	0.475 (0.407)	-0.209 (0.345)	-0.384 (0.371)	-0.234 (0.425)
Treat x Mentoring	0.070 (0.316)	0.337 (0.346)	-0.326 (0.382)	0.052 (0.330)	0.104 (0.352)	-0.255 (0.412)
Observations	846	823	1686	847	825	1688
Controls		✓			✓	
FE			✓			✓

*Note:* Columns (1), (2), (4) and (5) present the results of the OLS specification, columns (3) and (6) present the results of the Two-way Fixed Effects specification. Coefficients in columns (2) and (4) are OLS specifications that control for the respondent's location, marital status, household size, number of children, and age. IHS indicates that we present results using an inverse hyperbolic sine transformation. We measure generalized self-efficacy following Schwarzer and Jerusalem (1995). Out measures of grit follow Angela L. Duckworth et al. (2007) and Angela Lee Duckworth and P. D. Quinn (2009). We draw our locus of control measures from Levenson (1973) and our measure of subjective social status from Adler et al. (2000). We report standard errors clustered at the individual level in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .



Table A6: Treatment Effects on Psychometric Measures - Other Specifications Part II.

	Midline (6 months)			Endline (18–24 Months)		
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Aspirations - Income (IHS)</b>						
Treat	-0.023 (0.168)	-0.145 (0.192)	0.067 (0.301)	-0.175* (0.100)	-0.195* (0.108)	-0.109 (0.245)
Treat x Mentoring	-0.196 (0.191)	-0.195 (0.225)	-0.435 (0.293)	0.006 (0.089)	0.007 (0.101)	-0.001 (0.216)
Observations	763	742	1340	795	779	1378
<b>Aspirations - Social Status</b>						
Treat	0.113 (0.085)	0.143 (0.091)	0.184 (0.113)	0.057 (0.088)	0.040 (0.094)	0.167 (0.119)
Treat x Mentoring	-0.255*** (0.085)	-0.239*** (0.091)	-0.101 (0.110)	-0.093 (0.081)	-0.062 (0.086)	0.042 (0.119)
Observations	839	816	1664	837	816	1660
Controls		✓			✓	
FE			✓			✓

*Note:* Columns (1), (2), (4) and (5) present the results of the OLS specification, columns (3) and (6) present the results of the Two-way Fixed Effects specification. Coefficients in columns (2) and (4) are OLS specifications that control for the respondent's location, marital status, household size, number of children, and age. IHS indicates that we present results using an inverse hyperbolic sine transformation. We measure generalized self-efficacy following Schwarzer and Jerusalem (1995). Out measures of grit follow Angela L. Duckworth et al. (2007) and Angela Lee Duckworth and P. D. Quinn (2009). We draw our locus of control measures from Levenson (1973) and our measure of subjective social status from Adler et al. (2000). We report standard errors clustered at the individual level in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*,  $p < 0.01$ .



Table A7: Treatment Effects on Household Outcomes - Other Specifications

	Midline (6 months)			Endline (18–24 Months)		
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Daily HH Expenditure (IHS)</b>						
Treat	0.131 (0.179)	0.090 (0.183)	-0.291 (0.219)	0.264 (0.181)	0.256 (0.176)	-0.152 (0.235)
Treat x Mentoring	0.073 (0.160)	0.041 (0.178)	0.474** (0.194)	-0.034 (0.165)	0.048 (0.157)	0.276 (0.222)
Observations	844	821	1684	849	827	1692
<b>MUE</b>						
Treat	0.122 (0.083)	0.154* (0.088)	0.001 (0.104)	0.220** (0.091)	0.232** (0.101)	0.126 (0.113)
Treat x Mentoring	-0.064 (0.081)	-0.104 (0.090)	-0.092 (0.101)	-0.152* (0.090)	-0.210** (0.103)	-0.124 (0.107)
Observations	786	763	1504	783	761	1492
<b>Food Insecurity</b>						
Treat	0.115*** (0.040)	0.135*** (0.042)	0.094* (0.048)	0.035 (0.040)	0.012 (0.041)	0.012 (0.053)
Treat x Mentoring	-0.081** (0.039)	-0.112*** (0.042)	-0.137*** (0.048)	-0.040 (0.039)	-0.024 (0.041)	-0.063 (0.052)
Observations	845	823	1684	850	828	1694
<b>Remittances (IHS)</b>						
Treat	-0.957** (0.417)	-1.070*** (0.378)	-0.124 (0.525)	-0.628 (0.449)	-0.793* (0.432)	0.420 (0.566)
Treat x Mentoring	0.133 (0.376)	0.330 (0.348)	-0.463 (0.458)	0.018 (0.414)	0.226 (0.415)	-0.637 (0.519)
Observations	836	814	1644	840	818	1654
Controls		✓			✓	
FE			✓			✓

