

The Voice of Kin: How Consultative Family Participation Shapes Investment and Profit in Micro-Enterprises

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Abstract

Micro-entrepreneurs often receive requests for financial support from family members who are not involved in their businesses. Fulfilling these requests can constrain micro-entrepreneurs' ability to reinvest and grow their businesses, while refusing them risks damaging their familial relationships. While research has examined governance mechanisms to manage family members within businesses, less is known about how entrepreneurs can manage family members outside the firm. This paper theorizes that participatory routines that give external family members voice can increase family members' motivation to support the business. This makes it possible for micro-entrepreneurs to defer some financial requests and reinvest in their businesses. I test this theory through a randomized controlled trial with 640 micro-entrepreneurs in Lomé, Togo. The intervention teaches three practices that give family members consultative voice. Entrepreneurs assigned to the training nearly doubled their investments and earned 26% higher monthly profits than those in the control group. These gains were driven by reductions in the proportion of profits given to family and increases in family's motivation to support the business. These findings imply that, in the absence of formal governance, giving consultative voice to external family members can be an informal mechanism for managing their claims, while preserving relationships.

Keywords: micro-entrepreneurship, external family, voice, randomized controlled trial, performance

From the backyard mechanic in Detroit to the tailor in Jakarta, micro-entrepreneurship is a ubiquitous organizational form. Micro-entrepreneurs run small, unregulated businesses that typically employ fewer than five people, frequently in low-income settings (Carlson, 2023; Portes & Haller, 2005; Ranganathan, 2018). In these settings, micro-entrepreneurs and their extended families often depend on each other (Aldrich & Cliff, 2003; Delecourt & Fitzpatrick, 2021). Micro-entrepreneurs rely on family for labor, loans, and referrals, while family members in turn—most of whom are not involved in the business—rely on micro-entrepreneurs for financial support (Bonacich, 1973; Khavul et al., 2009; Ruef, 2010; Sanders & Nee, 1996; Stack, 1974). Managing familial requests for financial support can be challenging for micro-entrepreneurs. On the one hand, refusing them can damage familial relationships, while on the other hand fulfilling them can impede reinvestment and stunt business growth (Granovetter, 2000; Portes & Sensenbrenner, 1993). This tension has long been documented as a central experience for many micro-entrepreneurs, constraining their financial performance and even driving their businesses into closure (Geertz, 1956; Squires, 2024). How, then, can micro-entrepreneurs preserve ties with external family members, while retaining control of their businesses?

Large literatures have explored how firms manage family members who occupy roles inside the business (Anderson & Reeb, 2004; Morck et al., 2005). Less is known, however, about how entrepreneurs manage relatives who remain outside the firm (Li & Piezunka, 2023). This study argues that, lacking formal mechanisms to govern external family members, micro-entrepreneurs can manage their claims by giving them consultative voice. This form of voice occurs when people are given the opportunity to express their views on decisions, without authority over the final decision (Cotton et al., 1988; Hirschman, 1970; Lewin, 1947). Prior research suggests that, in the context of organizations, it can inform, empower, and motivate workers (Miller & Monge, 1986; Wagner III, 1994). Extended to micro-enterprises, consultative voice involves having conversations with external family members about competing needs and how business income should be allocated among those needs. I argue that through these conversations family members learn about others' requests, what the business can support, and the trade-offs between short-term support and longer-term returns from the business. This can incline family members to defer some of their requests because they learn about the returns from reinvesting. Voice can also create a sense of having a stake in the business and a sense that the allocation process is fair, motivating family members to support the business and accept deferrals. All this

makes it possible for micro-entrepreneurs to prioritize some claims, defer others, and make investments that improve performance.

Consultative voice practices, I argue, can be taught to micro-entrepreneurs through training programs, which are often effective modes of transmitting business knowledge to entrepreneurs (Bryan et al., 2017; Camuffo et al., 2020; Lyons & Zhang, 2018). Existing programs tend to emphasize business practices, often related to accounting, marketing, and inventory management, which implicitly portray micro-enterprises as separate from their families (McKenzie & Woodruff, 2014; McKenzie et al., 2025). In contrast, this study argues that training programs can also teach content that acknowledges that micro-entrepreneurs and their families are interdependent and incorporates practices to manage aspects of that interdependence.

To test the impact of training micro-entrepreneurs in consultative voice practices, I conducted a randomized controlled trial (RCT) with 640 micro-entrepreneurs in Togo. The treatment condition in the RCT taught micro-entrepreneurs three consultative voice routines, including monthly conversations on budget, investment, and feedback. These give family members opportunities to express their views and give input on financial allocations from the business to the family. The control condition taught micro-entrepreneurs a set of well-studied and closely related business practices in the areas of accounting, stock management, and marketing.

In line with the theory, consultative voice routines nearly doubled the level of investment in micro-enterprises and increased profits by 26% relative to the control group over the nine-month period following the training. These increases in investment and performance were primarily driven by reductions in the proportion of profits claimed by family members and increased motivation by family members to support the business. Importantly, the data also suggest that families benefited financially from these changes. Even though treated entrepreneurs gave their families a smaller percentage of their profits, their profits grew by so much that the absolute value of the transfers to families was larger than for the control group.

In micro-enterprises, external family members can both support and undermine the business. Managing this duality requires an approach that is theoretically distinct from prior research in which family members occupy roles within the business and where formal governance structures are available. This study shows that consultative voice, long theorized as something managers do with stakeholders inside the organization, can be an effective informal mechanism for managing external family claims. This suggests that the way for micro-entrepreneurs to balance

familial relationships and their business goals isn't to wall family off or control them, it's to bring them into conversations.

THEORY

Family and Business

Families and businesses are often closely interconnected. Organizational scholarship has long theorized their overlap through the concept of the family firm, defined as businesses that are either primarily owned by a family, managed and led by members of a particular family, or businesses controlled through other formal channels by a family (Bennedsen et al., 2010). In these businesses, the formal inclusion of family members can be a source of competitive advantage, since family members may be more committed to the business and have longer time horizons for investments (Anderson & Reeb, 2003). At the same time, family members in the business can also, in some cases, be liabilities. They can expropriate non-family investors (Bertrand et al., 2008), they can be unqualified for the positions they hold (Pérez-González, 2006), and despite their lack of qualifications or deteriorating performance they can become entrenched and pursue risk averse strategies (Morck & Yeung, 2003).

Family businesses often mitigate these risks by developing cultures of familial stewardship and adopting formal governance structures (Anderson & Reeb, 2004; Eddleston & Kellermanns, 2007). Cultures of stewardship arise when family members participate more in the firm's leadership, invest in internal communication, and foster inclusion and transparency within the firm (Eddleston & Kellermanns, 2007; Eddleston et al., 2008). Formal governance mechanisms, on the other hand, include independent boards of directors, non-family executives, merit-based succession policies, and shareholder contracts and legal protections, among others (Bennedsen et al., 2010; Chrisman et al., 2018). These formal governance policies can limit the ability of family members to act opportunistically.

While the literature on family business generally assumes family members hold formal roles or ownership stakes in the business, family and businesses can also be connected through informal channels when family members sit outside the boundary of the firm. These external family members may not have formal roles in the business, but they can often affect firms through their ties to relatives inside the organization (Aldrich & Cliff, 2003; Li & Piezunka, 2020; Ruef, 2010). These ties can be conduits of advice, influence, claims and requests, or resources, among

others. Importantly, external family members are not subject to the same formal rules, norms, or governance mechanisms as family members inside the business (Li & Piezunka, 2023). As a result, it is less theoretically clear how their influence can be managed by the firm.

Micro-Entrepreneurs and External Family Members

Micro-enterprises rarely meet the definition of family businesses. Micro-enterprises typically employ fewer than five people and, as a result, are often too small to employ many family members (Godfrey, 2011; Hsieh & Olken, 2014). Moreover, they operate in the informal sector and therefore are not registered with the authorities, are not regulated, and do not have access to legal recourse or formal contracts (Carlson, 2023; Portes & Haller, 2005; Webb et al., 2009). As a result, those family members who may be involved in the micro-enterprise are often involved on an informal basis. They are hired without contracts, for ad-hoc, occasional work, rather than through well-defined roles with explicit responsibilities (Khavul et al., 2009; Sanders & Nee, 1996). Most family members that micro-entrepreneurs interact with are therefore external to their businesses.

A frequent interaction micro-entrepreneurs have with these external family members involves requests for financial support from family. In the kinds of environments where many micro-enterprises operate, employment opportunities are scarce and sources of income limited, making it likely that family members live in financial precarity (Godfrey, 2011; Lomnitz, 1977; Stack, 1974). Micro-entrepreneurs, despite their small scale, are often seen by their extended families as financial resources, creating expectations that they provide financial assistance (Jakiela & Ozier, 2016; Platteau, 2000). As a result, external family members often approach micro-entrepreneurs for loans, money, or favors (Aldrich & Cliff, 2003; Khavul et al., 2009).

These financial requests from kin have long been documented. An early account dates to Weber (1930 [1904]), who argued that in societies where familial responsibilities and expectations of mutual support are stronger, people are more likely to be constrained in their ability to pursue entrepreneurship because family requests and expectations prevent them from making investments. In his classic ethnography Geertz (1956) described how an entrepreneur in Java was besought by kin to employ family members, so much so that his business failed. Similarly, Lewis' (1956) foundational theory of economic development describes how successful entrepreneurs in developing economies are often "besieged by correspondingly increased demands for support from a large number of distant relations" (p. 114).

More recent empirical studies have documented the prevalence and consequences of these requests. Baland et al. (2011) illustrate kin requests with a quote from a Cameroonian micro-entrepreneur, who said "Every time they know I have money, they come with new demands" (p. 9), where "they" referred to the entrepreneur's kin. Across a broad range of African contexts studies estimate that familial requests account for 9-17% of micro-entrepreneurs' revenues and often represent a more pressing constraint on business growth than the availability of loans (Boltz et al., 2019; Jakiela & Ozier, 2016; Olié, 2023; Squires, 2024).

While extended families may see micro-entrepreneurs as financial resources, they also often contribute significantly. Family members are typically the first source of flexible, reliable, and cheap labor (Sanders & Nee, 1996). They often also provide initial capital for investments, helping get micro-enterprises off the ground (Khavul et al., 2009; Ruef, 2010, 2020). Micro-enterprises often even share physical space with families. Front lawns and windows serve as retail spaces, while backyards and sheds are transformed into production areas (Doering & Liu, 2019). Micro-entrepreneurs learn how to manage and operate their businesses from family members (Ruef et al., 2003). Family ties also facilitate customer referrals, which are particularly important in markets where reliable information is scarce (Peng, 2004). Finally, extended family networks serve as informal insurance mechanisms, offering financial support during economic shocks and business downturns (George et al., 2016). Given the support families often provide, maintaining positive relationships with external family members is valuable to micro-entrepreneurs.

This dependence on family, however, can make talking to family members about their requests more challenging. Discussing family member's financial requests may risk offending relatives and losing their support. In many contexts, people find it difficult to discuss money with family members, especially under conditions of financial distress (Small et al., 2024). Talking about money creates uncertainty about how family members might react and whether family members' esteem of them will change, which makes people hesitant to discuss finances (Brashears & Quintane, 2018; Small, 2017). In the case of micro-entrepreneurs, this uncertainty and risk is compounded by the fact that being perceived as refusing a familial request could damage the relationship and family members could withdraw their support (Portes, 2014). The difficulty of these conversations is illustrated by the fact that micro-entrepreneurs are often willing to pay to avoid revealing income and discussing it with family members (Boltz et al., 2019).

By the same token, external family members may themselves find discussions about finances with their micro-entrepreneur relatives challenging. They may feel entitled to the support. They may also worry about their reputation. As a result, family members making requests may prefer to avoid conversations about money that go beyond the request itself (Small et al., 2024; Wherry et al., 2019).

Given the complexity of discussing money within families, it is likely that micro-entrepreneurs experience an uncoordinated influx of requests from a range of family members that are difficult to defer or discuss. Family members themselves are unlikely to be aware of the trade-offs involved in their requests or the potential toll they might take on the business. They might therefore be unaware that collectively, the family's requests are adding up to more than what the micro-entrepreneur can support. In combination, the lack of communication may give rise to pressures on micro-entrepreneurs that undermine the business's growth, even though this growth would also likely benefit family members.

Consultative Voice

Barriers to discussing money with relatives suggest that, in the absence of formal governance processes and legal protections, micro-entrepreneurs may benefit from a way of facilitating those conversations. A long tradition of research on worker participation and voice in organizations has developed practices to catalyze and routinize such conversations. This research has primarily emphasized discussions between workers and managers (Cotton et al., 1988; Hirschman, 1970; Lewin, 1947). Having discussions that give workers voice in managerial decisions increases transparency in decision-making, which creates a sense that decisions are fair and promotes trust (Tyler & Blader, 2003). At the same time, it also improves information sharing, which can improve workers' understanding of trade-offs and the rationale behind managers' decisions (Miller & Monge, 1986; Van Gramberg et al., 2020). All this often leads workers to feel more psychologically invested in their work, which can be motivating and reduce conflict (Miller & Monge, 1986; Wagner III, 1994).

I argue that this approach can be adapted for micro-entrepreneurs and used with external family members. Participatory practices come in many forms, but they often vary in terms of whether participation is direct and whether it involves authority over decisions (Cotton et al., 1988). Direct participation involves individual stakeholders expressing their views themselves,

rather than through representatives. Similarly, participation can come with authority over decisions or be consultative. In the context of micro-entrepreneurs, family members may be likelier to feel included if they have a chance to participate directly. At the same time, if this direct participation involves influence over decisions micro-entrepreneurs might risk losing control of their businesses. Micro-entrepreneurs' circumstances, therefore, likely require participation that is direct, but consultative. Three routines that fit these requirements and for which there is considerable empirical support are participatory budgeting, resource allocation discussions, and feedback.

Participatory budgeting involves deliberating and discussing sources of income, and the allocation of that income to expenditures (Shields & Shields, 1998). Participatory budgeting has been used to improve planning, coordination, and information sharing in organizations (Gherghina et al., 2023; Gonçalves, 2014). Doing so can increase employee motivation and perceived fairness of managers' decisions (Wu et al., 2024). In the context of micro-entrepreneurs, participatory budgeting can be used with extended family through family budgeting, which compiles anticipated income and expenses for the family.

Voice can also be exercised through discussions of investments. In this form of voice, workers participate in discussions of firm investments by discussing proposed investments, consulting and negotiating with management over projects, and advocating for employment-friendly investments (Jäger et al., 2022). These participatory discussions often protect employees and improve their experience at work (Askildsen et al., 2006). In the case of micro-entrepreneurs and their family members, such resource allocation discussions give entrepreneurs the opportunity to explain the trade-offs between short-term family requests and returns from investments in the business.

Finally, feedback is a common form of consultative voice (Detert & Burris, 2007; Ichniowski & Shaw, 1999). When organizational members can express their views it tends to increase job satisfaction, motivation, and productivity, while reducing turnover (Miller & Monge, 1986; Siebach et al., 2026; Wu & Paluck, 2025). Micro-entrepreneurs can adopt this approach to granting voice by soliciting feedback directly from family members. This gives family members an opportunity to react to business outcomes and processes, as well as express views on the overall business direction.

Consultative Voice and Micro-Entrepreneur Performance

Adopting routines that grant external family members consultative voice should affect micro-entrepreneurs' investments and business performance. Consultative voice should help family members develop a clearer understanding of the business, its finances, competing familial requests, and the trade-offs between these requests and longer-term returns from reinvesting. As family members come to understand these trade-offs, they may be more inclined to defer some of their requests to enable the business to grow, which is aligned with their longer-term interest. Voice should also foster inclusion and transparency, which build trust, motivation, and reduce conflict (Miller & Monge, 1986; Tyler & Blader, 2003; Wagner III, 1994). Rather than operating as alternative or sequential pathways, these channels work concurrently and reinforce one another.

Consultative voice practices should increase investments in micro-enterprises. Discussions of the family budget and potential investments should enable micro-entrepreneurs to identify some familial requests that could be deferred in the short-run and make it likelier that they gain family members' support in deferring those requests. Family members participating in these discussions should feel like the process is more transparent and fair, motivating them to support micro-entrepreneurs' decisions and the short-term deferrals. Support from family members may also be driven by their improved understanding of the decisions and the associated trade-offs between requests and reinvestments. Given family members' motivation from inclusion and their improved understanding, micro-entrepreneurs should be likelier to make more investments in their businesses. Therefore, I hypothesize that:

Hypothesis 1 (H1): A consultative voice approach to family increases micro-entrepreneurs' investments in their businesses.

In addition to increasing investment, consultative voice should also increase micro-entrepreneurs' profits. As micro-entrepreneurs reinvest more in their businesses, this should enable them to take more strategic actions to improve their performance (Carlson, 2023). Investments such as increasing inventory and diversifying products can attract new customers. Buying new equipment can enable micro-entrepreneurs to scale their operations and sell more. Similarly, improving production processes and hiring new employees can improve product quality and increase production. Increased investments should therefore raise revenues (De Mel et al., 2008).

In addition to improvements made based on investments, micro-entrepreneurs should also benefit from the improved relations with family members. Having family members who are motivated to support the business could lead to more favors, more word-of-mouth promotion and referrals, all of which supports the business. The increase in trust and the reductions in conflict should also increase family members' encouragement and reduce interference in the business, enabling micro-entrepreneurs to focus more on their businesses (Aldrich & Cliff, 2003; Detert & Burris, 2007; Ruef, 2010; Tyler & Blader, 2003). Taken together, consultative family voice should improve business performance through investments, as well as family members' increased motivation, trust, and conflict avoidance. Therefore, I hypothesize that:

Hypothesis 2 (H2): A consultative voice approach to family increases micro-entrepreneurs' financial performance.

RESEARCH DESIGN

Setting: Lomé, Togo

The setting for this study was Lomé, the capital of Togo. Togo is a lower-income country in West Africa, with a poverty rate of approximately 42.4% and annual income per capita of approximately \$1,000 USD in 2023 (World Bank, 2024). Lomé was an appropriate setting for this study because kinship is a central social institution in local ethnic groups and, as a result, family is often involved in entrepreneurial ventures. The two most economically significant ethnic groups in Lomé are the Ewe and Kabye (Minority Rights Group, 2018; UN CERD, 2008). For these ethnic groups, kinship ties have traditionally been close, entailing frequent contact and emotional intimacy (Fiawoo, 1974; Kludze, 1969). Pre-colonial traditions in both ethnic groups suggest that expectations of mutual support among kin are strong, as members of a kin group have traditionally been responsible for each other's debts, prohibited from suing each other and responsible for ensuring that all members of the kin group are supported (Manoukian, 1952).

In preparation for this study, twelve exploratory interviews were conducted with a convenience sample of business owners in Lomé in 2021. The interviews were conducted by the author in French with entrepreneurs who were referred by a Togolese non-profit organization. Interviews lasted between 30 and 60 minutes. During the interviews, entrepreneurs described how their

families were often a source of support, as well as a source of requests and, at times, interference. One business owner described the supporting role of family as:

"Family, you could say parents, can give you money to develop your business. In my case, it's not like they gave me an amount, but they took care of my rent. And they send customers. They say: "Look, this person does this, it's my daughter!" (Essy, p4)

Yet, entrepreneurs also lamented the challenges that family members, including those without specific roles in the business, could create when they claimed inventory or expropriated funds. One Ewe entrepreneur in Lomé highlighted the risk of giving to family members:

"Speaking of family, if you give a family member some of your merchandise and they do not pay you, what are you going to do? You know each other well, you grew up together, you can't take them to court or sue them. It's very hard to trust family members in business." (Kodjo, p2)

Similarly, another entrepreneur emphasized the interference that can occur:

"They think that the company belongs to them, so they can do whatever they want, and that kills a company." (Siakou, p7)

Another business owner emphasized how household members might not understand the business or what entrepreneurship entails:

"If you're not careful, sometimes the family puts the brakes on your project. They put a strain on your projects. Your family doesn't necessarily support you. If you have psychological support from your mom or dad, that's great, but that's where it ends. They [family] don't see you as an entrepreneur, they don't even understand what it is." (Ayeva, p3)

These quotes illustrate that for entrepreneurs in Lomé family is often intermingled with business and is experienced as both a source of support and a liability. Baseline data from the entrepreneurs in this study suggest these dynamics are widespread. Every entrepreneur had at least one family member informally involved in the business, and family members accounted for 93% of employees on average. The great majority of micro-entrepreneurs in the sample were also financially

constrained, 91% cited access to finance as the main obstacle to growth and only about a quarter reported any slack savings for unexpected business needs. Echoing the tensions in the accounts above, 57% of entrepreneurs reported disagreements with family at least monthly, suggesting that the challenge of balancing familial support against reinvestment was common (see Appendix 16 for additional descriptive data).

Experimental Design

This study's hypotheses were tested using an RCT, which was implemented through a collaboration with the non-governmental and non-profit organization, Energy Generation. The RCT involved randomizing cohorts of entrepreneurs into one of two training programs. The first taught traditional management practices, while the second taught consultative voice practices.

The training program recruited participants from across the city of Lomé. To participate, entrepreneurs were required to own their businesses and have been in operation for at least one year. From March to June 2023, the team of canvassers recruited 827 eligible participants, who signed up to participate in the training program. The training was offered for free, and entrepreneurs could request a reimbursement of travel expenses of \$2 USD.

The training for both the treatment and control groups lasted two days, which were taught consecutively. Each participant was assigned to specific dates when they signed up. Dates for the training were filled sequentially, the first 35 entrepreneurs to sign up were assigned to the first cohort taught on July 3rd and 4th, the second 35 were assigned to the cohort taught on July 5th and 6th, and so on, until all 24 cohorts were filled. The training dates began in early July and ended at the end of August 2023. Training sessions were held in three different communities in Lomé (Totsi, Hedzranawe, and Adetikope) and entrepreneurs were assigned to take the training in the community nearest to them.

After all cohorts had been filled, half the cohorts in each of the three communities were randomly selected to receive the family participation training and the other half to follow the conventional business practices training. As pre-registered, the randomization was done within each of the three communities where training took place, thereby stratifying the randomization by community.

The level of randomization in this RCT is the training group (cohorts), rather than individual entrepreneurs. The randomization was done in Excel, creating rows for each training

cohort and generating a random number for each row, then sorting them by this number within each neighborhood and selecting the first half into the treatment condition. This represents a cluster randomized design, which is common in RCTs involving training of entrepreneurs (Dimitriadis & Koning, 2022; Karlan & Valdivia, 2011). This design was chosen for practical reasons because assigning entrepreneurs to the soonest training date helped reduce attrition. By contrast, randomizing individuals would have required assigning them to the first available date for their condition, which could entail a longer wait. A disadvantage of this approach is that randomizing at the cluster level can lead to intra-cluster correlation, which reduces the effective sample size and, by extension, the experiment's statistical power (Eldridge et al., 2006). To account for this intra-cluster correlation all regression analyses cluster standard errors at the training cohort level (Abadie et al., 2023). Appendix 19 provides more information about power calculations and how they accounted for cluster randomization.

Of the 827 entrepreneurs who signed up for the training during canvassing, 640 showed up on their assigned dates. Since not all entrepreneurs who signed up for the training attended, it led to some variation in cohort sizes, with the smaller cohorts having 8 entrepreneurs and the larger ones about 50. The attrition between the registration and attendance was balanced across treatment and control conditions, and attendance rates across conditions were not statistically different (Appendix 8 presents these analyses). This experimental design identifies the treatment-on-treated effect, since outcomes for participants who registered but never attended are absent. There was no attrition during the training program, all 640 entrepreneurs who attended the first day of training completed both days (see Appendix 1 for additional details).

The cohorts were taught sequentially, rather than simultaneously, to maintain the same team of instructors in all classes. The team of instructors consisted of three management consultants who had previously taught entrepreneurship programs at local universities and in international development programs, each with multiple years of experience. The program was taught simultaneously in French and in Ewe. The training days were intensive, lasting 10 hours each, for a total of 20 hours of training for each participant.

The control group in this experimental design completed a training on traditional management practices, rather than receiving no training. The advantage of this design is it creates a conservative control group because the traditional management practices training has been shown, across multiple RCTs, to increase revenues by approximately 5% and increase profits by

10% on average (McKenzie, 2021; McKenzie & Woodruff, 2014; McKenzie et al., 2025). This experimental design also helps rule out potential network effects, motivational effects, or placebo effects that could be associated with attending a training.

Family Voice Training and the Control Group

The goal of the family voice training was to teach entrepreneurs three routines for giving consultative voice to family members, including family not directly involved in the business. These routines centered on creating regular conversations about financial flows from the business to the family and giving family members opportunities to express their views, without giving them authority over the final decision. The control group, by comparison, received training based on the International Labour Organization’s “Start and Improve Your Business” (SIYB) program, a well-established training designed to teach micro-entrepreneurs basic managerial practices. This training included modules on inventory management, accounting, and marketing. Table 1 outlines the training content, Appendix 1 describes how the treatment was developed, and sample slides appear in Appendix 21.

***Table 1 about here ***

As Table 1 shows, the treatment and control group training programs were structurally identical. They ran for the same number of hours, included the same number of group exercises and breaks, used the same instructors, the same classrooms, and were delivered in both French and Ewe. Table 2 describes the overlap and divergence in content between the two programs. The common ground covered by both programs was financial literacy, investment concepts, and advice seeking. The central difference between them was the treatment’s focus on family and giving them voice. By comparison, when the control group discussed routines and practices, these related only to the business and did not involve family.

