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Financial Literacy In Developing Countries

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Abstract

This paper includes two parts: a guide to implementing a financial literacy program as well as a survey to evaluate the effectiveness of the program. The guide was developed through a literature review on financial literacy interventions in developing countries. Best practices on enrollment, training, and support post training are included. Generally, there is heterogeneity in the results of trainings but those which were the most successful were targeted to the specific needs of different socioeconomic groups. The survey is intended for use by Tostan, a nonprofit in Senegal, and other nonprofits who want to evaluate their financial literacy programs. The survey uses best practices in development economics to try and measure how financial literacy levels, behavior, and wellbeing change depending on involvement in an intervention.

Keywords

Interview, Financial Literacy, International Development, Survey

Disciplines

Business | Growth and Development | International Economics

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Designing a financial literacy intervention and evaluation for use by Tostan and other organizations working in developing countries

Key Words: Interview, Financial Literacy, International Development, Survey

Summary:

This paper includes two parts: a guide to implementing a financial literacy program as well as a survey to evaluate the effectiveness of the program. The guide was developed through a literature review on financial literacy interventions in developing countries. Best practices on enrollment, training, and support post training are included. Generally, there is heterogeneity in the results of trainings but those which were the most successful were targeted to the specific needs of different socioeconomic groups. The survey is intended for use by Tostan, a nonprofit in Senegal, and other nonprofits who want to evaluate their financial literacy programs. The survey uses best practices in development economics to try and measure how financial literacy levels, behavior, and wellbeing change depending on involvement in an intervention.

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Best Practices for Designing a Financial Literacy Intervention in a Developing Country

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Introduction

The purpose of this paper is to help an organization design an impactful financial literacy training in a developing country based on existing literature and an analysis of previously implemented programs. A well-designed financial education program improves financial literacy levels as well as improves financial behaviors such as defaulting, keeping financial records, and saving.

This paper will break down the process of financial literacy training into 3 steps. The first is enrollment. This step addresses who the training should target and how to do so. The second step is the training itself. This part will identify different types of financial literacy training and ways to create engaging trainings. The third step is the application of the training and supporting the subsequent behavior change among individuals after the training. This part will discuss the impact of trainings and how positive behavior change can be sustained.

Financial literacy is a complex topic that varies with regional and demographics contexts. Before putting on a financial literacy training it is important to study the level of financial literacy across different groups. Targeted financial education is most important. Programs that are targeted to the needs of specific groups are more likely to be effective than cookie cutter financial education programs (Lusardi 2014). A deep understanding of the financial institutions and needs of the people will be helpful for every part of implementing a training.

Enrollment

Most interventions randomly assigned invitations to a pre-existing group of people using existing networks such as members of a microfinance or co-operative group.

Encouraging sign up and attendance to financial literacy training is difficult. It requires a significant time commitment from populations that usually experience time poverty. A financial literacy training in Mexico that sent out 40,000 invitation letters only saw a 0.1% response rate. And even when participants were offered $72 to attend, the majority of people who expressed interest did not attend (Bruhn, 2014). The financial literacy training in Mexico tested multiple ways to incentivize attendance and found that providing transportation was not enough to encourage participation. They conclude that low take up is not due solely to high discount rates, time poverty, or lack of information, but that the individuals perceive the benefits of attending as not high enough (Bruhn, 2014). This can be overcome by better tailoring the trainings to the needs of those attending or offering monetary incentive for participation. In this intervention they found that providing both current and deferred monetary payments increased attendance rates by ten percentage points. Sending personalized messages can also increase the perceived usefulness of training because the messaging can be targeted to a specific need. For an intervention offering training on rainfall insurance, the treatment group received a visit with a message inviting them to participate in the training and 75% of those who were invited attended the trainings (Gaurav, 2011).

Previous financial literacy trainings show heterogeneity in who learns about, signs up, and attends the trainings.

A managerial intervention in Vietnam quantified that being male increased the likelihood of participating in the program by twenty percent (Sonobe, 2011). Higher male participation can be explained by constraints that many women face such as lack of decision-making power within the household, time poverty, and lack of knowledge of programs. However, previous surveying of financial literacy levels reveals that women are more likely to report that they do not know the answer to a question which reveals awareness of their own financial literacy levels (Lusardi and Mitchell, 2014). Those who are more aware of their own financial literacy would be more motivated and more likely to respond to training. This, along with the stark differences in financial literacy levels between men and women, may make women ideal targets for financial literacy programs (Kokkizil, 2017). Indeed, research has shown that educating people on retirement increases rates of retirement planning, especially for women (Clark et al. 2004). Thus, special attention must be made to reach out to women such as through women only cooperatives or offering childcare services.