*Note:* Columns (1), (2), (4) and (5) present the results of the OLS specification, columns (3) and (6) present the results of the Two-way Fixed Effects specification. We winsorize daily expenditures, MUE, and remittances at the 1st and 99th percentile. Coefficients in columns (2) and (4) are OLS specifications that control for the respondent's location, marital status, household size, number of children, and age. IHS indicates that we present results using an inverse hyperbolic sine transformation. We calculate the MUE using consumption expenditures over the past week on seventeen food items, following the methods outlined in Ligon (2020). Food insecurity is a binary variable equal to one if the woman reports not having enough food more than once over the six months before the survey. We report standard errors clustered at the individual level in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*,  $p < 0.01$ .

Table A8: Inter-Generational Spillovers Effects - Other Specifications

	Boys			Girls		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Endline (18-24 Months)</i>						
<b>School Index</b>						
Direct	0.006 (0.111)	-0.017 (0.120)	-0.119 (0.122)	0.018 (0.098)	0.010 (0.097)	-0.062 (0.117)
Indirect	0.062 (0.056)	0.038 (0.059)	-0.012 (0.028)	0.088 (0.057)	0.084 (0.057)	-0.024 (0.026)
Observations	439	434	872	478	472	950
<b>Leadership Index</b>						
Direct	-0.034 (0.128)	-0.141 (0.134)	-0.253 (0.181)	0.047 (0.077)	0.075 (0.085)	0.251** (0.117)
Indirect	0.110* (0.058)	0.115* (0.068)	0.018 (0.047)	0.003 (0.043)	0.022 (0.048)	0.031 (0.023)
Observations	385	381	746	433	428	850
Controls		✓			✓	
FE			✓			✓

*Note:* Columns (1), (2), (4) and (5) present the results of the OLS specification, columns (3) and (6) present the results of the Two-way Fixed Effects specification. Coefficients in columns (2) and (4) are OLS specifications that control for the respondent's location, marital status, household size, number of children, and age. Direct is the effect from living with a woman in either treatment group. Indirect is the effect of having one additional treated woman in the child's social network at baseline. School index is an Anderson (2008) index that combines the days per week the child attends school, two different measures of hours per day spent studying, and the number of hours the child typically spends at school. Leadership index is an Anderson (2008) index that combines questions about speaking up in school, being a leader in school and in the community, and participation in destructive activities like violence and gambling. We report standard errors clustered at the individual level in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*,  $p < 0.01$ .

Table A9: Treatment Effects on Re-Investments - Other Specifications

	Midline (6 months)			Endline (18-24 Months)		
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Savings (IHS)</b>						
Treat	1.324*** (0.484)	0.933* (0.523)	1.202** (0.604)	0.627 (0.479)	0.788 (0.516)	0.609 (0.651)
Treat x Mentoring	0.196 (0.409)	0.401 (0.459)	0.131 (0.560)	0.009 (0.434)	-0.411 (0.463)	-0.253 (0.599)
Observations	728	710	1302	737	720	1334
<b>Business Assets (IHS)</b>						
Treat	1.346*** (0.506)	1.174** (0.541)	1.475*** (0.549)	0.452 (0.514)	0.331 (0.571)	0.624 (0.591)
Treat x Mentoring	-0.626 (0.489)	-0.503 (0.539)	-0.353 (0.538)	-0.377 (0.491)	-0.410 (0.538)	-0.170 (0.553)
Observations	847	824	1694	851	829	1702
<b>Investments in Other Businesses (IHS)</b>						
Treat	0.176 (0.418)	0.018 (0.450)	0.744 (0.455)	1.159*** (0.417)	1.297*** (0.435)	1.479*** (0.502)
Treat x Mentoring	0.342 (0.413)	0.579 (0.439)	-0.377 (0.475)	-0.220 (0.427)	-0.321 (0.464)	-0.837* (0.508)
Observations	847	824	1694	851	829	1702
Controls		✓			✓	
FE			✓			✓

*Note:* Columns (1), (2), (4) and (5) present the results of the OLS specification, columns (3) and (6) present the results of the Two-way Fixed Effects specification. We windorize all sales and profit measures at the 1st and 99th percentile. Coefficients in columns (2) and (4) are OLS specifications that control for the respondent's location, marital status, household size, number of children, and age. IHS indicates that we present results using an inverse hyperbolic sine transformation. IHS indicates that we present results using an inverse hyperbolic sine transformation. Savings is the total amount held in all financial savings instruments. Business assets is the estimated monetary value of all assets held in the main business. Investments in other businesses is the total estimated monetary value of all investments in businesses other than the main business. We report standard errors clustered at the individual level in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*,  $p < 0.01$ .