***Table 2 about here ***

Data

Data about micro-entrepreneurs were collected during one pre-treatment survey and three post-treatment surveys. The pre-treatment survey was administered to all participants at the beginning of the first day of the training program, before any of the teaching began. The post-treatment surveys were conducted every three months after the training and took place at entrepreneurs' locations of business. The first follow-up survey took place three months after the training, the second six months after, and the third nine months after. The follow-up surveys were conducted by the same team of instructors who taught the program. This fostered a sense of trust between participants and the surveyors, who already knew each other, helping reduce attrition and improve the reliability of responses. To further bolster this sense of trust, surveyors spent additional time with respondents after the end of each survey to help answer questions about their business and give general business advice.

A total of 640 entrepreneurs attended the training and completed both days. Of these, 602 responded to the first follow-up survey three months later, 601 responded to the second follow-up, and 599 responded to the third. This represents an overall attrition rate of 6.5%. Other studies of micro-entrepreneurs report similar attrition rates, Anderson and McKenzie (2022) report an overall attrition rate of approximately 11% and Campos et al. (2017) report an average attrition rate of 9%. The final sample for the analyses consists of 593 entrepreneurs who responded to questions about monthly profits in the baseline survey and at least one post-treatment survey. Figure 1 illustrates the timeline of the surveys and experimental intervention.

*** Figure 1 about here ***

Of the 41 entrepreneurs who dropped out of the study after the training, eight (about 20% of the attriters) dropped out because their businesses failed. All eight failures occurred between the baseline survey and the first follow-up survey, and all eight entrepreneurs whose businesses failed were in the control group. Entrepreneurs whose businesses failed were dropped from the sample because their revenues, profits, and investments were undefined.

Dependent variables. The first outcome is whether entrepreneurs adopted family voice routines. The training introduced three voice routines: (1) creating a family budget, (2) discussing investment decisions, and (3) soliciting advice and feedback. In each survey wave, entrepreneurs

answered “yes” or “no” to indicate whether they had used each practice during the past three months. *Family budget* is a binary variable for creating or updating a family budget; *discussed investments* captures whether the entrepreneur discussed potential business investments; and *family advice and feedback* indicates whether the entrepreneur sought business advice, feedback, or ideas from family. *Average voice practices* is the proportion of these three routines used in the past three months.

The second dependent variable relates to Hypothesis 1, which states that giving family members voice increases business investment. Investments are measured as the inverse hyperbolic sine (ihs) of investment expenditures during the previous three months, winsorized at the 1st and 99th percentiles, in Francs CFA (FCFA).

Hypothesis 2 states that family voice routines improve financial performance, which is measured using monthly profits and a performance index. Monthly profits are the ihs of profits in the last month, winsorized at the 1st and 99th percentiles. Profits are measured as the money left over after all business expenses, inclusive of the owner's labor returns, which is a common measurement approach for micro-enterprises where owners do not pay themselves a formal salary (De Mel et al., 2009; Fafchamps et al., 2012). Several steps were taken to improve the reliability of the financial information that micro-entrepreneurs reported. First, surveys were conducted by the instructors who taught the training, which increased familiarity and trust. Second, following Dimitriadis and Koning (2022), the surveyors offered consulting advice in appreciation for completing the survey, which also incentivised entrepreneurs to report financials accurately. Third, the survey questionnaire incorporated anchoring and iterative adjustment questions by asking entrepreneurs about revenues and profits during their best and worst weeks, following the methodology developed by Anderson et al. (2021).

Several checks suggest the self-reported profits are likely valid. The correlation between directly reported profits and profits independently calculated from reported revenues and costs is 0.83, indicating strong internal consistency. Moreover, the gap between reported and calculated profits does not differ significantly across treatment and control groups, ruling out reporting bias as a driver of the treatment effect. Full details of the measurement approach and validation analyses are reported in Appendix 6. Moreover, Appendix 11 shows that results for Hypotheses 1 and 2 also hold when using non-ihs and non-winsorized measures of outcomes.

The second measure of financial performance is a “performance index,” measured as the mean of several standardized performance variables. These include monthly revenues; best- and worst-week revenues; monthly profits; best- and worst-week profits; and number of employees. All components use the transformation and winsorization at the 1st and 99th percentiles. This measurement strategy, common in work on firms in developing economies, helps account for potential measurement error (Campos et al., 2017; Kling et al., 2007).

Independent variables. The main independent variable is family voice training, an indicator equal to 1 if the entrepreneur participated in the family voice training and 0 if they received the traditional business training. Besides this, several pre-treatment control variables were also defined. To capture potential cultural influences, regressions control for *Ewe ethnicity*, which is the majority group in Lomé. Regressions also control for *Christian* religion, as religious norms may shape family expectations. *Female* controls for gender, and *married* captures whether the entrepreneur has a spouse. *Education* is measured on a five-point ordinal scale from no schooling (1) to university degree (5). The number of *family members involved* in the business is also included, where involvement is defined broadly to include any contact with business related issues, including unpaid work, advice, or favors, even if only occasional and informal.

Firm-level controls include *firm age*, defined as years since the entrepreneur began serving customers. *Management practices score* represents the proportion of 27 managerial best-practices defined by McKenzie and Woodruff (2017) that were used by the micro-entrepreneur. Six sector dummies control for types of business activities (agricultural processing, construction, light manufacturing, services, retail, hotels/restaurants). Regressions also control for *cohort size* to account for variation across training groups.

Table A2.1 in Appendix 2 presents baseline summary statistics and Table A2.2 in Appendix 2 presents the correlation matrix. The average entrepreneur earned monthly profits of 78,000 FCFA, equivalent to approximately 130 USD. Only 15% made any investment in the prior three months, with an average investment of 175,000 FCFA (approximately 292 USD) among those who did. Almost no participants had a household budget or discussed investments before training. Most participants were Ewe, Christian, married, had completed middle school, and had at least one family member involved. Businesses had operated for about 10 years and used half of the management best-practices. Seventy-six percent of entrepreneurs were women, which is higher

than other samples of micro-entrepreneurs in Lomé (Campos et al., 2017; Dimitriadis & Koning, 2022).

Table 3 shows baseline balance between treatment and control groups. Means for the control and treatment groups are shown in Columns 2 and 3. On average, these differences are small, with slightly higher education and larger cohort sizes in the control group. None are statistically significant at the 10% level or lower. Pairwise tests regress each variable on the treatment indicator with cohort-clustered standard errors. Overall, Table 3 confirms successful randomization and balance across conditions.

** Table 3 about here **

Estimation

Regressions estimate the following ANCOVA model:

$$y_{i,t>0} = \alpha + \beta \text{Family_Voice_Training}_i + \gamma y_{i,t=0} + \delta X_{i,t=0} + \tau_t + \varphi_i + \sigma_i + \varepsilon_{i,t} \quad (1)$$

where $y_{i,t>0}$ is the outcome of interest for entrepreneur i in survey wave t after the training. There are three survey waves after the training. $\text{Family_Voice_Training}_i$ is the indicator for the treatment and β captures the average causal effect of the family voice training. $y_{i,t=0}$ is the outcome of interest measured at baseline ($t=0$), before the training. $X_{i,t=0}$ is a vector of control variables, measured at baseline. The regression includes survey wave dummy variables τ_t , sector of economic activity σ_i dummies, and dummies for the community in which the training was held φ_i . Robust standard errors are clustered at the training cohort level because the randomization occurred at the cohort level. This estimation approach was preregistered on the Open Science Framework (OSF), see Appendix 20 for more information about the pre-registration. Also, Appendix 10 replicates the results using a difference-in-differences estimation approach, which was also pre-registered and includes entrepreneur fixed effects. The tables in this paper rely primarily on the ANCOVA approach because the autocorrelation in monthly profits is low, ranging from 0.13 to 0.23, which makes the ANCOVA estimates more accurate (McKenzie, 2012).

RESULTS

Adoption of Family Voice Practices

Most entrepreneurs who learned about consultative family voice routines tended to adopt them. Figure 2 plots the proportion of the three voice routines that entrepreneurs adopted by treatment

condition, with 95% confidence intervals. The figure shows that the treatment condition entrepreneurs (dashed line) adopted on average all three voice routines taught, as early as 3 months after the training. By contrast, the control group (solid line) did not adopt more family voice routines after the training.

*** Figure 2 about here ***

Appendix 3 presents histograms of the number of practices adopted in each treatment condition, showing that 95% of micro-entrepreneurs in the treatment group used all three voice practices after the end of the training. This provides reassurance that adoption of family voice routines in the treatment group was high, and it also implies that the treatment effects should be interpreted as an extensive margin effect.

Building on Figure 2, Table 4 explores the adoption of these practices using regressions and controlling for various entrepreneur and business characteristics. The coefficients for family voice training in all models are positive and statistically significant, suggesting the treatment led to the adoption of a family budget, discussions of investments, and asking for feedback from family. As expected under randomization, baseline characteristics do not significantly predict adoption of these practices, hence the control variables are mostly not statistically significant.

The magnitude of the coefficients suggests that entrepreneurs in the treatment group were nearly 100 percentage points more likely to draft a family budget and discuss investments with their families and 6 percentage points more likely to ask for advice from family. Models 7 and 8 suggest that family voice training increases the average voice practices score by 0.67, which is equivalent to adopting two new voice practices. These pre-registered analyses show the training led to adoption of the practices taught.

*** Table 4 about here ***

Family Voice Increases Investment

Hypothesis 1 states that family voice training will lead to more investments in entrepreneurs' businesses. Figure 3 plots average investment by experimental condition with 95% confidence intervals. The figure shows that while investments by entrepreneurs in the control condition (solid

line) initially increased, they levelled off after 3 months. By comparison, investments by entrepreneurs in the treatment condition (dashed line) did not stop increasing over time.

*** Figure 3 about here ***

Pre-registered Models 1 and 2 in Table 5 test Hypothesis 1 by regressing investments on family voice training. The coefficient for family voice training is positive, statistically significant, and large in magnitude. The size of the coefficients suggests that investments for treated entrepreneurs are nearly double those of control group entrepreneurs. Model 2 of Table 5 suggests that, on average, control group entrepreneurs invested approximately 4,500 FCFA (8 USD) during three months, while entrepreneurs in the treatment condition invested about double that amount, 9,740 FCFA (16 USD). Analyses in Appendix 11, Table A11.3, show that the treatment led to a 20% increase in the likelihood that micro-entrepreneurs would make any investment in their business. Taken together, this suggests that family voice training significantly increased entrepreneurs' investments, supporting Hypothesis 1.

*** Table 5 about here ***

Family Voice Improves Business Performance

The second hypothesis proposes that giving consultative voice to family increases business performance. Figure 4 plots average monthly profits over time, showing that profits rise for both groups immediately after training, but only the treatment group (dashed line) continues to grow over time, while control group (solid line) profits plateau after six months. Comparing Figure 4 with Figure 3 reveals that treatment and control entrepreneurs diverge first in terms of their investments and only after in terms of profits, about six months after the training. This sequencing is aligned with the theory which argued that family voice leads to deferred family claims, which are reinvested, and the returns to those investments accrue with a lag. Difference-in-differences estimates by wave confirm this ordering, with significant treatment effects on investment by the three-month follow-up and on profits by the six month follow-up (Appendix 10, Table A10.2).

*** Figure 4 about here ***

Figure 5 further illustrates this pattern. Although baseline profit distributions overlap substantially (Panel A), six months later the distribution for treated entrepreneurs (dashed line) shifts rightward relative to the control group (solid line) (Panel B). The shift of the distribution of treated entrepreneurs also suggests that performance gains happened across the distribution, rather than among subsets of firms.

*** Figure 5 about here ***

Pre-registered regressions in Models 3–6 of Table 5 confirm these patterns. Family voice training raises monthly profits by roughly a quarter of a standard deviation. Predicted post-treatment profits equal 47,422 FCFA (78 USD) for control entrepreneurs and 61,503 FCFA (102 USD) for treated entrepreneurs, a 26% increase. The performance index results mirror this. Family voice routines increase the composite performance measure by about 21% relative to the control group.

Additional regressions in Appendix 6 show that this treatment effect operates through both revenue and cost channels, with revenues increasing more than costs. These results are consistent with an interpretation that family voice training increases micro-entrepreneurs' ability to invest and grow their businesses, which would drive increases in both revenues and costs. Furthermore, treatment effects on profits and revenues are consistent across different recall windows. Appendix 6 estimates the treatment effect using constructed measures of monthly profits and revenues based on best- and worst- week revenues and profits. These results show that the treatment effect is stronger for the worst week figures, which suggests that consultative voice routines may help entrepreneurs manage difficult periods.

Interpreting the magnitude of the treatment effect requires accounting for the fact that the control group also received training. The estimated 26% profit increase represents a conservative lower bound on the effect relative to no intervention. Meta-analyses of RCTs evaluating traditional management training programs suggest that effects on profits typically range from 5% to 15%, with an average of approximately 10%, relative to untreated entrepreneurs (McKenzie et al., 2025). If the control group in this study experienced an improvement of approximately 10% relative to no intervention, then the absolute effect of the consultative voice training relative to no intervention would be in the approximate range of 30–40%. This would place the intervention in

the upper tier of observed effects in the entrepreneur training literature, alongside studies such as Anderson et al. (2018), who report a 41% profit increase.

EXPLORING MECHANISMS

Which Participatory Routines Drove the Treatment Effects?

The preceding analyses show that giving voice to family members increases entrepreneurs' investments and profits, but an important question is which voice routines contributed to the effect. I use causal mediation analysis to decompose the treatment effect into indirect effects operating through each routine (Imai et al., 2011; Imai et al., 2013). Identification of the mediation effect relies on randomized assignment and sequential ignorability, which is assumed with the inclusion of baseline controls for firm and entrepreneur characteristics. The key estimand is the average causal mediation effect (ACME), which reflects how much the outcome would change if the mediator shifted from its control level to the treatment group level while holding treatment constant. For each participatory practice I estimate a separate mediation model because family budgeting and investment discussions correlate at 0.99 (see Appendix 7 for correlation table) making a multiple mediation specification not estimable due to multicollinearity. In addition, I include a single mediator model that uses the composite index of all practices ("average voice practices") as a bundled mediator.

Column 1 of Table 6 reports ACMEs for investments. Family budgeting and investment discussions have confidence intervals that exclude zero, indicating they are statistically significant mediators. By contrast, seeking feedback has an ACME near zero with a confidence interval including zero, suggesting it does not significantly mediate investment effects.

Columns 3 and 4 show similar patterns for profits. Family budgeting and investment discussions have nearly identical estimates in Column 3 because these practices were almost always adopted together. Budgeting and investment discussions mediate nearly all of the treatment effect, while feedback plays a relatively minor role and is not statistically significant.

Overall, the mediation analysis indicates that the treatment's impact on both investments and profits flows primarily through the adoption of budgeting and investment discussion routines, likely because these practices relate most directly to coordinating financial flows from the business to the family.

*** Table 6 about here ***

Downstream Mediating Mechanisms

Beyond assessing the contribution of each practice, the theory points to several downstream mechanisms that could explain the treatment effects. Prior research shows that voice and participation can increase motivation and trust (Detert & Burris, 2007; Tyler & Blader, 2003; Wu & Paluck, 2025). Voice can also promote mutual understanding and reduce conflict (Tyler & Blader, 2003; Van Gramberg et al., 2020). To probe these potential pathways, I estimate the effects of the treatment on family motivation, entrepreneurs' trust in family, conflict, and financial transfers from the business to family. These measures rely on entrepreneurs' perceptions and self-reports, rather than family members' own perceptions and should, therefore, be taken as suggestive and indirect evidence of potential mechanisms.

Family motivation was measured as the extent to which entrepreneurs perceived family members to be motivated by the business's success, rated on a six-point Likert scale ranging from "not at all motivated" to "extremely motivated." *Trust of family* was measured on a 5-point Likert scale as the extent to which entrepreneurs trusted their family members on matters related to their business, ranging from "not at all" to "completely." *Frequency of disagreements* was measured on a 5-point scale ranging from "Less than once every two months" to "Most days." Disagreements were broadly defined as any conflict between the entrepreneur and their family members related to the business. Finally, *business to family financial flows* were measured in the third and fourth survey waves, when entrepreneurs were asked what percentage of monthly profits they had given to their family during the last month, beyond salary payments or rewards for helping in the business. This was meant to approximate the extent to which micro-entrepreneurs fulfilled family requests for financial support and claims on business income. Because each of these downstream mechanisms is captured by a single survey item, conventional internal consistency cannot be assessed, and the mediation results should be read with this limitation in mind. That said, single-item measures are considered defensible when the focal construct is narrow and concrete, which these mediators satisfy (Bergkvist & Rossiter, 2007).

For the variables "family motivation," "trust of family," and "frequency of disagreements," Equation (1) was estimated. For regressions where the outcome is business-to-family financial

flows, observations for the baseline time period were not collected, as a result these regressions do not control for the baseline value of the outcome.

Models 1 and 2 in Table 7 estimate the impact of family voice routines on perceived family motivation. The effect is positive, statistically significant, and large. Treated entrepreneurs shift from reporting their family members are “a little motivated” to “quite motivated,” suggesting that family voice practices made entrepreneurs feel their families were more willing to support the business, defer consumption, or help in other ways.

Models 3 and 4 show similarly strong effects on trust. Family voice training raises entrepreneurs’ trust in family members by about 1.5 standard deviations, shifting reported trust from “somewhat trusting” to “very trusting” in the treatment group. Models 5 and 6 indicate that the training significantly reduces the frequency of disagreements, lowering conflict by about one standard deviation. Control group entrepreneurs report disagreements “every two months,” compared to “less than every two months” in the treatment group. Figure 6 illustrates this decline and Appendix Table A3.1 provides corroborating evidence that treated entrepreneurs were more likely to report that the family budget reduced family tensions.

*** Figure 6 about here ***

Models 7 and 8 estimate the treatment’s effect on business to family financial flows. Family voice training reduced the share of profits transferred to family by roughly 19 percentage points. Control group entrepreneurs shared about 75% of profits, compared to 56% for the treatment group. This suggests that treated entrepreneurs preserved more resources for reinvestment, likely because family members were more open to deferring consumption.

*** Table 7 about here ***

To further determine whether changes in financial transfers, motivation, trust, and conflict mediate the treatment effect, Table 8 presents the results of joint causal mediation analysis (Imai et al., 2011). In these mediation models, the mediating effect for each factor is estimated while controlling for the other potential mediators (Imai & Yamamoto, 2013). For both investments and profits, the two mediators that are statistically significant and account for the majority of the

treatment effect are business-to-family financial flows and family motivation. By comparison, trust in family and frequency of disagreements, although strongly affected by the treatment, do not seem to have independent indirect effects on profits or investments in the joint mediation specification. This pattern suggests that consultative voice routines improve business performance mainly by reducing the financial claims families make on the business and increasing their motivational investment in its success, rather than through increases in trust or reductions in conflict. While family voice practices do seem to increase trust and reduce conflict, these effects may be a product of the improved performance of the business, rather than a driver of those performance gains.

*** Table 8 about here ***

DO FAMILIES RECEIVE MORE INCOME?

Family voice practices improved micro-entrepreneurs' performance, but it is unclear whether their family members participated in these gains. To explore whether this was the case, Table A3.1 in Appendix 3 estimates the treatment effect on the absolute sum of money transferred from the micro-entrepreneur to their family members. These figures are reported by entrepreneurs and are therefore subjective, which makes the results suggestive. I find that the treatment increased the absolute value of transfers to family members. The coefficient for family voice training is positive and statistically significant, and the magnitude suggests that families of micro-entrepreneurs in the treatment condition received approximately 20 USD more per month than the families of micro-entrepreneurs in the control condition, suggesting that families likely participated in micro-entrepreneurs' financial gains.

Appendix 14 reports additional exploratory analyses of other family-level outcomes. There are reasons to expect that household income after deducting any transfers from micro-entrepreneurs and spousal entrepreneurship could be affected by the voice training. Results suggest that household income, after deducting micro-entrepreneur contributions, increases modestly. There is, however, no detectable effect on spousal entrepreneurship.

These financial and entrepreneurial outcomes represent only one dimension of family welfare. The treatment could plausibly also affect family members' subjective wellbeing, shift intra-household decision making and bargaining power, and have intergenerational effects on children, among other things. These analyses, however, remain outside the scope of this study.

ROBUSTNESS CHECKS

If family voice works by helping entrepreneurs manage family claims, its effects should be stronger for entrepreneurs who experience greater pressure to share income. This may arguably be the case for micro-entrepreneurs whose households depend more on them financially and whose families experience an unexpected illness or death. Regressions in Appendix 13 show that entrepreneurs whose families had fewer alternative sources of income and entrepreneurs whose families recently experienced a health crisis benefitted more from the training. These patterns suggest family voice is especially valuable when there are stronger family financial pressures.

A potential concern with the experimental results could be that the treatment effect is confounded by changes in micro-entrepreneurs' attribution of importance or attention to family. To explore whether this might be a concern I use micro-entrepreneurs' response to several related survey questions. In the last survey wave, micro-entrepreneurs were asked to rate on a 4-point Likert scale the degree to which family was important to them and what values were most important for their children. Results in Tables A4.1 and A15.1 show that family voice did not change micro-entrepreneurs' family values. Entrepreneurs were also asked whether they gave gifts to family, if their spouse was involved in their business, if they were involved in their spouses' business, and the number of hours they spent caring for family members, which may have increased if the treatment was increasing entrepreneurs' attention to their families. The family voice training, however, had no effect on any of these outcomes (see Appendixes 14 and 15 for regressions).

A related concern is that the treatment may have encouraged micro-entrepreneurs to invest simply by exposing them to more discussion of investing. Several factors make this unlikely. First, the control group also received exposure to investment concepts during the accounting module, so both groups were primed to think about investing. Second, proxies for investment readiness (having the documents required for a loan and the number of loans obtained) do not differ between groups (Table A4.1 in Appendix 4). Third, the control group itself increased investment substantially after training. Control group entrepreneurs were 29% more likely to invest than they were at baseline and they invested nearly three times more than at baseline (Table A4.2 in Appendix 4). These patterns suggest that both trainings spurred investment, but the family voice routines did so by a larger margin.

Although attrition levels were low compared to other studies, Appendix 8 explores whether there is any evidence of attrition bias. Appendix 8 presents evidence that the treatment is not correlated with attrition and reports Lee bounds for the treatment effect on monthly profits (Lee, 2009). The Lee bounds analyses show that even the lower bound for the treatment effect is positive and statistically different from zero.

To ensure the main results are not driven by omitted variables, Appendix 9 replicates the results after including more control variables. The coefficient for voice training is still positive, statistically significant and does not change in magnitude. To ensure that the main results of this study are not model dependent, Appendix 10 replicates Table 5 using a difference-in-differences model with entrepreneur fixed effects. The results using this estimation approach replicate the findings in Table 5. The key outcomes of interest (investments and profits) were transformed using *ihs* and winsorizing. To ensure that the study's results are not dependent on these transformations Appendix 11 replicates the results for investments and profits using the untransformed versions of those variables. Finally, to ensure performance index results are not overly sensitive to any one measure included in the index, Table A11.2 in Appendix 11 reproduces the results for the performance index after sequentially dropping each of the measures included.

DISCUSSION

Micro-entrepreneurship is a prevalent form of entrepreneurship. In the Global South, the modal business is a micro-enterprise (Hsieh & Olken, 2014). A common experience for micro-entrepreneurs are requests from family members for a share of the business income (Aldrich & Cliff, 2003; Geertz, 1956; Jakiela & Ozier, 2016). Managing these requests can be challenging because refusing them risks harming familial relationships, while fulfilling them can hamper business growth, ultimately limiting micro-enterprises' ability to support the family (Granovetter, 2000; Portes & Sensenbrenner, 1993; Squires, 2024). This study argues that giving consultative voice to external family members can help micro-entrepreneurs preserve familial support while deferring some financial requests. In doing so, micro-entrepreneurs are able to reinvest in their businesses and grow them. The growth of their businesses allows micro-entrepreneurs, in the longer term, to increase the absolute value of transfers to family members.

Implications for Theory

Entrepreneur Training

A large literature explores how to train entrepreneurs, often focusing on micro-entrepreneurs (Camuffo et al., 2020; McKenzie & Woodruff, 2014). This literature shows that training programs can help diffuse managerial practices that improve business performance, although adoption is often uneven, effect sizes are modest, and there can be negative unintended consequences (Bryan et al., 2017; Lyons & Zhang, 2018; Pongeluppe, 2024).

This study contributes to this literature by showing that training programs can also teach entrepreneurs practices for managing financial flows to family. Existing entrepreneur training programs tend to focus on managerial practices (McKenzie et al., 2025). These programs have implicitly treated micro-enterprises and households as separate organizations, focusing only on practices that shape the business domain. In contrast, this study begins from the assumption that micro-enterprises and their families are closely intertwined. Family relationships in business are complex and often fraught (Aldrich & Cliff, 2003; Li & Piezunka, 2020; Ruef, 2010). Given the sensitivity of family relationships, it is not obvious, *ex ante*, that a training program on this topic would be effective at improving business performance. This study, however, shows that insights from management research on familial relationships can be taught and that doing so can influence family dynamics positively for entrepreneurs. Having shown that training programs can touch on family issues, this opens the possibility for future studies to explore the impact of training programs that teach practices related to other family dynamics.