Sonobe et al. (2011) also found that being younger by one year increased the likelihood of participating in a managerial training by one to two percent. Younger participants might experience larger lifetime benefits from a financial literacy training than older participants. For example, starting to save early in adulthood will bring more lifetime benefit than later in life. Additionally, younger people may be more open to adapting new behaviors but have less access to them. In a survey of youth in Ghana and Kenya, those who were older (20-24) had more access to financial information and the use of financial services than younger people (15-19) (Intermedia, 2010). Lower levels of financial literacy, an openness to learn, and higher attendance to trainings make the youth a target for future programming. A meta-analysis of financial literacy literature confirms that the older the target group, the smaller the impact of the financial literacy intervention (Kaiser, 2017).

In a business training in Bosnia and Herzegovina, it was found that people who lived in rural areas were less likely to attend the training despite the program offering free travel (Bruhn 2011). It is possible that the greater travel time deterred people who signed up for the program from actually attending. Special attention should be given to the rural population as a group that is more vulnerable to financial shocks. For example in Ghana, 52% of urban adults have commercial bank accounts versus just 21% of rural adults (Xu, 2012). When controlling for other factors such as income, differences in region were found to drive one to two points in financial literacy scores, with rural regions scoring lower (Kokkizil, 2017).

Skill level and education are also determinants of which people who learn about the program eventually enroll and attend. In a business training in Tanzania, it was found that people who had more schooling, were more skilled in math, and had more experience, expressed interest and attended the programs at higher rates (Bjorvatn, 2009). A financial literacy film was more likely to attract higher educated viewers (Coville, 2014). Sonobe (2010) also found that entrepreneurs with better experience and knowledge were more likely to come. This is possibly driven by a knowledge gap which causes less experienced individuals to become discouraged from attending. It is also possible that programs experience selection bias and are reaching out to higher educated individuals. An intervention which distributed DVDs to participants found that higher educated individuals were more likely to have gotten the DVDs (Spader, 2009). It is important that implementers take special care to reach out to those with lower skill levels and support them all the way up to attendance in the training. This is crucial as those with lower education level and experience have the highest learning potential (Bjorvatn, 2010)

For businesses, it was found that entrepreneurs with smaller businesses were more likely to attend training (Sonobe, 2010). De Mel (2019) found that micro-entrepreneurs with lower asset levels were more likely to come to training. This may be because the opportunity cost of leaving a large business to attend the training may be too high. Smaller businesses may also perceive larger gains for business growth from the training.

Social networks were shown to be a tool which can encourage participation in interventions. A financial intervention on university employees showed that employees in departments with treated individuals who were offered monetary incentive to go to the training were three times more likely to attend the training than employees in departments without treated individuals (Duflo, 2011). In other words, the presence of treated individuals in a department increased the chances that other employees within that department attended the training. This points to spillover social effects in attendance. It has been shown that strong social networks exist in promoting uptake of behaviors especially in developing countries. For example, farmers in Ghana changed their input levels depending on information about profitability from neighbors and friends (Conley 2010). Similarly, in Kenya it was shown that a financial literacy intervention was more successful in encouraging uptake of formal financial goods when the farmer's social contacts were receiving similar access to the intervention (Giné et al. 2013). In China the presence of social networks increased the chances of someone purchasing weather insurance (Cai, 2013). These findings suggest that financial literacy programs should leverage similar and existing social networks such as community groups as a cost-effective way to reach out to and encourage attendance of more people to financial literacy interventions.

Training

The three key considerations for a training are what and how the content is taught, how long the training lasts, and the channel of delivery for the content.

Content

There are 4 different types of content usually covered by financial literacy training:

- Financial service use
- Day to day cash flows
- Planning for the future
- Enabling behavior such as confidence and trust building

"Financial service use" is about helping people become familiar with and aware about the financial institutions available and how they can sign up and best benefit from those tools. The FinScope survey which measured the financial literacy levels in 14 African countries found high levels of lack of awareness of financial products (Xu, 2012). These trainings attempt to bridge that gap. For example, an intervention introduced 600 Indian farmers to rainfall insurance and the severity of frequent natural disasters (Gaurav, 2011). Another training taught farmers what the requirements were to open up a bank account. Developing countries are seeing changing financial landscapes with the introduction of new products such as mobile money (Kose, 2014). Furthermore, Carpena (2011) finds it is relatively easier to increase awareness of financial tools through trainings. A foundational understanding of the financial products and financial planning tools available to people is important in enhancing financial knowledge (Carpena, 2011).

"Day to day cash flows" are trainings which cover money management and decision making. This includes training on budgeting and differentiating expenses. For example, a quasi-experiment in Uganda taught farmers the differences between unnecessary and productive expenditures (Stuart, 2012). For trainings targeted toward entrepreneurs, participants will learn skills such as record keeping and management (Miller, 2014). These daily calculations all require foundational math abilities. Providing training in basic numeracy is necessary in improving financial literacy (Miller, 2014). Indeed, there is a strong positive correlation between financial literacy levels and mathematical abilities, and it is important to teach both to improve savings behaviors (Carpena, 2011). However, it is important to keep the numeracy trainings foundational, as understanding how to calculate complex values such as interest rates may be less important than awareness of those concepts.