Micro-Entrepreneurship

This study also contributes to the growing literature on micro-entrepreneurship (Carlson, 2023; Delecourt & Fitzpatrick, 2021; Dimitriadis & Koning, 2025; Ranganathan, 2018). Micro-enterprises are informal firms that employ fewer than five people and often operate in lower-income settings (Godfrey, 2011). While ubiquitous, they are often overlooked in organization theory and strategy research (Phillips & Ranganathan, 2025). This study draws attention to the process of balancing familial requests for financial support with reinvesting in the business, which is a well-known struggle for many micro-enterprises (Geertz, 1956; Jakiela & Ozier, 2016; Portes & Sensenbrenner, 1993; Squires, 2024). By integrating insights from the large literature on participatory management, this study helps outline a set of routinized practices that improve the management of this tension and thereby enable micro-entrepreneurs to improve their business performance.

This study's emphasis on micro-enterprises helps illustrate some of the unique aspects of this organizational form. First, these kinds of businesses are informally governed. Rather than rely on procedures or policies, contracts, legal protections, or formal hierarchies, these organizations are governed through informal mechanisms, like discussions. Second, this study also helps illustrate how fluid the boundaries are between micro-enterprises and family networks. Although few family members are regularly involved in micro-enterprises, the business is often seen as a financial resource by the extended family.

External Family Members

The literature on family business has long studied a wide range of tensions and problems that can arise among family members in family businesses (Bertrand et al., 2008; Morck et al., 2005; Morck & Yeung, 2003). While most micro-enterprises are not family businesses, interactions with external family members are central to their performance. These family members are external to the firm, since they do not hold formal roles or ownership (Li & Piezunka, 2023).

Financial requests from external family members suggest a puzzle. Specifically, it is not clear why external family members can at times make so many uncoordinated requests for financial support that they constrain micro-entrepreneurial performance, harming their own long-term financial well-being. The impact of this study's treatment suggests that perhaps there are significant barriers for micro-entrepreneurs to having discussions about financial allocations with their family members. This aligns with growing sociological research, which suggests that, in general, people find discussions about money with family challenging and that people tend to avoid these conversations (Brashears & Quintane, 2018; Small et al., 2024). Given this, this study's findings imply that intra-family communication barriers may be the reason why family members make so many requests of micro-entrepreneurs that they undermine the business.

Participatory Management

This study also contributes to research on participatory management by providing causal evidence of the consequences of voice for a particular external stakeholder. Research on participatory management has typically emphasized internal stakeholders, especially workers (Cotton et al., 1988; Siebach et al., 2026; Wagner III, 1994; Wu & Paluck, 2025). This study extends some of the core insights of this literature to external stakeholders, namely family members. Results show that participation does not necessarily need to involve bringing family members into the business. Rather, participation can happen through routines that provide regular opportunities for

stakeholders outside the organization to express voice, even though this form of participation is consultative and does not give family members authority over decisions. In doing so, this study shows that participation is not only about engaging internal stakeholders. It can also be about engaging *external* stakeholders.

Practical Implications

Results from this study have two central implications for practice. First, they suggest that micro-entrepreneurs for whom family requests are significant can benefit from giving consultative voice to family members and there are at least three specific routines for doing so. Second, this study also has practical implications for how public agencies and non-profit organizations design micro-entrepreneurship training programs. Given how much the training program in this study outperformed the ILO-designed program, developers of training programs should consider including content on family embeddedness and managing familial relationships. They may also benefit from including content on the management of relationships with other external stakeholders, such as local communities or trade associations.

Boundary Conditions and Generalizability

There are several situations in which we might expect family voice practices to be less effective, suggesting boundary conditions on the theory. The first such boundary condition relates to organizations with formal governance structures that can substitute for informal voice routines. For these kinds of organizations, which likely include many formal family businesses, external family pressure may be less of a constraint and, at the same time, voice practices might be too informal to counteract opportunistic behavior or pressures. We would not expect consultative voice alone to substitute for formal governance in such settings, especially in larger or formal businesses.

Just as family voice routines may be less impactful when firms can rely on formal governance processes, they may also be less impactful when entrepreneurs can rely more on certain formal institutions. For example, in settings where financial systems are well-developed, micro-entrepreneurs may rely less on family for loans and be better able to keep income concealed. Similarly, in places where various forms of insurance are available or provided by the state, entrepreneurs might rely less on family. As entrepreneurs rely less on family, the need for informal governance mechanisms like voice practices may also diminish.

Furthermore, family voice practices may be less effective under conditions of extreme scarcity, when family requests are made for necessities and not discretionary consumption. Under

these conditions of emergency or crisis, we would likely expect entrepreneurs to want to support their family members, even at the cost of their business performance. This would likely not be a case when discussions about budgetary allocations would help.

There is evidence that the treatment effects on profits differ by gender (Appendix 13, Table A13.2). The effect of family voice on monthly profits for women is roughly half the size of the corresponding effect for men, although it is still positive and statistically significant. It remains unclear what accounts for this difference and future research should continue to explore whether gender differences are robust and the reasons why they occur.

Finally, family voice practices may be less effective in contexts where kinship networks are less dense and exert fewer claims on business income. In such settings, there may be less pressure on entrepreneurs to fulfill familial requests for support and entrepreneurs may more easily say “no” to family members. In these situations, there is likely less of a need for family participation practices.

While the boundary conditions above mark where the theory is unlikely to apply, the underlying logic should extend to a broad class of settings that share the structural features of the empirical context. In particular, family voice practices should be relevant to small, family embedded ventures, operating where formal institutions are weak. This description fits informal-sector micro-enterprises across much of sub-Saharan Africa, South and Southeast Asia, and Latin America, as well as immigrant enclave or inner-city businesses in high-income economies, where prior research has documented similar patterns of family claims on entrepreneurial income (Sanders and Nee, 1996; Stack, 1974). Beyond family, consultative routines may also be relevant to micro-entrepreneurs’ interactions with other external stakeholders, such as local communities, ethnic groups, or even trade associations. These hopefully represent productive directions for future research.

Limitations and Future Research

In addition to the theoretical boundary conditions, this study also has important methodological limitations. A central one is that data were self-reported by micro-entrepreneurs. While this limitation is common to all studies of informal businesses (De Mel et al., 2009; McKenzie & Woodruff, 2014), several steps were taken to mitigate concerns of reporting bias. These steps and related robustness checks are detailed in Appendix 6 and suggest there is no evidence of such bias.

Since data were reported by entrepreneurs, they may be less representative of external family members' experiences. Family members themselves were not interviewed, and the study relies on entrepreneurs' impressions, who may have been biased towards perceiving changes as more positive. Mechanism results therefore should be treated more as suggestive and exploratory, than conclusive. This represents an important opportunity for future research on micro-entrepreneurs. Given the extent to which many micro-entrepreneurs depend on their families, surveying the entire household may be an important methodological advancement.

This study also lacks a "pure" control group that did not receive training. Although the traditional business practices training creates a conservative control and rules out network, motivational, and placebo effects, it does not permit estimating the effect of family voice relative to no intervention. Future work should use three-arm designs to capture this comparison.

Another limitation of this study's design is that it cannot fully separate the effects of consultative voice routines from associated shifts in entrepreneurs' attention to family relationships more generally. The treatment necessarily directs attention toward family in ways the control group training does not. Some degree of increased attention to family members is therefore likely to be part of how the treatment operates. The mediation analyses and the regressions in Appendix 15 suggest that voice routines are the most plausible primary mechanism, but they cannot completely rule out that increased family attention plays a role in the treatment effect. Future research using designs that experimentally manipulate family salience independently of voice routine training would help isolate the relative contributions of these mechanisms.

The study's external validity is also shaped by the composition of the sample. For example, women are overrepresented, registrants who attended may have been more motivated than the average micro-entrepreneur, and the setting of Togo may not generalize to other institutional or cultural contexts. Furthermore, because the study lacks data on entrepreneurs who registered but never attended, an intent-to-treat estimate is not possible, though balanced attrition across conditions suggests there is no attrition bias.

Conclusion

This study shows that consultative voice routines can help micro-entrepreneurs coordinate family members' financial expectations. Routinized interactions with family members create exchanges that lead to better coordination of requests for support, more reinvestment, and better business performance, all of which helps families in the longer term. These results open new possibilities

for research on participatory management and its potential for managing external stakeholders, as well as entrepreneurship training that emphasizes social institutions like family as a way of pursuing inclusive economic development.

References

- Abadie, A., Athey, S., Imbens, G. W., & Wooldridge, J. M. (2023). When should you adjust standard errors for clustering? *Quarterly Journal of Economics*, 138(1), 1–35.
- Aldrich, H. E., & Cliff, J. E. (2003). The pervasive effects of family on entrepreneurship: Toward a family embeddedness perspective. *Journal of Business Venturing*, 18(5), 573–596.
- Anderson, R. C., & Reeb, D. M. (2003). Founding-family ownership and firm performance: evidence from the S&P 500. *Journal of Finance*, 58(3), 1301–1328.
- Anderson, R. C., & Reeb, D. M. (2004). Board composition: Balancing family influence in S&P 500 firms. *Administrative Science Quarterly*, 49(2), 209–237.
- Anderson, S. J., Chandy, R., & Zia, B. (2018). Pathways to profits: The impact of marketing vs. finance skills on business performance. *Management Science*, 64(12), 5559–5583.
- Anderson, S. J., Lazicki, C., & Zia, B. (2021). Measuring the unmeasured: Aggregating, anchoring, and adjusting to estimate small business performance. *Journal of Development Economics*, 151, 102655.
- Anderson, S. J., & McKenzie, D. (2022). Improving business practices and the boundary of the entrepreneur: A randomized experiment comparing training, consulting, insourcing, and outsourcing. *Journal of Political Economy*, 130(1), 157–209.
- Askildsen, J. E., Jirjahn, U., & Smith, S. C. (2006). Works councils and environmental investment: Theory and evidence from German panel data. *Journal of Economic Behavior & Organization*, 60(3), 346–372.
- Baland, J.-M., Guiringer, C., & Mali, C. (2011). Pretending to be poor: Borrowing to escape forced solidarity in Cameroon. *Economic Development and Cultural Change*, 60(1), 1–16.
- Bennedsen, M., Gonzalez, F. P., & Wolfenzon, D. (2010). The governance of family firms. In K. Baker & R. Anderson (Eds.), *Corporate governance: A synthesis of theory, research, and practice* (pp. 371–389). John Wiley & Sons, Inc.
- Bergkvist, L., & Rossiter, J. R. (2007). The predictive validity of multiple-item versus single-item measures of the same constructs. *Journal of Marketing Research*, 44(2), 175–184.
- Bertrand, M., Johnson, S., Samphantharak, K., & Schoar, A. (2008). Mixing family with business: A study of Thai business groups and the families behind them. *Journal of Financial Economics*, 88(3), 466–498.
- Boltz, M., Marazyan, K., & Villar, P. (2019). Income hiding and informal redistribution: A lab-in-the-field experiment in Senegal. *Journal of Development Economics*, 137, 78–92.
- Bonacich, E. (1973). A theory of middleman minorities. *American Sociological Review*, 38(5), 583–594.
- Brashears, M. E., & Quintane, E. (2018). The weakness of tie strength. *Social Networks*, 55, 104–115.
- Bryan, K. A., Tilcsik, A., & Zhu, B. (2017). Which entrepreneurs are coachable and why? *American Economic Review*, 107(5), 312–316.

- Campos, F., Frese, M., Goldstein, M., Iacovone, L., Johnson, H. C., McKenzie, D., & Mensmann, M. (2017). Teaching personal initiative beats traditional training in boosting small business in West Africa. *Science*, 357(6357), 1287–1290.
- Camuffo, A., Cordova, A., Gambardella, A., & Spina, C. (2020). A scientific approach to entrepreneurial decision making: Evidence from a randomized control trial. *Management Science*, 66(2), 564–586.
- Carlson, N. A. (2023). Differentiation in microenterprises. *Strategic Management Journal*, 44(5), 1141–1167.
- Chrisman, J. J., Chua, J. H., Le Breton-Miller, I., Miller, D., & Steier, L. P. (2018). Governance mechanisms and family firms. *Entrepreneurship Theory and Practice*, 42(2), 171–186.
- Cotton, J. L., Vollrath, D. A., Froggatt, K. L., Lengnick-Hall, M. L., & Jennings, K. R. (1988). Employee participation: Diverse forms and different outcomes. *Academy of Management Review*, 13(1), 8–22.
- De Mel, S., McKenzie, D., & Woodruff, C. (2008). Returns to capital in microenterprises: evidence from a field experiment. *Quarterly Journal of Economics*, 123(4), 1329–1372.
- De Mel, S., McKenzie, D. J., & Woodruff, C. (2009). Measuring microenterprise profits: Must we ask how the sausage is made? *Journal of Development Economics*, 88(1), 19–31.
- Delecourt, S., & Fitzpatrick, A. (2021). Childcare matters: Female business owners and the baby-profit gap. *Management Science*, 67(7), 4455–4474.
- Detert, J. R., & Burris, E. R. (2007). Leadership behavior and employee voice: Is the door really open? *Academy of Management Journal*, 50(4), 869–884.
- Dimitriadis, S., & Koning, R. (2022). Social skills improve business performance: Evidence from a randomized control trial with entrepreneurs in Togo. *Management Science*, 68(12), 8635–8657.
- Dimitriadis, S., & Koning, R. (2025). Networking Frictions and Entrepreneurial Learning in Developing Economies. *Management Science*, 71(4), 3127–3145.
- Doering, L. B., & Liu, C. C. (2019). From the ground up: Gender, space, and self-employment in a Colombian housing project. *Sociology of Development*, 5(2), 198–224.
- Eddleston, K. A., & Kellermanns, F. W. (2007). Destructive and productive family relationships: A stewardship theory perspective. *Journal of Business Venturing*, 22(4), 545–565.
- Eddleston, K. A., Otondo, R. F., & Kellermanns, F. W. (2008). Conflict, participative decision-making, and generational ownership dispersion: A multilevel analysis. *Journal of Small Business Management*, 46(3), 456–484.
- Eldridge, S. M., Ashby, D., & Kerry, S. (2006). Sample size for cluster randomized trials: effect of coefficient of variation of cluster size and analysis method. *International Journal of Epidemiology*, 35(5), 1292–1300.
- Fafchamps, M., McKenzie, D., Quinn, S., & Woodruff, C. (2012). Using PDA consistency checks to increase the precision of profits and sales measurement in panels. *Journal of Development Economics*, 98(1), 51–57.
- Fiawoo, D. K. (1974). *Ewe lineage and kinship-sub-ethnic group variations*. Institute of African Studies Legon, University of Ghana.
- Geertz, C. (1956). Religious belief and economic behavior in a central Javanese town: some preliminary considerations. *Economic Development and Cultural Change*, 4(2), 134–158.
- George, G., Kotha, R., Parikh, P., Alnuaimi, T., & Bahaj, A. S. (2016). Social structure, reasonable gain, and entrepreneurship in Africa. *Strategic Management Journal*, 37(6), 1118–1131.

- Gherghina, S., Tap, P., & Soare, S. (2023). Participatory budgeting and the perception of collective empowerment: institutional design and limited political interference. *Acta Politica*, 58(3), 573–590.
- Godfrey, P. C. (2011). Toward a theory of the informal economy. *Academy of Management Annals*, 5(1), 231–277.
- Gonçalves, S. (2014). The effects of participatory budgeting on municipal expenditures and infant mortality in Brazil. *World Development*, 53, 94–110.
- Granovetter, M. (2000). The economic sociology of firms and entrepreneurs. In R. Swedberg (Ed.), *Entrepreneurship: The Social Science View* (pp. 244–275). Oxford University Press.
- Hirschman, A. O. (1970). *Exit, voice, and loyalty: Responses to decline in firms, organizations, and states*. Harvard University Press.
- Hsieh, C.-T., & Olken, B. A. (2014). The missing “missing middle”. *Journal of Economic Perspectives*, 28(3), 89–108.
- Ichniowski, C., & Shaw, K. (1999). The effects of human resource management systems on economic performance: An international comparison of US and Japanese plants. *Management Science*, 45(5), 704–721.
- Imai, K., Keele, L., Tingley, D., & Yamamoto, T. (2011). Unpacking the black box of causality: Learning about causal mechanisms from experimental and observational studies. *American Political Science Review*, 105(4), 765–789.
- Imai, K., Tingley, D., & Yamamoto, T. (2013). Experimental designs for identifying causal mechanisms. *Journal of the Royal Statistical Society Series A: Statistics in Society*, 176(1), 5–51.
- Imai, K., & Yamamoto, T. (2013). Identification and sensitivity analysis for multiple causal mechanisms: Revisiting evidence from framing experiments. *Political Analysis*, 21(2), 141–171.
- Jäger, S., Noy, S., & Schoefer, B. (2022). What does codetermination do? *ILR Review*, 75(4), 857–890.
- Jakiela, P., & Ozier, O. (2016). Does Africa need a rotten kin theorem? Experimental evidence from village economies. *Review of Economic Studies*, 83(1), 231–268.
- Karlan, D., & Valdivia, M. (2011). Teaching entrepreneurship: Impact of business training on microfinance clients and institutions. *Review of Economics and Statistics*, 93(2), 510–527.
- Khavul, S., Bruton, G. D., & Wood, E. (2009). Informal family business in Africa. *Entrepreneurship Theory and Practice*, 33(6), 1219–1238.
- Kling, J. R., Liebman, J. B., & Katz, L. F. (2007). Experimental analysis of neighborhood effects. *Econometrica*, 75(1), 83–119.
- Kludze, A. K. P. (1969). *The Family, Property and Succession among the Northern Ewe-Speaking People of Ghana*. University of London, School of Oriental and African Studies (United Kingdom).
- Lee, D. S. (2009). Training, Wages, and Sample Selection: Estimating Sharp Bounds on Treatment Effects. *Review of Economic Studies*, 76(3), 1071–1102.
- Lewin, K. (1947). Frontiers in group dynamics: Concept, method and reality in social science; social equilibria and social change. *Human Relations*, 1(1), 5–41.
- Lewis, W. (1956). *The theory of economic growth*. Unwin University Books.

- Li, J. B., & Piezunka, H. (2020). The uniplex third: Enabling single-domain role transitions in multiplex relationships. *Administrative Science Quarterly*, 65(2), 314–358.
- Li, J. B., & Piezunka, H. (2023). Family Businesses as Multiplex Relationships. In M. Carney & M. Dieleman (Eds.), *De Gruyter Handbook of Business Families* (pp. 31–48). De Gruyter.
- Lomnitz, L. A. (1977). *Networks and marginality: Life in a Mexican shantytown*. Academic Press.
- Lyons, E., & Zhang, L. (2018). Who does (not) benefit from entrepreneurship programs? *Strategic Management Journal*, 39(1), 85–112.
- Manoukian, M. (1952). *The Ewe-Speaking People of Togoland and the Gold Coast: Western Africa Part VI*. Oxford University Press for the International African Institute.
- McKenzie, D. (2012). Beyond baseline and follow-up: The case for more T in experiments. *Journal of Development Economics*, 99(2), 210–221.
- McKenzie, D. (2021). Small business training to improve management practices in developing countries: Re-assessing the evidence for ‘training doesn’t work’. *Oxford Review of Economic Policy*, 37(2), 276–301.
- McKenzie, D., & Woodruff, C. (2014). What are we learning from business training and entrepreneurship evaluations around the developing world? *World Bank Research Observer*, 29(1), 48–82.
- McKenzie, D., & Woodruff, C. (2017). Business practices in small firms in developing countries. *Management Science*, 63(9), 2967–2981.
- McKenzie, D., Woodruff, C., Bjorvatn, K., Bruhn, M., Cai, J., Gonzalez-Uribe, J., Quinn, S., Sonobe, T., & Valdivia, M. (2025). Training entrepreneurs. *VoxDevLit*, 1(4).
- Miller, K. I., & Monge, P. R. (1986). Participation, satisfaction, and productivity: A meta-analytic review. *Academy of Management Journal*, 29(4), 727–753.
- Minority Rights Group. (2018). Éwé in Togo. In (Vol. 2024). minorityrights.org/country/togo/.
- Morck, R., Wolfenzon, D., & Yeung, B. (2005). Corporate governance, economic entrenchment, and growth. *Journal of Economic Literature*, 43(3), 655–720.
- Morck, R., & Yeung, B. (2003). Agency problems in large family business groups. *Entrepreneurship Theory and Practice*, 27(4), 367–382.
- Olié, L. (2023). Under pressure: assessing the cost of forced solidarity in Côte d’Ivoire. *Oxford Development Studies*, 51(1), 33–49.
- Peng, Y. (2004). Kinship networks and entrepreneurs in China’s transitional economy. *American Journal of Sociology*, 109(5), 1045–1074.
- Pérez-González, F. (2006). Inherited control and firm performance. *American Economic Review*, 96(5), 1559–1588.
- Phillips, D. J., & Ranganathan, A. (2025). Addressing Marginalized Populations in Management Research. *Administrative Science Quarterly*, 70(3), 587–610.
- Platteau, J.-P. (2000). *Institutions, social norms and economic development*. Routledge.
- Pongeluppe, L. S. (2024). The allegory of the favela: The multifaceted effects of socioeconomic mobility. *Administrative Science Quarterly*, 69(3), 619–654.
- Portes, A. (2014). Downsides of social capital. *Proceedings of the National Academy of Sciences*, 111(52), 18407–18408.
- Portes, A., & Haller, W. (2005). The Informal Economy. In N. J. Smelser & R. Swedberg (Eds.), *Handbook of Economic Sociology* (pp. 403–428). Princeton University Press.

- Portes, A., & Sensenbrenner, J. (1993). Embeddedness and immigration: Notes on the social determinants of economic action. *American Journal of Sociology*, 98(6), 1320–1350.
- Ranganathan, A. (2018). The artisan and his audience: Identification with work and price setting in a handicraft cluster in Southern India. *Administrative Science Quarterly*, 63(3), 637–667.
- Ruef, M. (2010). *The Entrepreneurial Group: Social Identities, Relations, and Collective Action*. Princeton University Press.
- Ruef, M. (2020). The household as a source of labor for entrepreneurs: Evidence from New York City during industrialization. *Strategic Entrepreneurship Journal*, 14(1), 20–42.
- Ruef, M., Aldrich, H. E., & Carter, N. M. (2003). The structure of founding teams: Homophily, strong ties, and isolation among US entrepreneurs. *American Sociological Review*, 68(2), 195–222.
- Sanders, J. M., & Nee, V. (1996). Immigrant self-employment: The family as social capital and the value of human capital. *American Sociological Review*, 61(2), 231–249.
- Shields, J. F., & Shields, M. D. (1998). Antecedents of participative budgeting. *Accounting, Organizations and Society*, 23(1), 49–76.
- Siebach, K. F., Díaz-Linhart, Y., Kubzansky, L. D., Berkman, L. F., Wang, M., Ge, L., Kowalski, A. M., Rahmandad, H., & Kelly, E. L. (2026). Effectiveness of a Participatory Voice Intervention on Psychological Well-Being Among Warehouse Workers: Results From the Fulfillment Center Intervention Study, United States, 2021–2023. *American Journal of Public Health*, 116(1), 522–532.
- Small, M. L. (2017). *Someone to talk to*. Oxford University Press.
- Small, M. L., Brant, K., & Fekete, M. (2024). The avoidance of strong ties. *American Sociological Review*, 89(4), 615–649.
- Squires, M. (2024). Kinship taxation as an impediment to growth: Experimental evidence from Kenyan microenterprises. *Economic Journal*, 134(662), 2558–2579.
- Stack, C. (1974). *All our kin: Strategies for survival in a Black community*. Harper and Row.
- Tyler, T. R., & Blader, S. L. (2003). The group engagement model: Procedural justice, social identity, and cooperative behavior. *Personality and Social Psychology Review*, 7(4), 349.
- UN CERD. (2008). Distribution of the Togolese population by ethnic group. CERD/C/TGO/Q/17.
- Van Gramberg, B., Teicher, J., Bamber, G. J., & Cooper, B. (2020). Employee voice, intention to quit, and conflict resolution: Evidence from Australia. *ILR Review*, 73(2), 393–410.
- Wagner III, J. A. (1994). Participation's effects on performance and satisfaction: A reconsideration of research evidence. *Academy of Management Review*, 19(2), 312–330.
- Webb, J. W., Tihanyi, L., Ireland, R. D., & Sirmon, D. G. (2009). You say illegal, I say legitimate: Entrepreneurship in the informal economy. *Academy of Management Review*, 34(3), 492–510.
- Weber, M. (1930 [1904]). *The Protestant ethic and the spirit of capitalism*. Allen and Unwin.
- Wherry, F. F., Seefeldt, K. S., & Alvarez, A. S. (2019). To lend or not to lend to friends and kin: Awkwardness, obfuscation, and negative reciprocity. *Social Forces*, 98(2), 753–793.
- World Bank. (2024). *Togo Overview: Development News, Research, Data*. Retrieved 7/1/24.
- Wu, S. J., Mai, K. M., Zhuang, M., & Yi, F. (2024). A large-scale field experiment on participatory decision-making in China. *Nature Human Behaviour*, 8(11), 2119–2126.
- Wu, S. J., & Paluck, E. L. (2025). Having a voice in your group: Increasing productivity through group participation. *Behavioural Public Policy*, 9(1), 192–211.

TABLES AND FIGURES

Figure 1. RCT Timeline

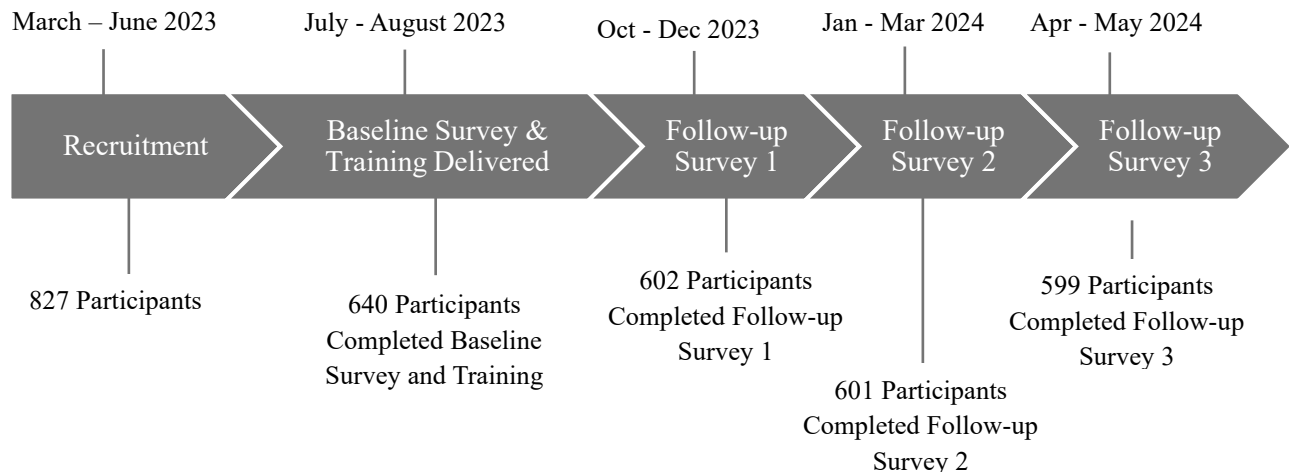
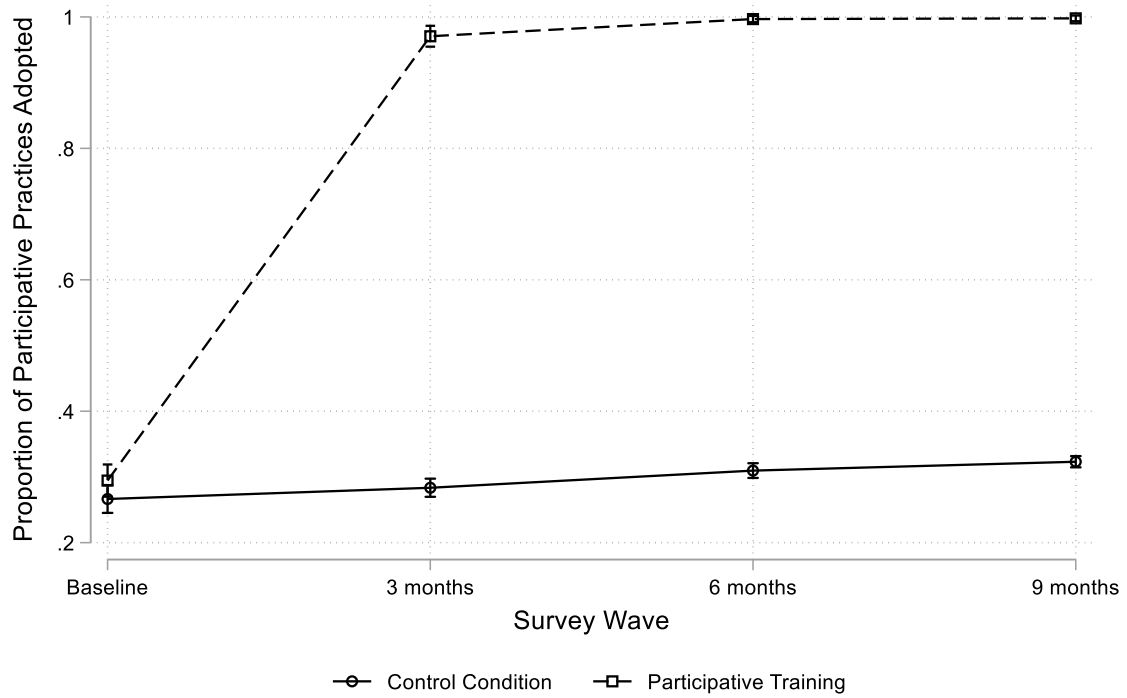
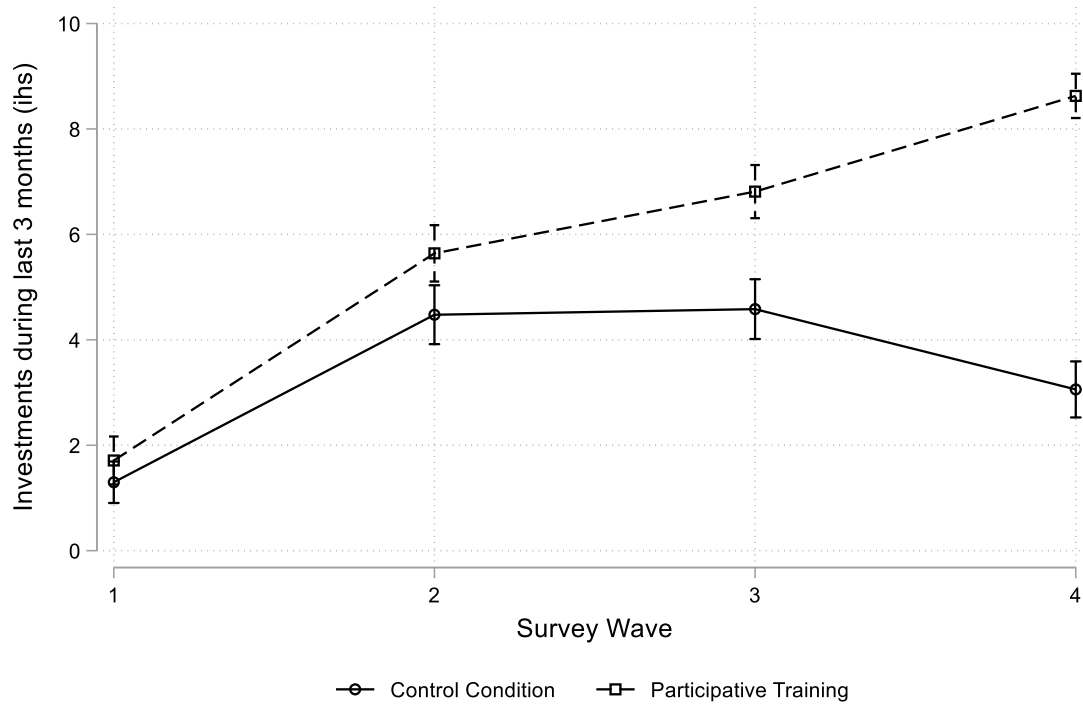


Figure 2. Adoption of Family Voice Practices



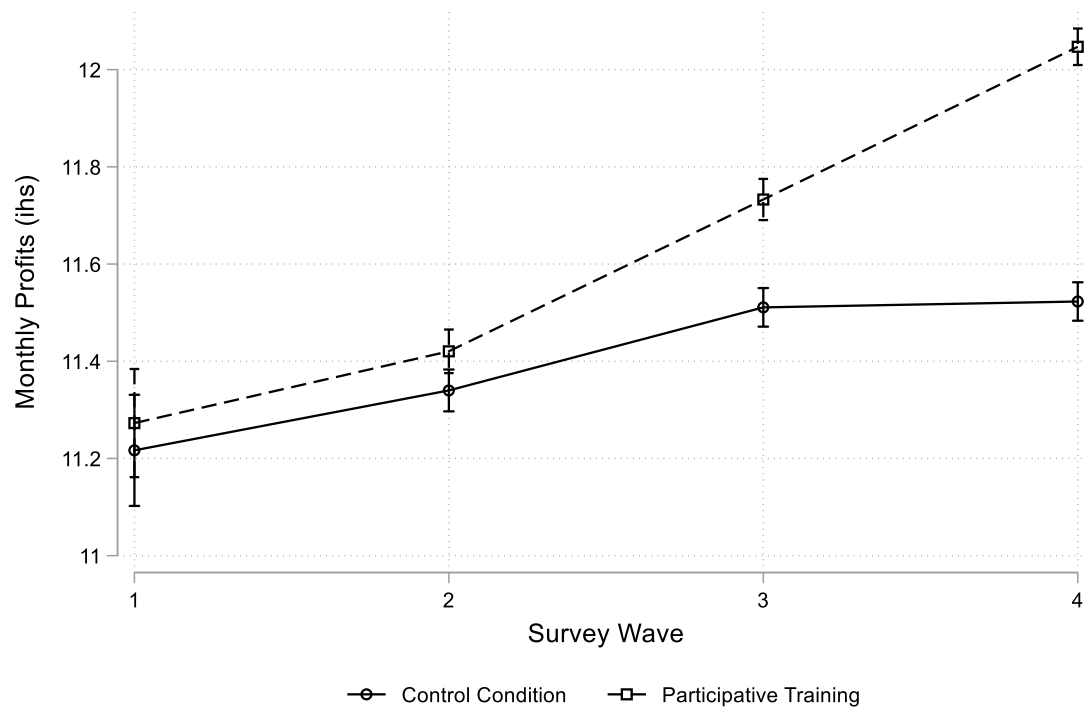
Note: The figure above plots the average proportion of family voice practices used by entrepreneurs in each survey wave by experimental condition. There are three voice practices (family budget; discussing investments; seeking advice), the variable shown is the proportion of these used by entrepreneurs. The solid line represents the average proportion of practices used by entrepreneurs in the control condition, while the dashed line plots the average proportion of practices used by entrepreneurs in the treatment condition. The vertical bars represent 95% confidence intervals.

Figure 3. Family Voice Training Increases Business Investments



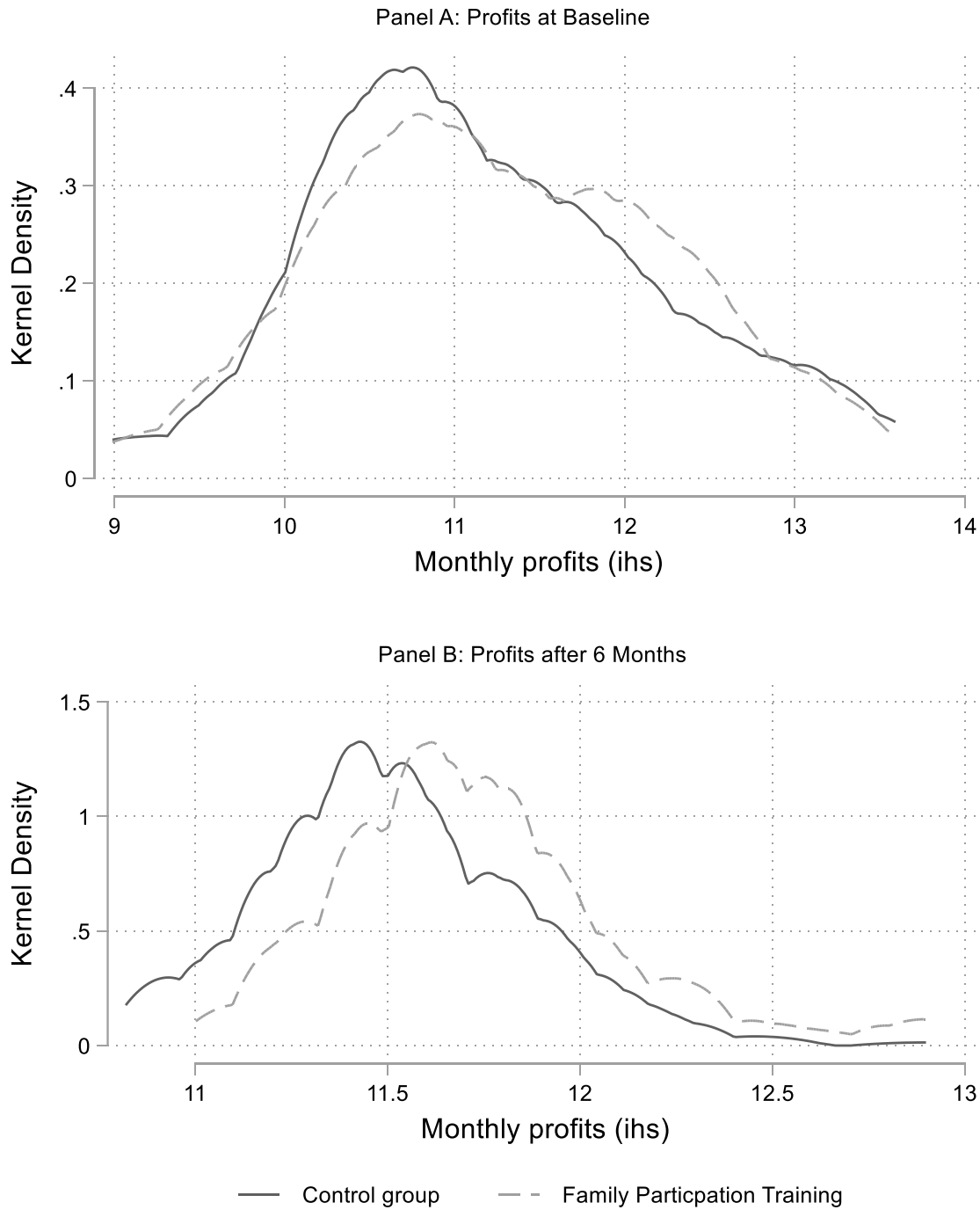
Note: The figure above plots average investments during the preceding three months. Investments are transformed using inverse hyperbolic sine (ihs) and winsorized at the 1st and 99th percentiles. Vertical bars represent 95% confidence intervals. The solid line plots average investments by entrepreneurs in the control condition while the dashed line plots average investments by entrepreneurs in the treatment condition.

Figure 4. Family Voice Training Increases Business Profits



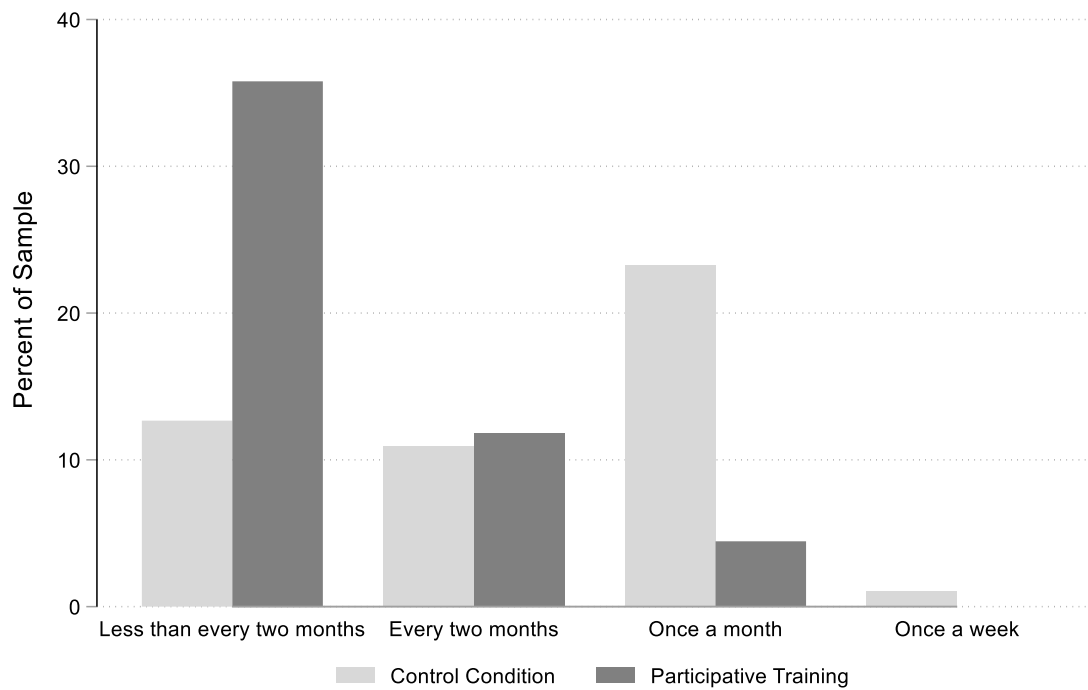
Note: The figure above plots average monthly profits by experimental condition. Monthly profits are transformed using inverse hyperbolic sine (ihs) and winsorized at the 1st and 99th percentiles. Vertical bars represent 95% confidence intervals. The solid line plots average profits for entrepreneurs in the control condition, while the dashed line plots average profits for entrepreneurs in the treatment condition.

Figure 5. Distribution of Profits at Baseline and after 6 Months



Note: The figure above plots kernel density functions for average monthly profits for each experimental condition. Monthly profits are transformed using inverse hyperbolic sine (ihs) and winsorized at the 1st and 99th percentiles. Panel A shows the distributions at baseline, while Panel B shows the distribution six months after the training. The difference between plots suggests that participatory voice training shifted profits consistently to the right.

Figure 6. Frequency of Conflict by Experimental Condition After 3 Months



Note: The bars show the frequency of conflicts between entrepreneurs and family members for each experimental condition. The light grey represents entrepreneurs in the control condition, while the dark grey represents entrepreneurs in the family voice training. The bar represents the percentage of entrepreneurs in each condition who reported conflicts at each particular frequency. The bar chart suggests that disagreements in the control condition are more frequent than for the treatment group as early as three months after the training.

Table 1. Structure of Training Programs

Day / Time	Family Voice Training	Traditional Business Training
Day 1		
8:00–10:00am	Family & Business Link: Defines kin, household, and family–business ties; benefits of participation.	Management Practices: Introduces standardized routines and links organization to performance.
10:00–10:30am	Break	
10:30–1:00pm	Family Budgeting (Intro): Listing income/expenses; constructing a family budget; involving family.	Inventory Management: Stock lists, tracking inventory, anticipating demand.
1:00–2:00pm	Lunch	
2:00–6:00pm	Family Budgeting (Practice): Exercises on balancing and updating household budgets and linking budgeting to savings and business stability.	Accounting I: Recording transactions, maintaining registers, classifying documents, using cashbooks.
Day 2		
8:00–10:00am	Discussing Investments (Intro): Linking budgeting to investment; structuring reinvestment talks with family.	Accounting II: Saving for restocking and equipment replacement; rotating savings groups.
10:00–10:30am	Break	
10:30–1:00pm	Discussing Investments (Practice): Using budget to identify surplus; negotiating short-term deferrals with family.	Marketing I: Customer-oriented marketing, engaging customers, word-of-mouth.
1:00–2:00pm	Lunch	
2:00–4:00pm	Advice & Feedback: Seeking family input on products, processes, decisions.	Marketing II: Digital marketing and using customer feedback.
4:00–6:00pm	Wrap-Up & Q&A	

Table 2. Comparing Training Programs

Overlapping themes	Unique elements of family voice training	Unique elements of traditional business training
Financial planning, budgeting, and financial literacy: Both trainings taught participants to plan and track financial flows. The participatory program focused on a <i>family budget</i> , while the control program covered budgeting for the business. Both trainings taught how to keep records and how to use them to budget and plan ahead.	Emphasizing the family's role: The family voice training tied family well-being to business performance, teaching that budgeting can take place at the family level, taking into account all family members' needs and incomes.	Management routines: the control training devoted time to implementing management practices and techniques for organising budgets and financial plans in micro-enterprises. The emphasis was on the business as distinct from the family.
Investments: Both trainings highlighted the importance of saving and investing. The family training linked savings to the household budget and discussed reinvesting profits in the business, whereas the control training linked savings and investments to the business budget, rotating savings groups, and microfinance institutions.	Discussion with family: entrepreneurs were trained to discuss with family about reinvestments and to seek their advice and feedback, giving family members a voice in the business.	Business accounting & record keeping: The control training provided detailed instruction on maintaining books of accounts, cash books, salary registers and other financial records.
Advice: Both programs emphasized obtaining feedback. The family voice training taught entrepreneurs to solicit advice from family members, while the control training discussed gathering customer feedback through marketing and peer feedback from industry associations.	Family feedback: family voice practices emphasized how seeking family input can give family members an opportunity to express their views.	Marketing: the control program included a module on marketing that emphasized seeking advice from customers. This training also touched on communication strategies with peer entrepreneurs.

Table 3. Balance Table

	Total Sample	Control Condition	Family Voice Training	Mean difference	t-stat	p- value
	(1)	(2)	(3)	(4)	(5)	(6)
Family Budget	0.071 (0.019)	0.052 (0.016)	0.088 (0.035)	-0.036	-0.963	0.346
Discussed Investments	0.064 (0.019)	0.038 (0.014)	0.088 (0.035)	-0.05	-1.356	0.188
Family Advice and Feedback	0.71 (0.043)	0.718 (0.071)	0.703 (0.054)	0.015	0.174	0.863
Average Voice Practices	0.282 (0.016)	0.269 (0.023)	0.293 (0.024)	-0.024	-0.716	0.481
Investments (ihs)	1.463 (0.293)	1.339 (0.400)	1.58 (0.437)	-0.241	-0.416	0.681
Profits monthly (ihs)	11.26 (0.064)	11.257 (0.106)	11.263 (0.081)	-0.006	-0.043	0.966
Performance Index	0.007 (0.041)	-0.061 (0.073)	0.071 (0.045)	-0.132	-1.586	0.127
Ewe ethnicity	0.722 (0.061)	0.714 (0.077)	0.729 (0.096)	-0.014	-0.12	0.906
Christian	0.728 (0.044)	0.739 (0.038)	0.719 (0.078)	0.02	0.231	0.819
Female	0.761 (0.030)	0.749 (0.048)	0.771 (0.038)	-0.022	-0.371	0.714
Married	0.622 (0.033)	0.596 (0.041)	0.647 (0.052)	-0.051	-0.789	0.438
Education level	3.091 (0.097)	3.226 (0.090)	2.964 (0.164)	0.262	1.432	0.165
Family involved in business	1.761 (0.069)	1.735 (0.115)	1.784 (0.080)	-0.049	-0.358	0.724
Firm age	9.245 (0.462)	9.136 (0.474)	9.346 (0.801)	-0.211	-0.23	0.82
Management practices score	0.513 (0.010)	0.519 (0.015)	0.507 (0.015)	0.012	0.6	0.554
Cohort size	33.911 (3.661)	37.561 (6.496)	30.487 (3.318)	7.074	0.997	0.329
Sample size	593	287	306			

Note: Mean difference is tested using t-test, significance: + $p < 0.10$, • $p < 0.05$, •• $p < 0.01$. Standard errors in parentheses, clustered at cohort level. ihs = inverse hyperbolic sine.

Table 4. Training leads to adoption of voice practices

	Family Budget		Discussed Investments		Family Advice and Feedback		Ave. Voice Practices	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Family Voice Training	0.983** (0.008)	0.982** (0.009)	0.983** (0.008)	0.982** (0.009)	0.059** (0.014)	0.060** (0.013)	0.675** (0.006)	0.675** (0.007)
Ewe ethnicity		-0.006 (0.006)		-0.006 (0.006)		-0.014 ⁺ (0.007)		-0.008* (0.004)
Christian		-0.007 (0.004)		-0.007 (0.004)		0.013 (0.011)		-0.000 (0.005)
Female		0.006 (0.009)		0.005 (0.009)		0.011 (0.014)		0.008 (0.007)
Married		0.001 (0.006)		0.001 (0.006)		-0.012 (0.008)		-0.003 (0.005)
Education level		-0.002 (0.002)		-0.002 (0.002)		0.002 (0.004)		-0.000 (0.002)
Family involved in business		0.002 (0.002)		0.002 (0.002)		-0.005 ⁺ (0.003)		-0.000 (0.002)
Firm age		0.000 (0.000)		0.000 (0.000)		0.000 (0.000)		0.000 (0.000)
Management practices score		-0.010 (0.010)		-0.009 (0.010)		0.014 (0.032)		-0.000 (0.013)
Cohort size		-0.000 (0.000)		-0.000 (0.000)		-0.000 (0.001)		-0.000 (0.000)
Community FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Survey wave FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1762	1762	1762	1762	1762	1762	1762	1762
Entrepreneurs	593	593	593	593	593	593	593	593
R^2	0.971	0.971	0.971	0.971	0.067	0.073	0.948	0.948

Note: The sample includes only post-treatment time periods. All models control for baseline value of outcome variable.
Robust standard errors clustered by training cohort.

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

Table 5. Voice Practices Increase Investments and Performance

	Investments (lhs)		Profits monthly (rhs)		Performance index	
	(1)	(2)	(3)	(4)	(5)	(6)
Family Voice Training	2.169** (0.489)	2.074** (0.542)	0.279** (0.048)	0.261** (0.036)	0.227** (0.042)	0.216** (0.036)
Ewe ethnicity		0.108 (0.277)		-0.034 (0.032)		-0.021 (0.036)
Christian		-0.067 (0.233)		-0.012 (0.027)		-0.041 (0.036)
Female		-0.562 ⁺ (0.310)		-0.136** (0.033)		-0.090** (0.026)
Married		0.641* (0.272)		0.083* (0.033)		0.086** (0.029)
Education level		-0.019 (0.117)		0.032 ⁺ (0.017)		0.058** (0.016)
Family involved in business		0.070 (0.096)		0.032* (0.013)		0.021 (0.014)
Firm age		0.019 ⁺ (0.011)		0.007** (0.002)		0.005** (0.002)
Management practices score		1.873* (0.887)		0.162* (0.078)		0.142 ⁺ (0.079)
Cohort size		-0.008 (0.019)		-0.003* (0.001)		-0.003* (0.001)
Community FE	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes	Yes
Survey wave FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1762	1762	1762	1762	1762	1762
Entrepreneurs	593	593	593	593	593	593
R^2	0.203	0.214	0.367	0.431	0.368	0.423

Note: The sample includes only post-treatment time periods. All models control for baseline value of outcome variable. Robust standard errors clustered by training cohort.

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

Table 6. Which practices mediate the training's effects?

Mediator	Investments		Profits	
	ACME	95% CI	ACME	95% CI
	(1)	(2)	(3)	(4)
Family budget	1.419	[0.398, 2.432]	0.197	[0.119, 0.270]
Discussed investments	1.358	[0.397, 2.310]	0.197	[0.119, 0.270]
Family Advice and Feedback	0.020	[-0.037, 0.080]	-0.001	[-0.006, 0.003]
Ave. Voice Practices	1.107	[0.005, 2.120]	0.090	[0.039, 0.137]

Note: N = 1,762 across post-treatment waves. Family budgeting and investment discussion practices were almost always adopted together, producing empirically identical ACMEs in column 3. The two practices are operationally distinct but closely related and, as a result, their individual contributions are not separately identifiable. Confidence intervals come from 1000 Monte Carlo simulations and are cluster robust at the cohort level. ACME = average causal mediation effect.

Table 7. Exploring Downstream Mechanisms

	Family Motivation		Trust in Family		Frequency of Disagreements		Business to family financial flows	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Family Voice Training	1.000** (0.082)	1.015** (0.082)	1.565** (0.076)	1.539** (0.086)	-0.963** (0.067)	-0.998** (0.066)	-0.196** (0.011)	-0.193** (0.011)
Ewe ethnicity		-0.113** (0.030)		-0.048 (0.042)		0.165** (0.041)		0.008 (0.006)
Christian		0.094+ (0.051)		0.099 (0.059)		-0.100* (0.042)		-0.013 (0.009)
Female		-0.036 (0.057)		-0.013 (0.063)		0.055 (0.065)		-0.021+ (0.011)
Married		0.046 (0.036)		0.001 (0.037)		0.003 (0.036)		-0.012 (0.009)
Education level		-0.025 (0.034)		-0.033 (0.039)		0.023 (0.032)		-0.001 (0.004)
Family involved in business		0.001 (0.016)		0.021 (0.015)		-0.027 (0.018)		0.000 (0.003)
Firm age		0.003 (0.003)		0.001 (0.003)		-0.001 (0.002)		0.000 (0.000)
Management practices score		0.142+ (0.083)		0.093 (0.080)		-0.072 (0.092)		-0.058** (0.017)
Cohort size		0.001 (0.003)		-0.003 (0.003)		-0.002 (0.002)		0.000 (0.000)
Community FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Survey wave FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1762	1762	1762	1762	1762	1762	1181	1181
Entrepreneurs	593	593	593	593	593	593	592	592
R^2	0.431	0.440	0.575	0.580	0.430	0.442	0.477	0.488

Note: The sample includes only post-treatment time periods. Models 1-6 control for baseline value of outcome variable. The outcome in Models 7 and 8 was only collected during follow-up surveys 3 and 4, so there are no baseline values. Standard errors clustered at the cohort level.

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

Table 8. Causal mediation estimates of downstream mechanisms

Mediator	Investments		Profits	
	ACME	95% CI	ACME	95% CI
	(1)	(2)	(3)	(4)
Family Motivation	1.085	[0.513, 1.620]	0.079	[0.044, 0.125]
Trust in Family	0.203	[-0.865, 1.291]	0.025	[-0.035, 0.083]
Frequency of Disagreements	0.241	[-0.199, 0.807]	-0.006	[-0.044, 0.032]
Business to family financial flows	2.651	[1.807, 3.744]	0.219	[0.179, 0.282]

Note: N = 1,181 observations across post-treatment waves 3-4. Sample restricted to waves where business-to-family financial flows were measured. ACME estimated using a multiple-mediator specification in which each focal mediator's indirect effect is estimated controlling for the other three mediators in the outcome model. 95% confidence intervals from cluster-bootstrap resampling at the cohort level with 1000 replications. ACME = average causal mediation effect

Online Appendix

The Voice of Kin: How Consultative Family Participation Shapes Investment and Profit in Micro-Enterprises

June 15, 2026

Appendix 1	Lomé, Togo, and the Training Program
Appendix 2	Summary Statistics
Appendix 3	Voice Practices and Family Relationships
Appendix 4	Do Participative Practices Affect Family Importance and Investment Readiness?
Appendix 5	Treatment Effect without Investments
Appendix 6	Measurement Validity of Financial Performance Measures
Appendix 7	Correlations
Appendix 8	Attrition
Appendix 9	Extra Control Variables
Appendix 10	Difference-in-Differences Estimation
Appendix 11	Alternative Outcome Variables
Appendix 12	Quantile Regressions
Appendix 13	Heterogeneity Analyses
Appendix 14	Additional Family-Level Outcomes
Appendix 15	Proxies for Family Attention
Appendix 16	Baseline Prevalence of Family Financial Pressure
Appendix 17	Entrepreneur Self-Reported Changes
Appendix 18	Lagged Mediation Analyses
Appendix 19	Power Calculations
Appendix 20	Experiment Pre-Registration

Appendix 1: Lomé, Togo, and the Training Program

This study is set in Lomé, the capital of Togo. Togo is a relatively small West African country, which until 1960 was a French colony. After a brief period of democracy the government transitioned into an authoritarian dictatorship, which persists until the present day. In part due to this dictatorship Togo was ostracized from international aid and international non-governmental organizations for many years. Togo's relationship with Europe and China has improved in recent decades leading to steady economic growth and institutional reforms that have improved the business environment. Togo experienced steady economic growth between 2017 and 2023, during which the government made substantial investments in public infrastructure in Lomé promoting local entrepreneurship (U.S. Department of State, 2023; World Bank, 2020). In 2020 Togo ranked 7th among sub-Saharan countries in the World Bank's "Ease of Doing Business" index. These conditions have created new economic opportunities for entrepreneurs and demand for entrepreneurship training programs.

This study explores two training programs for entrepreneurs that were delivered in Lomé in 2023. The focal program was a "family voice training" and the control condition was a "traditional business training." The control group received a placebo training because if control group entrepreneurs did not participate in any training, there could be concerns that treatment effects were driven by simply attending a training or the people entrepreneurs met during the training, rather than the content that was taught.

Developing the Family Voice Intervention

The family voice training program was developed by the author in collaboration with a Togolese consulting group, "Cabinet Cercle de Formation Épanouissement." Discussions between the author and the consulting firm began in 2022 and proceeded to a series of focus groups with entrepreneurs who were asked about what kind of training they would find most helpful. Entrepreneurs suggested many topics for which educational programs already existed (e.g. networking and English language), but also expressed a need for training that would address family involvement in businesses. Entrepreneurs expressed difficulty in managing finances with their households and creating a more formal management system when family members were involved. Based on this feedback the author turned to existing research on participative management practices. Through discussions with the Togolese consulting group, this research on participative management was translated into three simple practices that aligned with the spirit of participative management but were suited to the local Togolese context and were geared towards managing family members. An initial draft of the training was developed and shared with local entrepreneurship educators in Togo, who provided minor feedback and suggested edits. After incorporating these edits, the author, working with the local consulting firm, hired three instructors who had experience teaching entrepreneurship programs in Togo. In particular, these instructors had taught entrepreneurship programs at the University of Lomé, a local technical college, and in World Bank programs in Togo. In March 2023 they were trained by the consulting firm on how to deliver the new "participative" program.

Family Voice Training

Instructors began the family voice training by highlighting how family can both support and strain a business, motivating entrepreneurs to consider how participation might help secure family support.

The first day of training focused on crafting a family budget—a form of participatory budgeting that invited all family members, especially those likely to make claims, to understand the business’s revenues, state their needs, and aggregate expenses. Entrepreneurs recorded family income and expenditures, compared claims to available resources, and discussed which ones could be deferred. Although the process did not guarantee family members would receive what they wanted, it ensured they had a voice and participated in the deliberation.

The second day of training taught entrepreneurs how to discuss business investments using the family budget as a reference. Entrepreneurs explained the trade-off between short-term family consumption and potential returns from reinvestment, and family members voiced their preferences about which claims could be postponed to enable investment. This mirrored established participatory resource-allocation practices while keeping final authority with the entrepreneur.

The second day concluded with routines for soliciting general advice and feedback from family members, offering them another avenue to feel involved and informed. This practice complemented budgeting and investment conversations and provided entrepreneurs with additional perspectives, without any obligation to implement the suggestions.

Control Group Training

These same instructors were also asked to teach a “traditional business practices” program to entrepreneurs. The author selected accounting, inventory management, and marketing as the traditional topics to be covered during this training. The materials used to teach this program were based on the International Labour Organization’s “Start and Improve Your Business” (SIYB). The full SIYB curriculum spans 5–7 days and covers topics such as accounting, marketing, pricing, inventory management, and hiring. This educational program has been extensively taught to entrepreneurs globally (McKenzie et al., 2021). Prior studies show that SIYB reliably increases the adoption of managerial routines and yields modest but positive performance gains (McKenzie, 2021). These consistent effects make SIYB an appropriate baseline against which to compare the family voice training.

The SIYB framework also provides a theoretically distinct control because it focuses exclusively on business routines and does not address family dynamics, preserving the separation between business and household domains. At the same time, its breadth allows selection of modules that parallel the treatment group’s topics.

Entrepreneurs first learned about the importance of routines and systematization, followed by training on inventory management. This involved learning to develop processes for tracking stock levels and restocking timelines. The accounting module served as the business-only counterpart to the family budget, teaching entrepreneurs how to construct budgets, record expenses and income, and account for depreciation. In the accounting module entrepreneurs also learned about investment, but through a business-centered lens rather than a family-centered one. In it,

instructors emphasized how depreciation creates the need for periodic reinvestment in equipment and how budgeting routines help entrepreneurs plan and finance these investments. Finally, the marketing module taught entrepreneurs how to understand customer needs and solicit customer feedback to guide decisions, paralleling the treatment group's emphasis on feedback but focusing it within the firm's commercial relationships.

Overlap in Training Content

All entrepreneurs learned to track cash flows and construct budgets—through the family budget module in the treatment group and the accounting module in the control group. Both groups were also exposed to investment principles. In the treatment condition this was part of conversations with family and, in the control condition, through discussions of depreciation and reinvestment needs. Likewise, seeking advice was taught in both trainings, though directed at family members in the treatment group and at customers in the control group's marketing module. Thus, the distinction lay not in whether entrepreneurs learned budgeting or investment skills, but in whether these routines were used to engage family members. Beyond this core difference, the control group also learned an additional module on inventory management to ensure equal instructional time. This practice, which supports micro-enterprise performance, makes the control training a more conservative benchmark for evaluating the effects of the family voice training.

Implementation

To implement the randomized control trial, the author and the consulting firm partnered with a Togolese non-profit organization, "Energy Generation." This nonprofit regularly organizes and hosts training programs for entrepreneurs in Lomé. After discussing the content of the training and the purpose of the RCT, the nonprofit agreed to help implement it. In 2023 they assisted with putting in place a training program for this study. They helped provide space for the training and hire experienced instructors. Prior field experimental research suggests that intensive training programs like this can be effective at teaching business practices (McKenzie & Woodruff, 2014).

We chose three different locations throughout the city to host the training program to facilitate access for entrepreneurs, which would in turn reduce attrition and non-compliance. The three instructors taught all classes together. This helped facilitate classes and ensure they rolled out smoothly. One instructor was a member of the Kabye ethnic group and the other two were members of the Ewe ethnic group. This ensured that classes could be taught in French and Ewe, and translated into Kabye when needed. The courses were therefore taught in a multilingual and inclusive fashion.

Recruitment

Recruitment was done through door-to-door canvassing by a team of three research assistants, who were local university students. These research assistants were trained by the study's author about how to approach business owners and discuss the training program with them. They were instructed to canvass each neighborhood in Lomé beginning from the main commercial roads in each neighborhood and to approach every business operating on that road, after which they should approach businesses on roads emanating from that main street. When approaching a business, they were instructed to speak to the owner and provide a description of the training in general terms as being about improving management, without providing specific details about the topics covered.

As a result, prospective participants signed up for the training without knowing that there were two kinds of trainings or which training they would receive.

Figure A1.1: Entrepreneurs in one of the training cohorts



Figure A1.2: Entrepreneurs having a discussion during class



Appendix 2: Summary Statistics

Table A2.1 Summary Statistics at Baseline

	Mean	Std. Dev.	Min	p25	Median	p75	Max
Family voice training	0.516	0.500	0	0	1	1	1
Family budget	0.071	0.257	0	0	0	0	1
Discussed investments	0.064	0.245	0	0	0	0	1
Family advice and feedback	0.710	0.454	0	0	1	1	1
Average voice practices	0.282	0.209	0	0	0.333	0.333	1
Investments (ihs)	1.471	3.837	0	0	0	0	15.703
Profits monthly (ihs)	11.260	1.026	8.987	10.597	11.156	11.983	13.592
Performance index	0.013	0.910	-0.720	-0.549	-0.363	0.137	4.851
Ewe ethnicity	0.722	0.449	0	0	1	1	1
Christian	0.728	0.445	0	0	1	1	1
Female	0.761	0.427	0	1	1	1	1
Married	0.622	0.485	0	0	1	1	1
Education level	3.091	1.206	1	3	3	3	5
Kin involved in business	1.761	1.165	1	1	1	2	9
Firm age	9.245	8.040	1	3	6	13	48
Management practices score	0.513	0.180	0	0.385	0.500	0.615	1
Cohort size	33.911	14.140	6	23	36	40	64

N = 593

Table A2.2 displays the pairwise correlation matrix for variables used in the main analyses in the paper. The correlation is calculated for the baseline values of the variables.

Table A2.2: Correlation Table

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Family Voice Training																
2 Drafted Household Budget	0.070															
3 Discussed Investments	0.102	0.840														
4 Family Advice and Feedback	-0.017	-0.113	-0.091													
5 Average Voice Practices	0.057	0.657	0.671	0.644												
6 Investments (ihs)	0.032	0.367	0.307	-0.008	0.265											
7 Profits monthly (ihs)	0.003	0.019	-0.005	-0.008	0.001	-0.061										
8 Performance Index	0.089	0.136	0.108	0.019	0.112	0.061	0.879									
9 Ewe ethnicity	0.016	0.010	-0.007	0.001	0.002	0.041	-0.047	-0.016								
10 Christian	-0.022	-0.068	-0.073	0.111	0.024	0.061	-0.030	-0.001	-0.024							
11 Female	0.026	-0.122	-0.063	0.042	-0.044	-0.168	-0.020	-0.045	-0.128	-0.041						
12 Married	0.053	0.039	0.019	0.000	0.024	0.031	0.067	0.069	-0.096	-0.085	0.158					
13 Education level	-0.109	-0.021	-0.037	0.206	0.126	0.111	-0.099	-0.107	-0.094	0.364	-0.351	-0.282				
14 Family involved in business	0.021	-0.005	0.030	0.006	0.014	0.064	-0.060	0.010	0.002	-0.100	0.031	-0.056	-0.091			
15 Firm age	0.013	0.021	0.008	-0.184	-0.122	-0.042	0.041	0.042	0.110	-0.285	-0.013	0.078	-0.359	0.145		
16 Management practices score	-0.034	0.177	0.142	0.290	0.339	0.327	0.068	0.201	0.043	0.147	-0.204	-0.045	0.316	0.048	-0.156	
17 Cohort size	-0.250	-0.217	-0.199	0.183	-0.034	-0.230	0.103	-0.021	0.040	-0.068	0.132	0.036	-0.010	-0.162	-0.097	-0.095

N = 593

Appendix 3: Voice Practices and Family Relationships

In the main paper, Figure 2 and the regression results in Table 4 provide insights about the rate of adoption for each practice, as well as average adoption of all three practices. To gain more insight into the proportion of the three practices adopted by entrepreneurs in each treatment condition, Figure A3.1 and Figure A3.2 plot the distribution of the number of family voice practices adopted at baseline (Figure A3.1) and three months after the training (Figure A3.2). Figure A3.1 shows that about 70% of micro-entrepreneurs used one participatory practice at baseline. In almost all cases this practice was soliciting feedback from family. The distributions are almost identical across the treatment and control conditions, suggesting the entrepreneurs in either condition had a similar level of baseline familiarity with the family voice practices.

Figure A3.1: Histogram of Number of Voice Practices Adopted at Baseline

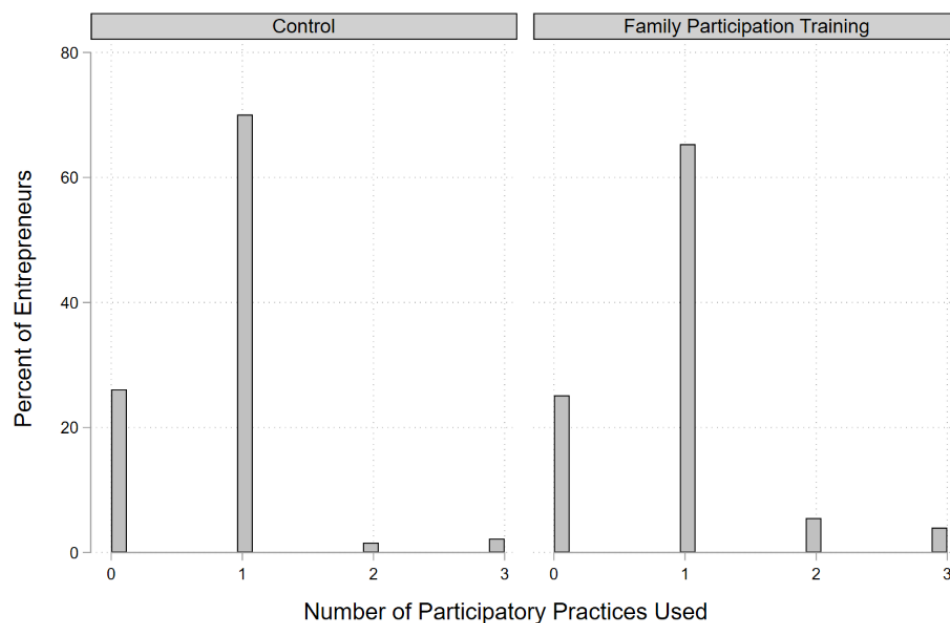
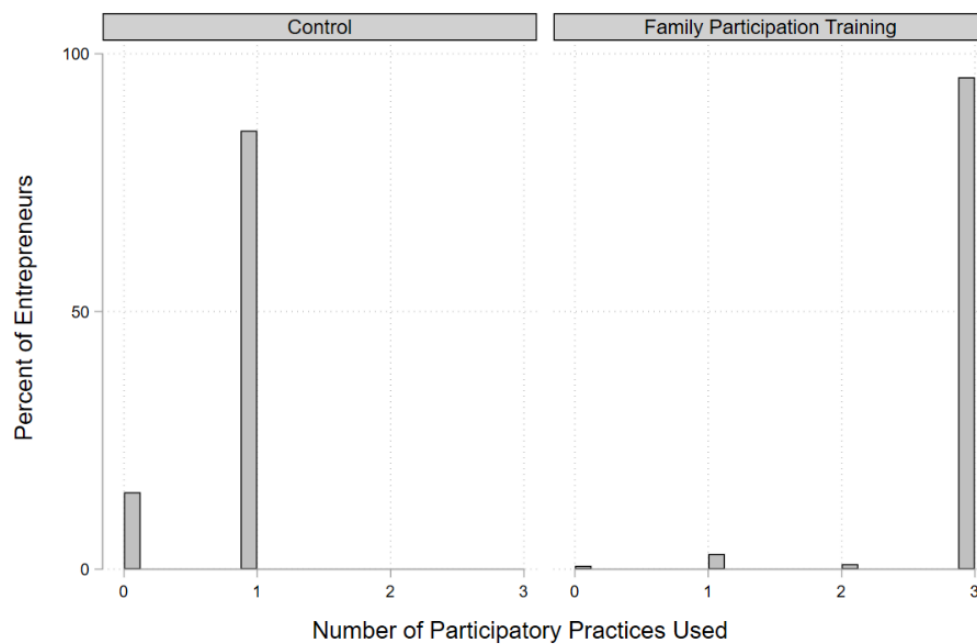


Figure A3.2 shows that the distribution of family voice practices differed considerably between the control and treatment conditions, three months after the training. In the treatment group, about 95% of participants reported using all three family voice practices, while in the control group the distribution is similar to what it was at baseline – although the number of participants reporting using one participatory practice increased to about 80% (as before, this was almost completely micro-entrepreneurs reporting soliciting feedback from family members).

Figure A3.2: Histogram of Number of Voice Practices Adopted 3 Months After Training



Building on the analyses in the paper, Table A3.1 presents regression results that corroborate and complement the mechanisms presented in Table 7. One of the mechanisms described in the paper was that family voice practices improve relationships between micro-entrepreneurs and their family members. During the follow-up surveys micro-entrepreneurs were asked a “yes/no” question about whether they felt like there had been an improvement in the amount of support they received from family members for their businesses since the training program. While subjective, this reflected whether micro-entrepreneurs perceived a change in overall level of support from family. This binary outcome was regressed on family participation training in Models 1 and 2 in Table A3.1. The results suggest that micro-entrepreneurs in the treatment group are likelier to report an improvement in the level of support received from their families than micro-entrepreneurs in the control group.

An important mechanism explored in the paper are reductions in conflict. To complement the questions about number of disagreements with family members, micro-entrepreneurs were asked in the last survey wave whether they felt that using the family budget specifically had led to reductions in conflict (“yes/no”). This was regressed on the treatment training in Models 3 and 4 in Table A3.1. The results suggest that micro-entrepreneurs felt there was a strong relationship between using a family budget and reductions in conflict. This subjective report aligns with the results about frequency of family disagreements in Table 7, providing further support for this mechanism.

Finally, the paper discusses how family voice practices lead to the reduction of cross-domain financial flows for micro-entrepreneurs. These analyses in Table 7 measure these flows as the percentage of monthly profits claimed by family members. Yet, this masks potential changes in the absolute value of financial flows. Table A3.1 shows the results in Models 5 and 6 of regressing

the absolute value of cash transfers to family members on the treatment indicator. These results reveal that even though micro-entrepreneurs in the treatment condition transferred a smaller proportion of their profits to family members, this still represented a larger absolute value cash transfer. This suggests that the growth in their businesses performance outpaced the decrease in the proportion of profits given to family, leading to an overall increase in income shared.

Table A3.1: Family Relationships

	Family Support		Does Family Budget Reduce Conflict?		Profits given to family (FCFA)	
	(1)	(2)	(3)	(4)	(5)	(6)
Family Participation Training	0.036 ⁺ (0.017)	0.036* (0.017)	-0.987** (0.006)	-0.983** (0.009)	6046.407* (2739.713)	5268.377* (2000.492)
Ewe ethnicity		-0.010 (0.006)		-0.006 (0.010)		-2776.707 (2096.360)
Christian		0.008 (0.008)		0.017 (0.012)		-514.512 (2260.871)
Female		-0.006 (0.005)		-0.005 (0.005)		-10217.373** (2000.530)
Married		-0.009 (0.007)		-0.001 (0.007)		4207.629* (1548.166)
Education level		0.006 (0.004)		-0.000 (0.001)		1044.547 (766.744)
Kin involved in business		-0.000 (0.001)		-0.001 (0.003)		1043.920 (616.685)
Firm age		0.000 (0.000)		-0.001 (0.001)		304.909* (122.213)
Management practices score		0.021 (0.024)		0.000 (0.006)		10049.179 ⁺ (5510.343)
Cohort size		-0.000 (0.000)		0.000 (0.000)		-137.188 (80.218)
Community FE	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes	Yes
Survey wave FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1756	1756	589	589	1181	1181
Entrepreneurs	593	593	589	589	592	592

Note: The sample includes only post-treatment time periods. The outcome in Models 3 and 4 was only collected in the third follow-up survey, while the outcome in Models 5 and 6 was only collected in the second and third follow-up surveys, which accounts for the sample sizes in those regressions. Standard errors clustered by training cohort.

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

Appendix 4: Do Participative Practices Affect Family Importance and Investment Readiness?

Two potential alternative explanations for how the family participation training affected the performance of micro-enterprises is that it potentially increased the extent to which micro-entrepreneurs perceived their families as important and it may have also primed them to make more investments. Tables A4.1 and A4.2 explore these possibilities.

Models 1 and 2 in Table A4.1 regress the extent which micro-entrepreneurs rated their families as important, on a 4 point Likert scale, on the treatment. The regression results suggest that there is no statistically significant difference between the treatment and control groups. Moreover, the coefficient for the treatment is small in magnitude, suggesting that the treatment does not seem to have changed how micro-entrepreneurs think about their families or the importance they attribute to them.

Models 3 and 4 in Table A4.1 regress a binary indicator for whether the micro-entrepreneur had prepared the necessary financial documents to secure a microfinance loan on the treatment. Again, the treatment effect is not statistically significant and the magnitude of the coefficient is small, suggesting there was no measurable difference between the two groups in the extent to which they were prepared to apply for loans. Similarly, Models 5 and 6 regress the number of loans received on the treatment and, as in the previous models, the effect is small and statistically non-significant. If the family participation training had disproportionately primed or encouraged micro-entrepreneurs to make investments we would expect to see differences in the degree to which they mobilized to secure financing for those investments. The results in Table A4.1 do not reveal any differences, suggesting that the two training programs likely did not differentially affect micro-entrepreneurs' intentions to pursue financing.

Table A4.2 further explores this issue by regressing investments by entrepreneurs in the control group on a dummy variable for the post-training time periods. The models in Table A4.2 use a difference-in-differences specification, which involves including all time periods and including entrepreneur fixed effects. The coefficient for the post-training time indicator therefore estimates changes in investments between the baseline and the post-training time periods for entrepreneurs in the control group. Model 1 shows that entrepreneurs in the control group were almost 30% likelier to make an investment in any of the post-training time periods compared to the baseline, and Model 2 shows that in any given time period after the training they invested more than double the amount they had at baseline. This suggests that entrepreneurs in the control group invested considerably more after the training, which is also illustrated in Figure 3 in the main paper. In it, the solid line shows investments increasing after the training for control group entrepreneurs. According to that figure, by the end of the study, 9 months after the training, control group entrepreneurs were investing on average at higher levels than they had been at baseline. Taken together this provides more evidence that the control group received some encouragement and instruction about the value of investing and how to pursue investment opportunities.

Table A4.1: Family Participation Training, Family Importance, and Loans

	Family Importance		Prepared Documents for Loan		Loans Received	
	(1)	(2)	(3)	(4)	(5)	(6)
Family Participation Training	0.006 (0.006)	0.006 (0.006)	0.043 (0.032)	0.045 (0.028)	0.005 (0.021)	0.006 (0.020)
Ewe ethnicity		0.012 (0.010)		-0.032 (0.027)		-0.043* (0.017)
Christian		0.003 (0.006)		-0.010 (0.027)		0.007 (0.016)
Female		-0.027 (0.026)		-0.090** (0.031)		0.000 (0.026)
Married		-0.008 (0.006)		0.026 (0.024)		0.017 (0.016)
Education level		0.004 (0.004)		0.056** (0.013)		0.013+ (0.007)
Kin involved in business		0.013 (0.013)		0.008 (0.009)		0.006 (0.007)
Firm age		0.000 (0.000)		0.001 (0.001)		0.001 (0.001)
Management practices score		0.050 (0.040)		-0.050 (0.058)		-0.013 (0.053)
Cohort size		0.000 (0.000)		-0.002 (0.001)		-0.001 (0.001)
Community FE	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes	Yes
Survey wave FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	587	587	1762	1762	1762	1762
Entrepreneurs	587	587	593	593	593	593
R^2	0.005	0.041	0.190	0.238	0.030	0.049

Note: The sample includes only post-treatment time periods. The outcome in Models 1-2 was only measured in the last survey wave, which accounts for the sample size in those regressions. The outcomes in Models 3-6 were measured in all surveys, and hence control for the baseline value of the outcome. Standard errors clustered by training cohort.

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

Table A4.2: Control Group Investments

	Any investments?	Total amount invested (lhs)
	(1)	(2)
Post-training	0.290** (0.027)	2.672** (0.274)
Entrepreneur FE	Yes	Yes
Observations	1139	1139
Entrepreneurs	287	287

Note: The regressions in this table use a difference-in-difference modeling approach, where all time periods are included along with entrepreneur fixed effects. The post-training variable is a dummy indicator for the post-training time periods. The sample includes only control group entrepreneurs. The outcome in model 1 is whether the entrepreneur made any investments. The outcome in model 2 is the total amount invested, transformed using inverse hyperbolic sine. Standard errors clustered by training cohort.

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

Appendix 5: Treatment Effect without Investments

To explore the role of investments in driving the treatment effects on performance, Table A5.1 estimates the impact of family participation training on profits and the performance index on the subsample of entrepreneurs who made no investments. The results in Models 1 and 2 suggest that the treatment effect was positive and statistically significant, although slightly smaller in magnitude than the results in the full sample (22% compared to about 26%). The results in Models 3 and 4 also reflect this pattern, the treatment effect is still positive, but slightly smaller in magnitude. Taken together, these results suggest that making investments may be an important intermediary step between family voice practices and financial performance – although these practices still have a positive effect on performance independent of any investments.

Table A5.1: Treatment Effects on Entrepreneurs without Investments

	Monthly Profits (ihs)		Performance Index	
	(1)	(2)	(3)	(4)
Family Participation Training	0.242** (0.067)	0.228** (0.055)	0.183** (0.063)	0.176** (0.054)
Ewe ethnicity		-0.045 (0.052)		-0.047 (0.053)
Christian		-0.029 (0.038)		-0.038 (0.044)
Female		-0.078 ⁺ (0.042)		-0.042 (0.046)
Married		0.036 (0.026)		0.042 (0.025)
Education level		0.019 (0.022)		0.023 (0.017)
Kin involved in business		0.039* (0.015)		0.029* (0.014)
Firm age		0.007* (0.003)		0.004 (0.003)
Management practices score		0.012 (0.108)		0.073 (0.092)
Cohort size		-0.002 ⁺ (0.001)		-0.002* (0.001)
Community FE	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes
Survey wave FE	Yes	Yes	Yes	Yes
Observations	757	757	757	757
Entrepreneurs	416	416	416	416

Note: The sample includes only post-treatment time periods and entrepreneurs who reported having made no investments in any time period. All models control for the baseline value of outcome variable. Standard errors are clustered at the training cohort level.

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

Appendix 6: Measurement Validity of Financial Performance Measures

Survey Methodology

Measuring financial performance in micro-enterprise settings is challenging. Micro-enterprises are informal businesses that do not pay taxes, are not audited, do not use professional accountants, and often do not keep formal records or do so inconsistently. As a result, studies of micro-entrepreneurs rely on self-reported figures, which often are susceptible to recall error or reporting bias (De Mel et al., 2009; McKenzie & Woodruff, 2014).

Several steps were taken in this study to mitigate these issues. The first was to hire the instructors who taught the training programs as surveyors. This meant that micro-entrepreneurs received their instructors at their businesses to complete the follow-up surveys. This meant that the surveyors were familiar to them and people they were likely to trust, which increased the odds they would report truthfully. In addition to this, the instructors were told that they should spend 1-2 hours consulting for the micro-entrepreneur as compensation for having filled out the survey. Given the extensive experience of the instructors, this consulting was very valuable to micro-entrepreneurs. It also incentivized them to report financials truthfully, because if they didn't the instructors' advice might not be relevant or helpful.

In addition to this, the survey questionnaire was constructed using the latest research on eliciting accurate financial data. In particular, Anderson et al. (2021) developed the AAA (anchoring, aggregating, and adjusting) approach, which involves asking a series of granular questions about financials and progressively aggregating them, all the while giving entrepreneurs the opportunity to adjust and revise them as their recall improves. In line with this methodology, surveys asked micro-entrepreneurs about weekly costs, and weekly revenues and profits during both their best and worst performing weeks. Asking about financials over multiple recall windows helps reduce volatility. Surveyors were also encouraged to cross-reference these reports with formal records when possible.

Internal Consistency of Profit Measures

To further explore the risks of potential reporting bias in the measures of profit, this section reports checks on the internal consistency of the data entrepreneurs provided. The more internally consistent various measures are the more it suggests entrepreneurs are reporting accurately, rather than selectively inflating or deflating certain figures.

First, I check the correlation between a measure of monthly profits constructed from monthly sales and monthly costs with the self-reported measure of monthly profits. If entrepreneurs are reporting revenues and costs accurately, then profits calculated as revenues minus costs should closely match directly reported profits. Table A6.1 reports the correlation between reported and constructed profit measures in each survey wave. The level of correlation is high relative to what is typically observed in micro-enterprise surveys (Anderson et al., 2021). Importantly, the consistency in correlation isn't driven by one particular wave, rather, it holds across the panel.

Table A6.1: Correlation between
constructed and reported profits

Survey wave	Correlation
1	0.828
2	0.771
3	0.927
4	0.926

I also tested whether the gap between reported monthly profits and monthly profits calculated as revenues minus costs differs by treatment status. To do this, I regress the difference between the reported and constructed measures of profits on treatment. If treatment group entrepreneurs are inflating their reported profits, we would expect to find a statistically significant result. Table A6.2 shows the regression results, the coefficient for family participation training is not statistically significant and the coefficient is negative, which is the opposite direction of upward bias. This suggests that the financial data reported by entrepreneurs are internally consistent for both the treatment and control groups, which helps alleviate concerns that reporting bias may be driving the treatment effects.

Table A6.2: Treatment effect on discrepancy between reported profits and calculated profits

	Profits Discrepancy (1)
Family Participation Training	-2828.764 (1739.548)
Ewe ethnicity	-1197.422 (2380.411)
Christian	166.020 (2702.687)
Female	2469.550 (2194.827)
Married	-243.192 (2417.869)
Education level	2004.722 (1356.079)
Kin involved in business	211.548 (881.060)
Firm age	-131.048 (82.814)
Management practices score	-12665.697 (9248.270)
Cohort size	37.198 (66.523)
Community FE	Yes
Sector FE	Yes
Survey wave FE	Yes
Observations	2366
Entrepreneurs	593

Note: The sample includes all time periods, including baseline, which is why the sample size is larger. The outcome is the difference between entrepreneurs' self-reported monthly profits and a constructed measure of profits based on entrepreneurs' self-reported monthly revenues and costs. Robust standard errors clustered by training cohort.

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

Revenue and Cost Decomposition

Table A6.3 regresses monthly sales and monthly costs (each winsorized and transformed using $\ln$) on the family voice treatment. The results show that both monthly sales and monthly costs increase with the treatment. These results are reassuring of the data's reliability in two ways.

First, it helps reduce concerns of upward bias in the reporting of financial data. If entrepreneurs were overestimating their performance, they would be unlikely to inflate their costs. Instead, we see an increase in monthly costs.

Second, the regressions show that monthly revenues increase by more than the monthly costs, which is in line with the increase in profits. This helps show that the data reported are internally consistent. If profits are increasing, we would expect that reported revenues exceed reported costs. Moreover, the magnitude by which revenues exceed costs is consistent with the increase in profits. Using baseline control group means, average monthly revenues are 160,815 FCFA and average monthly costs are 54,678 FCFA, implying baseline profits of 106,137 FCFA ($160,815 - 54,678$). The treatment coefficient on $\ln$ -transformed revenues is 0.23, implying a percentage increase of $\exp(0.23) - 1 = 26\%$. The treatment coefficient on $\ln$ -transformed costs is 0.171, implying a percentage increase of $\exp(0.18) - 1 = 19.7\%$; and the treatment coefficient on $\ln$ -transformed profits is 0.26, implying a percentage increase of $\exp(0.26) - 1 = 29.7\%$. Applying these percentage effects to the baseline control group means, the treatment increases revenues by approximately $160,815 \times 0.260 = 41,812$ FCFA per month and costs by approximately $54,678 \times 0.186 = 10,170$ FCFA per month. The implied profit effect, computed as the revenue effect minus the cost effect, is therefore $41,812 - 10,170 = 31,642$ FCFA. The directly estimated profit effect, computed by applying the 29.8% treatment effect to baseline profits, yields $106,137 \times 0.298 = 31,629$ FCFA. The two estimates are virtually identical. This near-perfect arithmetic consistency across three separately elicited survey measures provides strong evidence that the self-reported financial data are internally coherent and that the estimated treatment effect on profits is not an artifact of measurement error or differential reporting bias.

Table A6.3: Profits Decomposition

	Monthly Revenues (ihs) (1)	Monthly Costs (ihs) (2)
Family Participation Training	0.234** (0.045)	0.184** (0.059)
Ewe ethnicity	-0.109* (0.039)	-0.139* (0.055)
Christian	0.001 (0.037)	0.010 (0.047)
Female	-0.167** (0.045)	-0.156* (0.069)
Married	0.072+ (0.041)	0.055 (0.046)
Education level	0.079** (0.020)	0.091** (0.024)
Kin involved in business	0.032+ (0.017)	0.030 (0.019)
Firm age	0.008** (0.002)	0.009* (0.003)
Management practices score	0.099 (0.092)	0.169 (0.162)
Cohort size	-0.003+ (0.001)	-0.002 (0.001)
Community FE	Yes	Yes
Sector FE	Yes	Yes
Survey wave FE	Yes	Yes
Observations	1762	1761
Entrepreneurs	593	593

Note: The sample includes only post-treatment time periods. All models control for baseline value of outcome variable. Robust standard errors clustered by training cohort.

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

Consistency Across Recall Windows

Further probing the consistency of performance metrics reported by micro-entrepreneurs, Table A6.4 replicates the treatment effects on profits and revenues using the weekly measures. Each entrepreneur reported revenues and profits in the best and worst week of the previous month. These measures are multiplied by 4 to create estimates of monthly profits and revenues. Regressing them on the treatment shows that family voice training has a positive and statistically significant effect, in line with the main results in Table 5 of the paper.

These results do two things. First, they provide additional evidence of the internal consistency of the financial data. Second, they reveal that the treatment effect is larger on the worst week estimates than the best weeks, suggesting that part of how the treatment affects micro-entrepreneurs is by improving the lower-bound of their performance. The intervention targets

precisely the conditions that make bad weeks bad, namely family financial pressure during periods of business stress.

Table A6.4: Treatment effects on weekly profits and revenues

	Profits Estimate from Best Week	Profits Estimate from Worst Week	Revenues Estimate from Best Week	Revenues Estimate from Worst Week
	(1)	(2)	(3)	(4)
Family Participation Training	0.260** (0.036)	0.603** (0.212)	0.223** (0.044)	0.563* (0.254)
Ewe ethnicity	-0.038 (0.035)	-0.113 (0.108)	-0.084+ (0.042)	-0.204+ (0.119)
Christian	-0.030 (0.031)	0.054 (0.198)	-0.019 (0.037)	0.047 (0.228)
Female	-0.165** (0.040)	0.234 (0.188)	-0.147** (0.051)	0.198 (0.170)
Married	0.081* (0.038)	0.201 (0.150)	0.080+ (0.041)	0.204 (0.170)
Education level	0.039* (0.017)	-0.018 (0.042)	0.082** (0.020)	0.000 (0.050)
Kin involved in business	0.030* (0.013)	0.058 (0.056)	0.025 (0.015)	0.062 (0.060)
Firm age	0.009** (0.002)	-0.019+ (0.010)	0.011** (0.003)	-0.024* (0.011)
Management practices score	0.151+ (0.083)	0.870+ (0.473)	0.164 (0.101)	1.096+ (0.581)
Cohort size	-0.001 (0.001)	-0.010+ (0.006)	-0.001 (0.001)	-0.011+ (0.006)
Community FE	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes
Survey wave FE	Yes	Yes	Yes	Yes
Observations	1762	1762	1762	1758
Entrepreneurs	593	593	593	592

Note: The sample includes only post-treatment time periods. All models control for baseline value of outcome variable. Robust standard errors clustered by training cohort.

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

Consistency of Transfer Reports with the Profit Allocation

A final check examines whether reported transfers to family cohere with the study's other financial measures. Profits, investments, transfers to family, and savings were each elicited separately in the surveys. If entrepreneurs report these figures accurately, the profits remaining after reinvestment and transfers to family should approximate their reported savings. I construct this residual as monthly profits minus monthly investments (investments over the preceding three months, divided by three) minus monthly transfers to family, and correlate it with entrepreneurs' separately reported savings in the previous month. Table A6.5 shows correlations of 0.77 and 0.83 in the two waves in which transfers were measured (0.803 pooled), comparable in magnitude to the reported-versus-constructed profit correlations in Table A6.1. Because these four quantities were elicited in separate survey questions with no mechanical linkage, their coherence as an allocation of profits is difficult to reconcile with selective inflation or deflation of any single measure, including transfers.

Table A6.5: Correlation between residual profits and reported savings

Survey wave	Correlation	Spearman's rho	Observations
3	0.774	0.84	592
4	0.834	0.95	590
Pooled	0.803	0.92	1,182

Summary

Taken together, these analyses provide strong evidence for the validity of the self-reported financial performance measures used in this study. The high internal consistency between reported and calculated profits, the absence of differential reporting bias by treatment status, the coherent revenue-cost decomposition, and the consistency of treatment effects across multiple recall windows all support the interpretation that the observed profit increase reflects genuine improvement in firm performance rather than measurement artifact.

Appendix 7: Correlations

Table A7.1: Correlation among family participation practices

	Family budget	Discussed investments
Family budget		
Discussed investments	0.989	
Family Advice and Feedback	0.196	0.204

Table A7.2: Correlation among downstream mechanisms

	Family Motivation	Trust in Family	Frequency of Disagreements
Family Motivation			
Trust in Family	0.7097		
Frequency of Disagreements	-0.1832	-0.3049	
Business to family financial flows	-0.5643	-0.7267	0.5907

Appendix 8: Attrition

Attrition from surveys is an important concern for field experiments because attrition that is correlated with the treatment could imbalance the sample and bias the results. While attrition levels were low (6.4% overall) compared to other studies (e.g. Anderson et al. (2018) report attrition rate of 21%), this section explores whether there is any evidence that attrition was biased.

The first thing to note is that there was no attrition during the training itself. All 640 entrepreneurs who began the training also completed it. Several additional factors likely account for the lack of attrition during the training program. The training was scheduled during a condensed amount of time. Entrepreneurs committed ahead of time to complete the entire training. Entrepreneurs were told that class would not begin on the following day until everyone had arrived, which created a social incentive for participants to return the following day on time. Entrepreneurs in both the control and treatment conditions reported high levels of satisfaction with the training, suggesting the training kept them engaged. In the exit survey, 98% of entrepreneurs in both the treatment and control conditions reported they had found the training to be either "extremely useful" or "very useful" and 92% of entrepreneurs in both the treatment and control groups reported they would take another similar training program if it were offered.

Table A8.1 regresses a binary indicator of whether an entrepreneur was observed in the final survey on the treatment and other covariates. The regressions are estimated using OLS. The coefficient for family participation training is not statistically significant and is small in magnitude (on the order of 2%). This suggests that the family voice training is unlikely to be correlated with attrition and therefore attrition is unlikely to imbalance the sample.

Models 3, 4, and 5 in Table A8.1 also introduce the key outcome variables for H1 and H2 to test whether there is selective attrition. Selective attrition might occur if higher or lower performing entrepreneurs were likelier to attrit. In these regressions the investments, profits, and performance index are not correlated with attrition, which suggests that there is no evidence of selective attrition.

Table A8.1: Attrition

	Was the firm observed in the last survey?				
	(1)	(2)	(3)	(4)	(5)
Family Participation Training	-0.002 (0.030)	-0.021 (0.027)	-0.021 (0.027)	-0.021 (0.027)	-0.019 (0.027)
Investments (ihs)			-0.000 (0.003)		
Profits monthly (ihs)				-0.003 (0.009)	
Performance Index					-0.012 (0.017)
Married		0.101** (0.023)	0.101** (0.023)	0.101** (0.024)	0.102** (0.024)
Family involved in business		-0.001 (0.007)	-0.001 (0.007)	-0.001 (0.007)	-0.001 (0.007)
Firm age		0.000 (0.001)	0.000 (0.001)	0.000 (0.001)	0.000 (0.001)
Management practices score		0.124* (0.053)	0.126* (0.057)	0.126* (0.055)	0.135* (0.058)
Cohort size		-0.002* (0.001)	-0.002* (0.001)	-0.002+ (0.001)	-0.002+ (0.001)
Observations	640	640	640	640	640
Entrepreneurs	640	640	640	640	640

Note: The outcome variable is a binary indicator of whether the entrepreneur appeared in the last survey wave. Robust standard errors clustered by training cohort. Regressions estimated using OLS. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Despite there being no evidence of selective attrition, Table A8.2 also estimates Lee bounds (Lee, 2009) to infer the range of possible treatment effects if there was selective attrition. This process estimates treatment effects after trimming the sample so that the number of control group and treatment group participants is equal and dropping the most extreme outcomes. This helps establish what the lowest possible treatment effect might be and the largest. For all outcomes, the observed coefficients in Table 6 from the paper fall within the 95% confidence interval for the treatment effect reported in Table A8.2. They are also within the estimated upper and lower bounds. This suggests that the results in Table 6 are unlikely to be driven by attrition bias.

Table A8.2: Lee bounds

	Investments (ihs)	Profits monthly (ihs)	Performance Index
Lower bound	2.175 (0.200)	0.185 (0.027)	0.174 (0.036)
Upper bound	2.429 (0.200)	0.262 (0.028)	0.279 (0.035)
95% Confidence Interval	[1.843, 2.761]	[0.140, 0.307]	[0.116, 0.336]

Total observations 2,434; Selected observations 2,405

The analyses in Tables A8.1 and A8.2 explore potential bias that could result from attrition after the training program. While there was no attrition during the training program (all 640 entrepreneurs who attended the first day of the training completed the entire training), there was attrition between the registration for the training and the first day of the training. In particular, 827 micro-entrepreneurs registered to attend the training, while 640 attended. This means about 29% of registrants attrited. If this attrition occurred more for one group of entrepreneurs than another (e.g. by attracting more motivated entrepreneurs) it could introduce biases in the analyses. As part of the design of the recruitment process, micro-entrepreneurs did not know there were two different training programs and were not aware of the details of the program they were signing up for. It is therefore unlikely that any of the attrition between registration and attendance introduced any bias. However, to ensure this was not the case Table A8.3 regresses a binary indicator for whether an entrepreneur attended the training on their assignment to the treatment condition. The coefficient for assignment to the treatment is negative but not statistically significant. This suggests that slightly more entrepreneurs who had been assigned to treatment attrited, but this is not a statistically meaningful difference. This is reflected in Table A8.4, which summarizes the average attendance rate per cohort by treatment condition. For the average cohort in the control condition the attendance rate was 88%, while the average attendance for treatment condition cohorts was 73%. According to t-tests this difference is not statistically significant. Taken together these additional results provide some reassurance that attrition between the registration and the participation in the training was unlikely to introduce bias. The lack of correlation between the treatment and attrition after registration is likely driven, at least in part, by the fact that participants were not aware that there were two different training programs when registering.

Table A8.3: Attrition after registration

	Attended training (1)
Assigned to treatment condition	-0.164 (0.129)
Observations	827
Entrepreneurs	827

Note: The sample includes all entrepreneurs who registered to attend the training program. The outcome is whether the entrepreneur attended the training. Robust standard errors clustered by assigned training cohort.

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

Table A8.4: Difference in attendance rates

	Mean attendance rate
Family Training Cohorts	73%
Control Condition Cohorts	88%
Difference in means	15 percentage points
t-stat	1.2702

Appendix 9: Extra Control Variables

While the randomization resulted in a balanced sample (see Table 3 in the paper), this section replicates Table 5 from the paper after introducing additional control variables. In particular, the regressions in Table A9.1 control for the number of children the entrepreneur has, the number of employees working in the business, whether they had a bank account, the number of loans they had, the size of their advice network, and whether they had slack resources. These variables are all measured at baseline. The regressions are estimated using the same ANCOVA model in the paper. Results show that the effect of family voice training on investments, profits, and the performance index doesn't change after introducing these additional control variables.

Table A9.1: Testing H1 and H2 with additional control variables

	Investments (lhs)	Monthly Profits (lhs)	Performance Index
	(1)	(2)	(3)
Family Participation Training	2.040** (0.538)	0.252** (0.034)	0.291** (0.047)
Ewe ethnicity	0.114 (0.279)	-0.035 (0.029)	-0.075+ (0.041)
Christian	-0.108 (0.225)	-0.012 (0.027)	0.001 (0.044)
Female	-0.543 (0.329)	-0.136** (0.033)	-0.203** (0.060)
Married	0.533+ (0.291)	0.028 (0.030)	0.024 (0.041)
Education level	0.013 (0.117)	0.041* (0.019)	0.083** (0.023)
Kin involved in business	0.041 (0.102)	0.022 (0.013)	0.020 (0.017)
Firm age	0.012 (0.013)	0.004* (0.002)	0.005+ (0.003)
Management practices score	1.269 (0.916)	0.067 (0.075)	-0.010 (0.112)
Cohort size	-0.005 (0.018)	-0.002+ (0.001)	-0.002 (0.002)
Children	0.066 (0.075)	0.030** (0.009)	0.034** (0.011)
Employees	0.042 (0.042)	0.031** (0.008)	0.108** (0.012)
Microfinance account	0.214 (0.215)	0.057* (0.025)	0.094* (0.040)
Loans	0.131 (0.419)	0.016 (0.033)	-0.009 (0.042)
Size of advice network	0.082 (0.077)	0.001 (0.008)	0.004 (0.013)
Slack resources	0.791 (0.465)	0.134** (0.043)	0.189* (0.080)

Survey wave FE	Yes	Yes	Yes
Community FE	Yes	Yes	Yes
Activity FE	Yes	Yes	Yes
Observations	1750	1750	1750
Entrepreneurs	589	589	589

Note: The sample includes only post-treatment time periods. All models control for baseline value of outcome variable. Robust standard errors clustered by training cohort. The sample size in this table is smaller by 4 entrepreneurs because they had missing observations for the additional control variables.

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

Appendix 10: Difference-in-Differences Estimation

Table A10.1 estimates the effect of family voice training on investments, monthly profits, and the performance index using a difference-in-differences approach, which allows the inclusion of entrepreneur fixed effects.

The regressions in Table A10.1 largely replicate the results in Table 5. The estimated effect of family voice training on investments is larger in Models 1 and 2. The magnitude of the effect is a little smaller for profits (Models 3 and 4), at 23% rather than 26%. Finally the estimated impact on the performance index is also smaller in magnitude, with the effect being closer to 13%, rather than 21%.

These results suggest that the treatment effects in Table 5 may be the upper bound of the effect, since the difference-in-differences estimates suggest slightly smaller effects. Nevertheless, the interpretation of the effects as being positive and substantively impactful for entrepreneurs remains unchanged.

Table A10.1: Testing H1 and H2 using difference-in-differences

	Investments (lhs)		Monthly Profits (lhs)		Performance Index	
	(1)	(2)	(3)	(4)	(5)	(6)
Family Participation Training x Post-treatment	2.789** (0.897)	3.274** (0.715)	0.273* (0.124)	0.233** (0.070)	0.117+ (0.068)	0.135* (0.059)
Entrepreneur FE	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes	Yes
Community FE	Yes	Yes	Yes	Yes	Yes	Yes
Survey wave FE	Yes	Yes	Yes	Yes	Yes	Yes
Control variables	No	Yes	No	Yes	No	Yes
Observations	2355	2355	2355	2355	2355	2355
Firms	593	593	593	593	593	593

Note: The sample includes all four survey waves. Robust standard errors clustered by training cohort. Control variables are measured at baseline and are interacted with the post-treatment dummy. The controls include Ewe ethnicity, Christian, female, married, education level, family involved in business, firm age, management practices score, and cohort size.

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

To examine the temporal sequencing of treatment effects on business investments and business profits, Table A10.2 reports difference-in-differences estimates of the family participation training effect at each post-training wave separately. The specifications regress investments (Model 1) and monthly profits (Model 2), both transformed using the inverse hyperbolic sine, on a full set of survey-wave indicators, treatment-by-wave interactions, and entrepreneur fixed effects, with the baseline wave as the omitted reference category. Standard errors are clustered at the training-cohort

level. The interaction coefficients report, for each follow-up wave, the difference between the treatment and control conditions in the within-entrepreneur change relative to baseline. This specification tests whether treatment effects on investments and profits emerge at the same point in the panel or whether one precedes the other.

The estimates support a lagged-mediation reading of the treatment's effect on business profits. Treatment effects on investments are statistically significant by the 3-month follow-up, more than double in magnitude by the 6-month follow-up, and continue to grow at the 9-month follow-up. Treatment effects on profits, by contrast, are small and statistically indistinguishable from zero at the 3-month follow-up, emerging clearly only at the 6-month follow-up and growing further at the 9-month follow-up. The pattern is consistent with the treatment shaping business profits through its effect on business investments.

Table A10.2: Dynamic Investment and Profit Effects

	Investments (ihs)	Monthly Profits (ihs)
	(1)	(2)
Treatment x 3-month follow-up	0.998* (0.461)	0.078 (0.061)
Treatment x 6-month follow-up	1.992** (0.458)	0.219** (0.060)
Treatment x 9-month follow-up	5.350** (0.459)	0.520** (0.061)
3-month follow-up	3.074** (0.332)	0.076+ (0.044)
6-month follow-up	3.243** (0.329)	0.254** (0.043)
9-month follow-up	1.708** (0.329)	0.268** (0.043)
Entrepreneur FE	Yes	Yes
Observations	2355	2355
Entrepreneurs	593	593

Note: The sample includes all survey waves, with entrepreneur fixed effects.

Robust standard errors clustered by training cohort.

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

Appendix 11: Alternative Outcome Variables

To ensure that the results in Table 5 are not a product of the transformations used for the outcome variables, Table A11.1 replicates the results in Table 5 using the untransformed version of those variables. Table 5 in the paper used variables that were transformed using inverse hyperbolic sine (ihs) and winsorized at the 1% and 99% levels. In the table below, the variables are either only winsorized or not transformed at all. The coefficients for family voice training are positive and statistically significant, validating Hypotheses 1 and 2. This suggests that the main results are not dependent on the particular transformations used.

Table A11.1: Testing H1 and H2 with Untransformed Outcome Variables

	Investments (FCFA)				Monthly Profits (FCFA)			
	Winsorized		Not Winsorized		Winsorized		Not Winsorized	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Family voice training	3896.438** (813.936)	3640.098** (767.987)	6045.429* (2230.092)	5331.704** (1786.423)	19864.783** (3609.782)	18494.824** (2688.109)	21433.515** (3728.002)	19936.204** (2871.824)
Ewe ethnicity		-238.018 (529.230)		-1543.672 (2360.206)		-2849.336 (2471.974)		-1777.724 (3669.036)
Christian		-719.507 (717.051)		-3721.563 (3397.640)		129.300 (2408.435)		-37.880 (2703.326)
Female		-2029.530* (743.125)		-4233.714* (1961.607)		-10743.575** (2865.299)		-13275.387** (2993.840)
Married		1572.262* (608.482)		2840.370+ (1470.713)		6028.010* (2383.798)		7914.745* (2977.893)
Education level		490.457* (229.874)		1343.531+ (775.110)		2364.719* (1116.796)		3092.950* (1363.367)
Kin involved in business		87.880 (175.414)		-283.771 (305.379)		1817.013+ (910.259)		872.261 (1265.356)
Firm age		34.878 (30.074)		-22.529 (97.587)		387.783* (153.119)		470.123* (180.407)
Management practices score		3509.837+ (1962.180)		6262.420* (2926.564)		12368.697+ (6342.791)		22195.857* (9666.310)
Cohort size		-50.242+ (27.301)		-150.106 (94.849)		-237.201* (102.653)		-239.005+ (121.154)
Observations	1762	1762	1762	1762	1762	1762	1762	1762
Entrepreneurs	593	593	593	593	593	593	593	593

Note: Robust standard errors clustered by training cohort. Baseline value of the outcome is included as a control in each model. Each model includes survey wave, community, and sector fixed effects. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

To ensure that the treatment estimates for the performance index are not driven by the inclusion of any single variable in the index, Table A11.2 estimates the impact of treatment on the performance index after dropping each of the component variables in sequence. Model 1 in Table A11.2 replicates the result from Table 6 in the paper. Models 2-8 each drop one component of the index, in sequence. The results show that the treatment effect is not sensitive to the inclusion of any particular variable in the performance index.

Table A11.2: The effect of family participation on different constructions of the performance index

	Variations of the Performance Index							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Family Participation Training	0.216** (0.036)	0.212** (0.035)	0.213** (0.035)	0.222** (0.032)	0.213** (0.037)	0.216** (0.037)	0.236** (0.037)	0.204** (0.041)
Ewe ethnicity	-0.021 (0.036)	-0.006 (0.036)	-0.009 (0.036)	-0.014 (0.037)	-0.020 (0.037)	-0.020 (0.037)	-0.022 (0.039)	-0.057+ (0.032)
Christian	-0.041 (0.036)	-0.047 (0.036)	-0.044 (0.036)	-0.049 (0.036)	-0.045 (0.038)	-0.043 (0.038)	-0.046 (0.038)	-0.014 (0.033)
Female	-0.090** (0.026)	-0.076** (0.024)	-0.077** (0.024)	-0.123** (0.028)	-0.085** (0.026)	-0.082** (0.026)	-0.101** (0.028)	-0.089** (0.030)
Married	0.086** (0.029)	0.088** (0.028)	0.089** (0.028)	0.089** (0.031)	0.087** (0.030)	0.088** (0.030)	0.091** (0.031)	0.067+ (0.033)
Education level	0.058** (0.016)	0.053** (0.016)	0.054** (0.016)	0.067** (0.018)	0.062** (0.017)	0.062** (0.017)	0.064** (0.018)	0.048** (0.015)
Kin involved in business	0.021 (0.014)	0.019 (0.013)	0.019 (0.014)	0.020 (0.013)	0.019 (0.014)	0.020 (0.014)	0.022 (0.015)	0.028+ (0.014)
Firm age	0.005** (0.002)	0.004* (0.002)	0.004* (0.002)	0.008** (0.002)	0.005* (0.002)	0.005* (0.002)	0.006** (0.002)	0.005* (0.002)
Management practices score	0.142+ (0.079)	0.157+ (0.081)	0.145+ (0.080)	0.114 (0.070)	0.153+ (0.084)	0.150+ (0.083)	0.144+ (0.082)	0.131 (0.084)
Cohort size	-0.003* (0.001)	-0.003* (0.001)	-0.003* (0.001)	-0.002* (0.001)	-0.003* (0.001)	-0.003* (0.001)	-0.003* (0.001)	-0.002+ (0.001)
Community FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Survey wave FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1762	1762	1762	1762	1762	1762	1762	1762
Entrepreneurs	593	593	593	593	593	593	593	593

Note: The sample includes only post-treatment time periods. All models control for baseline value of outcome variable. The outcome in Model 1 is the performance index including all component variables, this model replicates the results in Table 6 of the paper. Models 2-8 estimate the effect of family participation on the performance index after sequentially dropping each of the component variables. Robust standard errors clustered by training cohort. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table A11.3 explores the impact of family participation training on different measures of investment. In particular, Models 1 and 2 estimate the effect on making any investment, which provides insight into the extensive margin of the treatment. The effect is positive and statistically significant, suggesting that micro-entrepreneurs in the treatment condition are 20% likelier to make any investment compared to the control group. This result complements the findings in Table 6 which reflect the intensive margin of the treatment. Models 3 and 4 in Table A11.3 show the treatment effect on investment quartiles. Here investments are categorized as none, low, moderate, and high. The results show that the treatment led micro-entrepreneurs to be on average in a higher quartile of investments than the control group.

Table A11.3: Alternative Definitions of Investments

	Any Investment		Quartiles of Investments	
	(1)	(2)	(3)	(4)
Family Participation Training	0.208** (0.049)	0.199** (0.054)	0.424** (0.095)	0.405** (0.105)
Ewe ethnicity		0.014 (0.028)		0.023 (0.057)
Christian		-0.005 (0.024)		-0.013 (0.048)
Female		-0.048 (0.031)		-0.094 (0.065)
Married		0.060* (0.028)		0.111+ (0.054)
Education level		-0.005 (0.012)		-0.009 (0.025)
Kin involved in business		0.006 (0.010)		0.011 (0.018)
Firm age		0.002 (0.001)		0.004+ (0.002)
Management practices score		0.178+ (0.089)		0.332+ (0.171)
Cohort size		-0.001 (0.002)		-0.002 (0.004)
Community FE	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes
Survey wave FE	Yes	Yes	Yes	Yes
Observations	1762	1762	1762	1762
Entrepreneurs	593	593	593	593

Note: The sample includes only post-treatment time periods. All models control for the baseline value of the outcome variable. Standard errors are clustered at the cohort training level.

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

Appendix 12: Quantile Regressions

This section explores how family voice training affects different quantiles of the performance distribution. Figure A12.1 plots the estimated effect of the training on investments at every 5th quantile of the distribution for baseline investments, along with 95% confidence intervals in the shaded regions. The figure shows that the treatment leads to a statistically significant increase in investments for micro-entrepreneurs who are above the 40th percentile. The bulk of the effect is driven by micro-entrepreneurs between the 40th and 65th percentile of investments. The effect is still positive for those micro-entrepreneurs at higher levels of investment, but the effect size is much smaller and closer to zero. This suggests that the family participation training has the most impact on micro-entrepreneurs in the middle range of the distribution and does not seem to improve investment outcomes for entrepreneurs at the bottom of the distribution.

Figure A12.1: Quantile regression plot for investment (ihs)

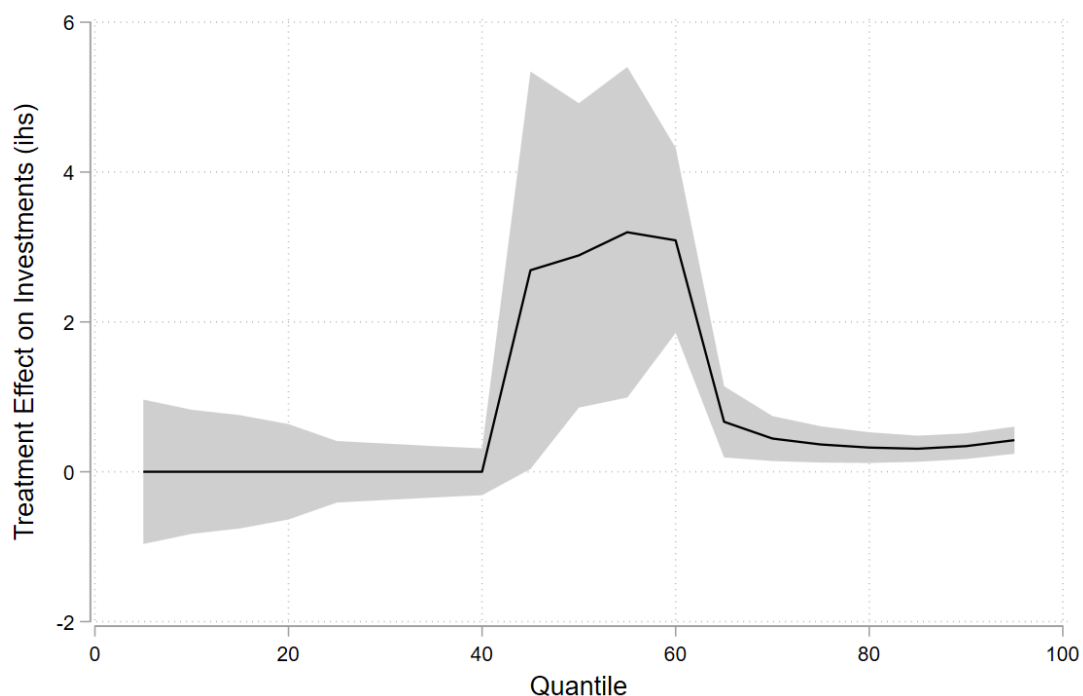


Figure A12.2 shows the same plot for monthly profits. In this figure the effect is similar across different percentiles, although the impact is a little higher around the 65th percentile. This suggests that perhaps higher performing entrepreneurs benefit slightly more from the training, which would also align with the quantile plot for investments. Figure A12.3 shows the plot for the performance index. As with Figure A12.2, the performance effect of family participation training is positive and statistically significant throughout the performance distribution, although there is a pronounced uptick in the effect at the upper tail of the distribution, which again may suggest that high performing entrepreneurs may benefit slightly more from the intervention.

Figure A12.2: Quantile regression plot for monthly profits (lhs)

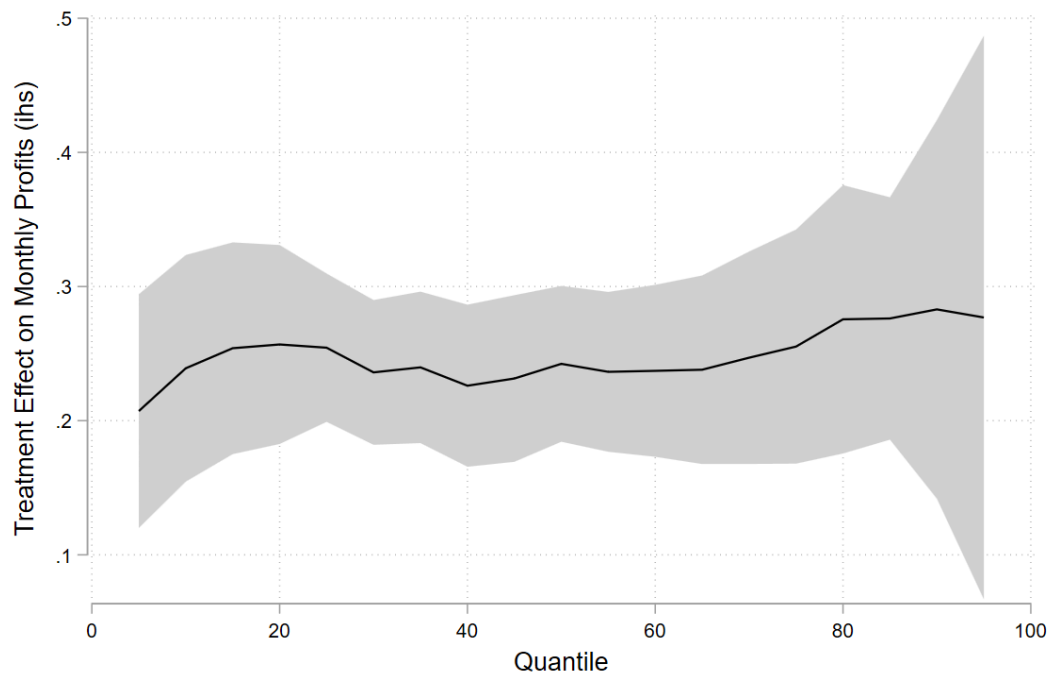
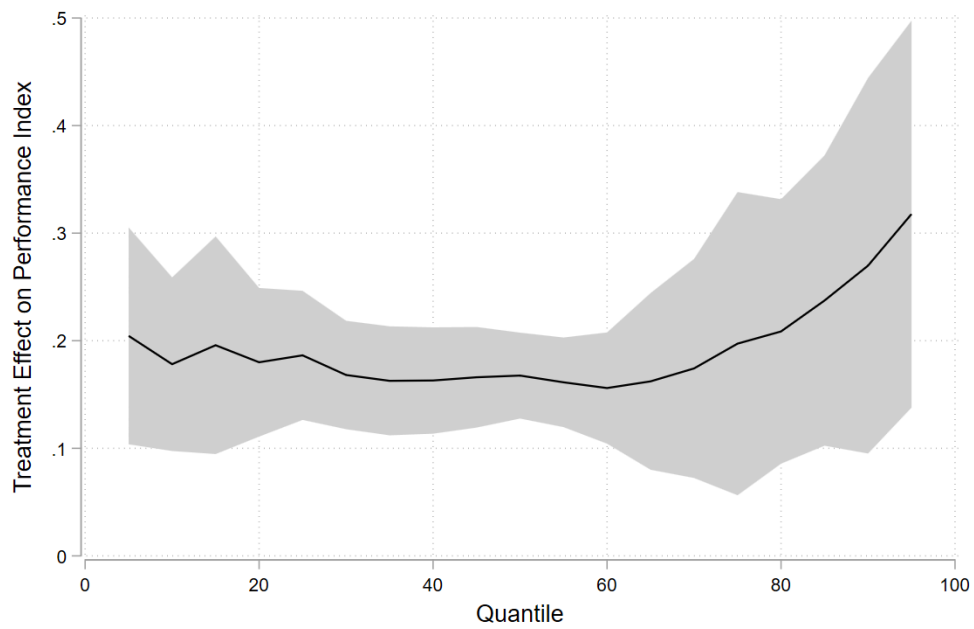


Figure A12.3: Quantile regression plot for performance index



Appendix 13: Heterogeneity Analyses

The theory developed in the main paper argues that consultative family voice is especially valuable for micro-entrepreneurs who face stronger family-driven financial pressure. As described in the paper, entrepreneurs embedded in kin networks often experience frequent requests for support, and these demands can constrain reinvestment and undermine business growth. The intervention—consultative family voice—helps entrepreneurs manage these pressures by creating transparency, fostering procedural justice, and motivating family members to defer short-term claims in favor of long-run business success.

If this mechanism is correct, then the training should have larger effects precisely for those entrepreneurs whose families rely more heavily on their income or who recently experienced shocks that heighten requests. Table A13.1 directly tests this implication. The estimates show that the main effect of the training on monthly profits remains positive and significant across all models, but its magnitude varies systematically with indicators of family pressure. In Models 1 and 2, the interaction between the training and baseline household income is negative and significant, meaning that the training is more effective for entrepreneurs whose households have lower non-business income, consistent with the idea that voice routines help manage high dependence. In Models 3 and 4, the interaction between the training and recent household illness or death is positive and significant, indicating larger treatment effects when families experience crises, periods in which requests for financial support are likely to spike. In both cases, the direction and statistical significance of the interactions support the claim that part of the mechanism operates through helping entrepreneurs navigate family claims. Thus, the heterogeneity patterns reinforce the central theoretical contribution: consultative family voice is most impactful where family pressure is greatest, because it improves coordination and reduces the constraints those pressures impose on business performance.

Table A13.1. Heterogeneity analyses

	Monthly Profits (ihs)			
	(1)	(2)	(3)	(4)
Family Participation Training	0.327** (0.050)	0.304** (0.044)	0.335** (0.065)	0.314** (0.046)
Family Participation Training X Household Income (ihs)	-0.008* (0.004)	-0.007+ (0.004)		
Household Income (ihs)	0.006 (0.003)	0.005 (0.003)		
Family Participation Training x Household Illness			0.107* (0.041)	0.117** (0.036)
Household Illness			0.018 (0.040)	-0.005 (0.038)
Ewe ethnicity		-0.042 (0.030)		-0.069* (0.031)
Christian		-0.002 (0.025)		0.013 (0.030)
Female		-0.122** (0.033)		-0.149** (0.032)
Married		0.083* (0.034)		0.071* (0.031)
Education level		0.031+ (0.017)		0.014 (0.015)
Kin involved in business		0.032* (0.012)		0.033* (0.013)
Firm age		0.007** (0.002)		0.006** (0.002)
Management practices score		0.150+ (0.079)		0.205* (0.082)
Cohort size		-0.002+ (0.001)		-0.003+ (0.001)
Community FE	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes
Survey wave FE	Yes	Yes	Yes	Yes
Observations	1702	1702	1181	1181
Entrepreneurs	571	571	592	592
R ²	0.375	0.434	0.346	0.419

Note: Household income is transformed using inverse hyperbolic sine (ihs), observations at baseline are missing for 22 participants, accounting for the smaller sample size. Data on unexpected illness or death in the household were only collected in the last two survey waves, which accounts for the smaller sample size in models 3 and 4. All models control for baseline value of outcome variable. Standard errors are clustered at the training cohort level. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table A13.2 reports additional heterogeneity analyses across three theoretically motivated dimensions: gender, marital status, and firm age. The interaction terms for marital status and firm age are small and statistically indistinguishable from zero across both outcomes, suggesting that the treatment operates similarly across these dimensions. The interaction with gender is more nuanced. The treatment effect on investments does not differ statistically between men and women, but the treatment effect on profits is partially attenuated for women. The treatment effect on profits remains substantively large and statistically distinguishable from zero for women in absolute terms, but is smaller than the corresponding effect for men. In terms of magnitudes, the treatment effect on profits is about half as large for women than it is for men. Because the specifications include sector fixed effects, this gender attenuation is not explained by sectoral composition.

Table A13.2: Heterogeneity Analyses

	Investments (ihs)	Profits monthly (ihs)	Investments (ihs)	Profits monthly (ihs)	Investments (ihs)	Profits monthly (ihs)
	(1)	(2)	(3)	(4)	(5)	(6)
Family Participation Training	2.598** (0.848)	0.408** (0.076)	2.227** (0.670)	0.297** (0.057)	2.031** (0.566)	0.274** (0.046)
Family Participation Training x Female	-0.704 (0.569)	-0.197* (0.070)				
Family Participation Training x Married			-0.256 (0.488)	-0.059 (0.056)		
Family Participation Training x Firm age					0.005 (0.024)	-0.001 (0.003)
Female	-0.215 (0.322)	-0.039 (0.046)	-0.561+ (0.309)	-0.136** (0.032)	-0.564+ (0.314)	-0.135** (0.033)
Married	0.643* (0.271)	0.084* (0.032)	0.771** (0.241)	0.113** (0.040)	0.644* (0.266)	0.082* (0.033)
Firm age	0.021+ (0.011)	0.007** (0.002)	0.019 (0.011)	0.007** (0.002)	0.017 (0.014)	0.007** (0.002)
Ewe ethnicity	0.099 (0.281)	-0.037 (0.032)	0.116 (0.281)	-0.032 (0.032)	0.108 (0.277)	-0.034 (0.032)
Christian	-0.069 (0.233)	-0.012 (0.024)	-0.066 (0.234)	-0.011 (0.027)	-0.067 (0.233)	-0.011 (0.027)
Education level	-0.015 (0.118)	0.033+ (0.017)	-0.020 (0.116)	0.032+ (0.017)	-0.018 (0.117)	0.031+ (0.017)
Kin involved in business	0.075 (0.095)	0.034* (0.013)	0.071 (0.096)	0.033* (0.013)	0.069 (0.095)	0.033* (0.013)
Management practices score	1.855* (0.886)	0.162* (0.077)	1.861+ (0.900)	0.160+ (0.079)	1.863+ (0.921)	0.165* (0.076)
Cohort size	-0.007 (0.019)	-0.003* (0.001)	-0.008 (0.019)	-0.003* (0.001)	-0.008 (0.019)	-0.003* (0.001)
Community FE	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes	Yes
Survey wave FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1762	1762	1762	1762	1762	1762
Entrepreneurs	593	593	593	593	593	593

Note: The sample includes only post-treatment time periods. All models control for baseline value of outcome variable. Robust standard errors clustered by training cohort. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Appendix 14: Additional Family-Level Outcomes

This appendix reports two exploratory analyses of family-level outcomes that extend beyond the financial transfers analyzed in the main text. Both analyses rely on data reported by the focal entrepreneur about other family members and should be interpreted as suggestive evidence rather than as core findings. Both outcomes were measured in survey waves 3 and 4, and the spousal entrepreneurship outcome is restricted to the subsample of married entrepreneurs.

Table A14.1: Additional Family-Level Outcomes

	Spouse is Entrepreneur		Household Income (ihs; net of entr. transfer)	
	(1)	(2)	(3)	(4)
Family Participation Training	0.008 (0.015)	0.008 (0.017)	0.073* (0.032)	0.075** (0.026)
Ewe ethnicity		-0.003 (0.018)		-0.079* (0.037)
Christian		-0.001 (0.017)		0.025 (0.032)
Female		-0.004 (0.023)		0.042 (0.048)
Married		-0.014 (0.022)		0.083* (0.030)
Education level		-0.003 (0.011)		0.054** (0.016)
Kin involved in business		0.001 (0.005)		0.022 (0.014)
Firm age		0.001 (0.001)		0.005* (0.002)
Management practices score		-0.002 (0.038)		0.073 (0.075)
Cohort size		-0.000 (0.000)		-0.002+ (0.001)
Community FE	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes
Survey wave FE	Yes	Yes	Yes	Yes
Observations	721	721	1179	1179
Entrepreneurs	373	373	592	592
R^2	0.073	0.075	0.050	0.115

Note: The outcome in Models 1 and 2 is whether the entrepreneur's spouse is an entrepreneur, which was measured in the third and fourth surveys. The sample size is smaller in these regressions because the question was only answered by entrepreneurs who were married. The outcome in Models 3 and 4 was only measured in survey waves 3 and 4. Standard errors are clustered at the cohort level in all models. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Models 1 and 2 report the effect of the training on whether the entrepreneur's spouse is engaged in entrepreneurship. The estimated coefficient is small (0.008) and precisely estimated, but not statistically significant. I interpret this as evidence that the treatment did not lead to measurable increases in spousal entrepreneurship.

Models 3 and 4 report the effect of the training on household income measured net of financial transfers from the focal entrepreneur. The estimated effect is approximately 7.5% and statistically significant at the 1% level when controls are included. Because this measure subtracts transfers reported by the entrepreneur, it isolates household income generated through channels other than direct redistribution from the business. Several channels could plausibly produce this pattern, including reallocation of family members' time and effort in response to the changed business dynamics, increased in-kind support that does not flow through the entrepreneur's reported transfers, or other behavioral changes by family members that our data do not separately capture. It is not possible to discriminate among these channels with the available measures, and the paper notes that the outcome is self-reported by the entrepreneur about other household members and is therefore subject to the same measurement constraints discussed in the paper's limitations section. This finding is therefore suggestive and motivation for future studies that collect data directly from household members.

Appendix 15: Proxies for Family Attention

A potential concern with the design of this study is that the treatment training, in addition to teaching consultative voice routines, may have heightened entrepreneurs' attention to family relationships more broadly. Because the treatment foregrounds family throughout a two day curriculum while the control emphasizes business practices, the effects documented in the main analyses could in principle be driven by a generalized reorientation of attention toward family rather than by the implementation of structured voice routines per se. This appendix examines a set of proxy outcomes that would plausibly shift if the treatment worked primarily through heightened attention to family.

The proxies include: 1) the proportion of business employees who are family members; 2) gifts for family members; 3) whether the entrepreneur's spouse is involved in the business; 4) whether the entrepreneur is involved in the spouse's business; 5) hours spent caring for family members; 6-8) the importance entrepreneurs place on imagination, respect for others, and thrift as qualities to instill in children.

An entrepreneur whose attention to family has been heightened would plausibly draw family more centrally into business operations and would extend reciprocal engagement to the spouse's economic activities. A general increase in attention to family relationships might also manifest in greater time invested in family care. Also, if the treatment produced a deeper reorientation toward family, this could be reflected in shifts to the values entrepreneurs hold about family life and child-rearing.

Table A15.1 presents OLS estimates of the treatment effect on each of these eight proxies, using the same specification as the main analyses with robust standard errors clustered at the training cohort level. Of the eight outcomes examined, six show no statistically significant treatment effect. The two outcomes that show marginally significant effects are spouse involvement in the business and the entrepreneur's involvement in the spouse's business. These, however, move in the negative direction. That is, the treatment is associated with a reduction, not an increase, in spousal integration across business activities. Treatment effects on hours caring for family, the proportion of family employees, gifts to family, and the three family-values measures are all small in magnitude and statistically indistinguishable from zero.

These patterns provide suggestive evidence against an attention-based interpretation of the treatment effects. If heightened attention to family were the operative mechanism, the proxies in this appendix would be expected to shift positively. Instead, the treatment leaves most of these outcomes unchanged, and the two outcomes that do shift move in the opposite direction from what the attention account predicts. These results should be interpreted with appropriate caution. The proxies examined here are indirect measures of attention, not direct ones, and the design cannot fully rule out attention-based contributions to the treatment effect.

Table A15.1: Family Attention Proxies

	Prop. Employees Family	Gifts to Family	Spouse Involved	Involved in Spouse's Business	Hours Caring for Family	<i>Family Values</i>		
						Imagination	Respect others	Thrift
						(6)	(7)	(8)
Family Participation Training	-0.014 (0.012)	0.002 (0.003)	-0.036 ⁺ (0.017)	-0.096 ⁺ (0.051)	-0.691 (0.533)	-0.012 (0.008)	0.012 (0.009)	-0.017 (0.012)
Ewe ethnicity	-0.011 (0.012)	0.002 (0.003)	0.019 ⁺ (0.009)	0.015 (0.026)	0.539 (0.526)	0.019 (0.012)	-0.015 (0.011)	-0.012 (0.023)
Christian	0.017 (0.013)	-0.003 (0.004)	-0.011 (0.011)	0.020 (0.021)	0.344 (0.392)	0.002 (0.008)	0.008 (0.014)	0.010 (0.019)
Female	-0.015 (0.015)	-0.004 (0.004)	0.016 (0.010)	0.078* (0.032)	2.117** (0.336)	0.012 (0.013)	0.005 (0.004)	-0.018 (0.016)
Married	-0.014 (0.009)	-0.003 (0.002)	0.001 (0.036)	0.004 (0.031)	2.627** (0.382)	0.002 (0.005)	0.002 (0.005)	-0.021 (0.013)
Education level	-0.008 (0.005)	0.001 ⁺ (0.001)	0.017 (0.011)	-0.012 (0.013)	0.059 (0.258)	0.006 (0.005)	-0.001 (0.002)	-0.015 (0.010)
Kin involved in business	0.001 (0.004)	-0.002 ⁺ (0.001)	0.009 (0.009)	-0.015 (0.010)	-0.344* (0.150)	-0.004 (0.005)	-0.000 (0.002)	-0.006 (0.004)
Firm age	-0.000 (0.001)	0.000 (0.000)	0.001 (0.001)	-0.002 (0.002)	-0.083** (0.025)	-0.001 (0.001)	0.001 (0.001)	-0.002** (0.001)
Management practices score	-0.067* (0.032)	-0.002 (0.009)	-0.038 (0.039)	-0.045 (0.037)	-0.937 (1.321)	-0.021 (0.022)	-0.007 (0.011)	0.027 (0.051)
Cohort size	0.001* (0.001)	-0.000 (0.000)	0.001 (0.000)	0.002 (0.001)	-0.008 (0.016)	0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)
Community FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Survey wave FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1762	1756	1111	733	1757	599	599	599

Note: The sample includes only post-treatment time periods. Baseline observations of the outcome only available in Models 1, 2, and 5. Robust standard errors clustered by training cohort.

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

Appendix 16: Baseline Prevalence of Family Financial Pressure

The survey for this study did not collect information on requests for financial help from external family members at baseline. To make up for this, this section triangulates the prevalence of family financial pressure at baseline using a set of indicators collected as part of the original survey instrument. These indicators measure the extent to which entrepreneurs rely on family, the extent to which they experience financial constraints, the quality of relationships with family members, and the flow of profits to family members at the first time they were measured (survey wave 3). For these variables that were measured for the first time in the third survey wave, Table A16.1 reports values from the control group in that wave, to avoid contamination from the treatment.

Table A16.1: Baseline Prevalence of Family Financial Pressure

	Mean	S.D.	Min	Median	Max
Cites financing as main obstacle to growth	0.912	0.284	0.000	1.000	1.000
Family members informally involved in business (count)	1.759	1.154	1.000	1.000	9.000
Proportion of employees who are family	0.927	0.197	0.000	1.000	1.000
Disagreements with family monthly or more often	0.573	0.495	0.000	1.000	1.000
Family rated 'a little' or 'not at all' motivated	0.612	0.488	0.000	1.000	1.000
Saves on a regular basis (=1)	0.427	0.495	0.000	0.000	1.000
Monthly business savings as share of monthly profits	0.293	0.335	0.000	0.167	1.000
Could draw on 30 USD from savings in emergency (=1)	0.238	0.426	0.000	0.000	1.000
Could draw on 100 USD from savings in emergency (=1)	0.118	0.322	0.000	0.000	1.000
Transferred any business profit to kin last month	1.000	0.000	1.000	1.000	1.000
Percent of profits given to kin	0.697	0.103	0.333	0.700	0.933
Rows 1-9 are measured at baseline for the full sample (640 observations). The two variables “Transferred any business profit to kin” and “Percent of profits given to kin” (rows 10-11) were first measured in the third follow-up survey, the table therefore reports the control group mean in that wave (287 observations), to avoid contamination by treatment.					

Three patterns emerge from Table A16.1. First, at baseline, entrepreneurs depended extensively on family members. Every entrepreneur in the sample had at least one family member informally involved in the business, and on average 93% of employees, including both full- and part-time, were family members. This is consistent with the broader literature on micro-enterprises in sub-Saharan Africa, which documents that informal family labor and informal family claims go hand-in-hand (Jakiela & Ozier, 2016; Squires, 2024).

Second, almost all entrepreneurs report experiencing financial constraints at baseline. Ninety-one percent of entrepreneurs cited *financing* as the main obstacle to business growth at baseline. Relatedly, most entrepreneurs struggled to save at baseline. 57% of entrepreneurs reported they did not save on a regular basis, and the median entrepreneur saved approximately 17% of monthly business profits. Only 24% reported being able to draw 20,000 FCFA (roughly USD 30) from their savings to meet an unexpected business need, and only 12% could raise 60,000 FCFA (roughly USD 100) from their savings. The absence of liquid slack at baseline is consistent with the

theoretical claim that family claims on the entrepreneur's income absorb surplus that might otherwise be available for investment, precautionary saving, or contingency.

Third, when transfers to family members were first measured at wave 3, every control group entrepreneur was transferring some share of business profits to family. The average control group entrepreneur transferred 70% of their monthly profits, with the least generous entrepreneur still transferring 33% and the most generous transferring 93%.

Entrepreneurs also report challenging familial relationships at baseline. 57% of entrepreneurs reported monthly or more frequent disagreements with family members and 61% rated their involved family members as 'a little' or 'not at all' motivated to support them.

Taken together, these indicators suggest that the modal entrepreneur in the sample likely experienced significant external family member claims on business profits, as evidenced by their reported challenges, inability to save, and challenging relationships with kin. No single indicator captures the share of entrepreneurs who had been asked for financial help in the period prior to baseline, but the convergence across indicators supports the inference that at baseline entrepreneurs likely struggled with external family claims.

Appendix 17: Entrepreneur Self-Reported Changes

The analyses in the paper show that much of the treatment effect seems to have been mediated by the theorized changes in cross-domain financial flows and family motivation. To triangulate these mechanisms, I use self-reported descriptions of changes entrepreneurs made after the training program. During the first follow-up survey after the training program micro-entrepreneurs were asked an open-ended question about what the most significant change in their business had been since the training. Although micro-entrepreneurs responded in short sentences, I use these responses to see whether entrepreneurs' self-reports align with the previous mechanisms.

This survey question was originally intended to capture changes in business operations, rather than family interactions. As a result, its wording primed entrepreneurs to think of operational changes, since it listed "introducing a new product, improving facilities, hiring someone, using a new accounting method, cleaning the premises" as examples of changes. Nevertheless, despite being prompted to think about non-family related changes, a substantial number of entrepreneurs mentioned changes related to their family members. The question provided only enough space for a brief sentence description of the change. These were manually coded by the author to identify mentions of family members. About 22% mentioned family in their response to the question about change and 70% of these were part of the treatment group.

The answers with mentions of family were further coded using a research assistant to identify the kinds of changes entrepreneurs described when they mentioned family. The research assistant who coded the text was a doctoral student, trained by the author. Table A17.1 summarizes this coding and provides an illustrative example for each one.

This coding process yielded three types of changes. The first was *improvements in communication or collaboration* with family about the business. In these cases, entrepreneurs alluded to improvements in relationships with family members. About 74% of the responses mentioning family fell under this category. The second type of change was statements about receiving more *support from family members*. About 17% of family-related changes mentioned receiving more encouragement, financial support, or emotional support from family members. The remaining type of change, about 9% of cases, related to increased *exposure of family members to the business*. These changes mentioned that a certain family member, often a child or spouse, got to know the business better.

These self-reported types of changes align with the theoretical expectations of the treatment's impact. Family participation was designed to create opportunities for micro-entrepreneurs to have regular, structured conversations with their family members, which was supposed to improve exchanges about the business. According to micro-entrepreneurs' responses, they seem to have experienced more communication and report their family members as having more exposure to their businesses, both of which are elements of the family participation training. Moreover, the family participation training was designed to motivate family members to support the business,

which some micro-entrepreneurs also seem to have experienced when they referenced financial or emotional support from family members as an important change in their business.

These patterns provide some insights into what the treatment seems to have done for micro-entrepreneurs from the micro-entrepreneurs' perspective. These data provide some preliminary evidence that the treatment seems to have had the intended impact of giving voice to family members and motivated family members to support micro-entrepreneurs.

Table A17.1. How Micro-entrepreneurs Reference Family in Business Changes

Theme	Theme Description	Example response	Prevalence of theme
Improved family collaboration or communication about business	The entrepreneur reports better coordination, communication, or unity with family members regarding the business. This may involve fewer misunderstandings, more alignment around business goals, or less conflict over business decisions.	<i>"Better family relationships for the success of my business"</i>	73.6%
Increased support from family (spouse, parents, general)	The entrepreneur perceives that their family members (often specifically spouses, parents, children, or siblings) now offer more encouragement, understanding, financial backing, or emotional support for the business. This may not reflect direct involvement in operations but rather a shift in attitude, trust, or encouragement.	<i>"Support from my family in my work (morally and financially)"</i>	17.4%
Training or education of family	The entrepreneur has shown family members how the business works by sharing information about business tasks and involving them in decision-making.	<i>"Involving my children in my business so they understand what I do"</i>	9%

Appendix 18: Lagged Mediation Analyses

To assess whether the mediation results reflect common method bias arising from same-occasion self-report, I re-estimate the indirect paths with each mediator measured at wave t and the corresponding outcome measured at the subsequent wave $t+1$. For the downstream mediators this restricts estimation to the wave 3 $\rightarrow$ wave 4 transition ($N = 589$ entrepreneur-waves); for the family voice practices it uses the wave 2 $\rightarrow$ 3 and wave 3 $\rightarrow$ 4 transitions ($N = 1,174$). All other elements of the specification are unchanged.

The differentiated pattern observed in the contemporaneous analysis is preserved under temporal separation (Tables 6 and 8 in the paper). Table A18.1 shows that among the family voice practices, the family-budgeting practices retain large, significant indirect effects on both investment and profits, while seeking family feedback remains a null on both outcomes. Table A18.2 shows that among the downstream mechanism mediators, business-to-family financial flows transmit a robust indirect effect to both outcomes and the frequency of family disagreements is a precise null on both outcomes.

Table A18.2 shows some differences from Table 8 in the paper, namely that family motivation is not a significant moderator of the effect on investments, while family trust is a significant moderator of the treatment on investments. While these results diverge from those in Table 8, interpreting this warrants caution because trust and motivation are highly correlated ($r = 0.72$, see Appendix 7). Hence, in a multiple-mediator model their shared indirect contributions are likely partitioned imprecisely. As a result, the fact that the trust mediator appears statistically significant may be because it is absorbing part of the effect of motivation. I therefore interpret this analysis at the level of the overall pattern of mediation, rather than at the level of the relative magnitudes of individual, correlated mediators.

The existence of robust mediation channels and precise nulls under this approach to mediation, rather than all mediators being significant, suggests these relationships likely reflect substantive transmission rather than common-method artifact.

Table A18.1. Single-Mediator Causal Mediation Analysis of Lagged Family Voice Practices

Mediator	Outcome: Investments		Outcome: Profits	
	ACME	95% CI	ACME	95% CI
Writing family budget	3.791	[1.569, 7.055]	0.275	[0.124, 0.449]
Using budget for investment discussions	3.807	[1.806, 6.447]	0.291	[0.147, 0.501]
Seeking family feedback	0.028	[-0.056, 0.229]	0.006	[-0.001, 0.013]

Notes. $N = 1,174$ entrepreneur-wave observations across post-treatment waves. In this specification the outcome is measured one wave after the mediator (mediator at wave t , outcome at wave $t+1$). ACME = average causal mediation effect (Imai et al., 2011). The ACME for each practice is estimated separately in its own single-mediator model.

Table A18.2. Multiple-Mediator Causal Mediation Analysis of Lagged Downstream Mechanisms

Mediator	Outcome: Investments		Outcome: Profits	
	ACME	95% BCa CI	ACME	95% BCa CI
Family motivation	-0.021	[-1.162, 1.077]	0.091	[0.051, 0.195]
Trust in family	1.072	[0.300, 2.291]	0.044	[-0.031, 0.102]
Frequency of disagreements	-0.107	[-1.267, 0.766]	-0.037	[-0.088, 0.018]
Business-to-family financial flows	0.791	[0.388, 1.118]	0.070	[0.034, 0.096]

Notes. N = 589 entrepreneur-wave observations across post-treatment waves 3 and 4. In this specification the outcome is measured one wave after the mediator (mediator at wave t, outcome at wave t+1), introducing temporal separation between the two self-reported variables. The reduced sample reflects the loss of firm-waves with no subsequent observation. ACME = average causal mediation effect (Imai et al., 2011), estimated using a multiple-mediator specification in which each focal mediator's indirect effect is estimated controlling for the other three mediators in the outcome model. 95% bias-corrected accelerated (BCa) confidence intervals from cluster-bootstrap resampling at the cohort level with 1000 replications.

Appendix 19: Power Calculations

The statistical power of a field experiment is the probability that it will reject a null hypothesis when that null hypothesis is truly false. In the context of experiments evaluating the efficacy of training programs, such as the present study, the null hypothesis is that the training had no effect on profits. Prior studies with similar nulls have relied on a wide range of sample sizes. At the lower end, studies like Agarwal et al. (2025)) and Chatterji et al. (2019) have samples of about 150 participants, while larger entrepreneur training studies like Davies et al. (2024) or Campos et al. (2017) have over 1500 participants. The majority of studies, however, have tended to use samples of 200-400 individuals (McKenzie et al., 2025).

McKenzie and Woodruff (2014) argue that for an entrepreneur training program to be impactful in the context of a developing country, it would not be unreasonable to expect it to achieve increases in revenues and profits of around 25%. This would mean that a business earning \$100 a month and \$1200 a year (which is a little over average income per capita in Togo) would generate \$300 more a year after the training, which would meaningfully improve the entrepreneurs' life. Most studies surveyed by McKenzie and Woodruff (2014) with sample sizes under 400 participants are not adequately powered to detect a 25% increase in profits. Given this, the starting point for this study was to recruit more than 400 participants.

Building on this, I used the Stata program “clustercampsi,” which allows for cluster randomized control trials (Hemming & Marsh, 2013), to estimate the required sample size to detect a treatment effect of at least 25%. Assuming a power of 80% and a significance level of 5%, I assumed the average cluster size would be 25 entrepreneurs and there would be 10 clusters per arm (so a total of 20 clusters). I also assumed an intra-cluster correlation (ICC) of 0.27 for the outcome variable, which is what was reported in Dimitriadis and Koning (2022). Under these assumptions a sample of 500 would enable me to detect a minimum change in profits of 7.5%. Given the goal of detecting an effect size of 25% and given that in practice some of the assumed conditions might not be met, I pre-registered a target sample size of 600.

In practice, the early training cohorts had higher levels of no-shows, which meant that we needed to add 4 more training cohorts to reach the goal of 600 participants. In doing so, a few more participants attended than expected, leading to a final sample size of 640.

Given that the execution of the field experiment deviated from some of the assumed parameters, I use simulations to explore the ex post power to estimate the observed effect size. I rely on `pc_simulation` (Burlig et al., 2020) to use the actual observed data from the experiment to estimate the ex post power. Given that the observed treatment effect (the difference between profits (ihs) for treatment and control groups) is on average 0.25, when we enter the details of the estimation approach used in the paper [Stata command: `pc_simulate ihs_profits_monthly_winsorized, model(ANCOVA) mde(0.25) i(ID) t(wave) p(0.5) pre(1) post(3) absorb(act commune wave) vce(cluster cohort)`] the resulting power is 100%. This suggests that the field experiment is adequately powered to detect the main result in the paper.

Appendix 20: Experiment Pre-Registration

The experiment in this study was pre-registered before data collection began on the Open Science Framework (OSF). The registration included details about the data collection process, sample size, the hypotheses to be tested, and the regression models to be used to test these hypotheses. At the time of registration, the training that was the focus of the experiment was called a family business practices training, rather than a participative approach to family training. This label was chosen at the time because it aligned more closely with the training materials, which did not explicitly mention participative management theory even though they were inspired from it. The ANCOVA and the diff-in-diff regression models used in this paper to test the hypotheses were both pre-registered.

The main way in which this study deviates from the pre-registration is in the ordering of the hypotheses and their positioning in the study. The original pre-registration listed six hypotheses. These included the two key hypotheses discussed in this study: investments (H1) and profits (H2). The other four are tested in this paper, but not discussed as hypotheses. Hypothesis 6 is tested in Table 3, while hypotheses 3, 4, and 5 are tested in Table 5 in the paper. These are described as mechanisms, rather than hypotheses in this study.

An anonymized version of the pre-registration can be accessed here:

https://osf.io/9xcgf/?view_only=a84c2a5948af4f02a38d0bcc0e7ec39b

References

- Agarwal, R., Bacco, F., Camuffo, A., Coali, A., Gambardella, A., Msangi, H., Sonka, S., Temu, A., Waized, B., & Wormald, A. (2025). Does a theory-of-value add value? Evidence from a randomized control trial with Tanzanian entrepreneurs. *Organization Science*, 36(2), 601–625.
- Anderson, S. J., Chandy, R., & Zia, B. (2018). Pathways to profits: The impact of marketing vs. finance skills on business performance. *Management Science*, 64(12), 5559–5583.
- Anderson, S. J., Lazicky, C., & Zia, B. (2021). Measuring the unmeasured: Aggregating, anchoring, and adjusting to estimate small business performance. *Journal of Development Economics*, 151, 102655.
- Burlig, F., Preonas, L., & Woerman, M. (2020). Panel data and experimental design. *Journal of Development Economics*, 144, 102458.
- Campos, F., Frese, M., Goldstein, M., Iacovone, L., Johnson, H. C., McKenzie, D., & Mensmann, M. (2017). Teaching personal initiative beats traditional training in boosting small business in West Africa. *Science*, 357(6357), 1287–1290.
- Chatterji, A., Delecourt, S., Hasan, S., & Koning, R. (2019). When does advice impact startup performance? *Strategic Management Journal*, 40(3), 331–356.
- Davies, E., Deffebach, P., Iacovone, L., & McKenzie, D. (2024). Training microentrepreneurs over Zoom: Experimental evidence from Mexico. *Journal of Development Economics*, 167, 103244.
- De Mel, S., McKenzie, D. J., & Woodruff, C. (2009). Measuring microenterprise profits: Must we ask how the sausage is made? *Journal of Development Economics*, 88(1), 19–31.
- Dimitriadis, S., & Koning, R. (2022). Social skills improve business performance: Evidence from a randomized control trial with entrepreneurs in Togo. *Management Science*, 68(12), 8635–8657.
- Hemming, K., & Marsh, J. (2013). A menu-driven facility for sample-size calculations in cluster randomized controlled trials. *The Stata Journal*, 13(1), 114–135.
- Imai, K., Keele, L., Tingley, D., & Yamamoto, T. (2011). Unpacking the black box of causality: Learning about causal mechanisms from experimental and observational studies. *American Political Science Review*, 105(4), 765–789.
- Jakiela, P., & Ozier, O. (2016). Does Africa need a rotten kin theorem? Experimental evidence from village economies. *Review of Economic Studies*, 83(1), 231–268.
- Lee, D. S. (2009). Training, Wages, and Sample Selection: Estimating Sharp Bounds on Treatment Effects. *Review of Economic Studies*, 76(3), 1071–1102.
- McKenzie, D. (2021). Small business training to improve management practices in developing countries: Re-assessing the evidence for ‘training doesn’t work’. *Oxford Review of Economic Policy*, 37(2), 276–301.
- McKenzie, D., & Woodruff, C. (2014). What are we learning from business training and entrepreneurship evaluations around the developing world? *World Bank Research Observer*, 29(1), 48–82.
- McKenzie, D., Woodruff, C., Bjorvatn, K., Bruhn, M., Cai, J., Gonzalez-Uribe, J., Quinn, S., Sonobe, T., & Valdivia, M. (2025). Training entrepreneurs. *VoxDevLit*, 1(4).
- Squires, M. (2024). Kinship taxation as an impediment to growth: Experimental evidence from Kenyan microenterprises. *Economic Journal*, 134(662), 2558–2579.

- U.S. Department of State. (2023). *2023 Investment Climate Statements: Togo*. Retrieved Aug 22, 2024.
- World Bank. (2020). Performance and learning review of the country partnership framework for the Republic of Togo. In Report No. 139734-TG.