"Planning for the future" are trainings which help individuals smooth consumption over their lifetime and plan for future unexpected events. This includes making plans about the future, saving for contingencies, and buying insurance. In developing countries, there are very few trainings which teach about long term saving such as retirement saving.

Building the enabling conditions that allow people to actually practice good financial behavior supports all types of financial literacy knowledge. For example, many programs involve goal setting during the intervention and for the future. Goal setting can be used as an accountability measure to encourage people to sustain behavior change. These goals are usually set and shared within a group of people that trust each other such as an advisor or a community group. In a financial literacy training for foreign workers in Singapore, women in peer support groups announced to other group members their goals, challenges and successes (Barua, 2012). When goals are met, women are rewarded with certificates and badges to reinforce the positive behavior. It was also found among high school students that motivation and goal setting are important ways to increase the impact of trainings (Mandell, 2007). Young people will engage more with the material and see higher impact from the training. An intervention in Kenya found that participants who gave themselves long term goals saw higher impact from the intervention than participants who gave themselves short term goals (Eissa, 2014). However, it is important that the participants are guided to make attainable goals and break down their long term goals into short term steps. A business training for small enterprises in Mexico had entrepreneurs work with their consultants to create specific and actionable goals for the duration of the intervention as well as into the future (Bruhn, 2014). Setting goals helps the implementers understand the needs of the participants so they can create a pathway for motivation and a strategy for achieving those goals. Goals that may be unattainable or overwhelming can have negative effects. In Singapore, low income participants became more pessimistic after the intervention because they believed their incomes were too low to achieve any savings (Barua, 2012). It may be possible to create broad goals that are similar for different socio-economic groups. In a business training for female entrepreneurs in India, women were encouraged to identify concrete financial goals that they wanted to achieve over the 6 months of the intervention. It was found that across social groups, women set very similar business and financial goals for themselves (Field, 2010). Organizations may be able to leverage these similarities to help people create attainable goals based on what goals were set by others in the same socio-economic group.

There are many other barriers cited in the behavioral finance literature such as loss aversion, procrastination, and information overload that may limit the effectiveness of financial literacy training (Holzman, 2010). Additionally, marginalized groups may face broader barriers such as restrictive legal and cultural norms. These are all barriers that an implementer of a financial literacy training should keep in mind but are harder to affect.

Most financial literacy intervention covers all four different types of content. This is logical because oftentimes financial behavior involves making many different decisions. Trainings with one goal show lower levels of success because it might be optimal for people to do different things (Lusardi and Mitchell, 2014). Thus, financial literacy training should take into account the rational decisions an individual might make in the face of many different constraints.

In addition to the subject matter of the training, there are three elements of program designs that can make delivering the content of financial literacy trainings more effective.

Simplicity

Financial literacy is a very complex topic and there are low levels of financial literacy globally. Trainings should focus on delivering content simply. In the Dominican Republic it was found that a rule of thumb training significantly improved businesses' financial practices and had an even bigger impact for entrepreneurs with lower baseline skills (Drexler, 2014). The "rule of thumb training" teaches participants simple heuristics when encountering financial situations rather than explaining the underlying reasoning. Generally, the difficulty level of the training should be targeted toward the experience level of the participants. The rule of thumb training had an impact on entrepreneurs with smaller businesses but less of an impact on more advanced businesses (Bruhn, 2011).

Relevance

Financial literacy training should aim to be as relevant and applicable to the participant's life as possible. In an intervention where the treatment group participated in a financial literacy intervention and the control group participated in a health training, the control group learned more from the health training than the treatment did from the financial literacy training (Carpena, 2011). This may be because the health training taught about subjects that were more concrete, tangible, and impacted the person directly. A good intervention should frame financial literacy as having that applicability. In a training for Brazilian high school students, the case study part of the training was rated the highest (Lundberg, 2014). The students reported that the case studies allowed them to connect the lessons to their daily life. Role playing and storytelling can be leveraged as a way for people to connect the training with real life events. For example, a soap opera with a financial education storyline was played in South Africa over a period of two consecutive months to give viewers time to emotionally connect with the characters and their problems (Berg 2013). The soap opera followed the life of someone who overspent and how that impacted his family and homelife. The emotional connections that people made with the characters was important in motivating viewers to change their behaviors.

Another key barrier in financial literacy uptake is the lack of trust in financial institutions and the fear of being scammed. For example, in Kenya, about 50% of people believed insurance agents were recruiting people fraudulently (Xu, 2012). Increasing knowledge about financial institutions is key to helping people feel more confident as well as better equipped to identify fraud when it happens. In the same Kenyan survey, it was found that around half of Kenyans who use insurance still thought that the product was not explained well by the company (Xu, 2012). Similarly, in India, there is low uptake of rainfall insurance because farmers worry that insurance companies will take advantage of their lack of knowledge. A telenovela intervention that explained the process of banks and showed positive interactions with an agent was able to increase trust in bank accounts and lead to higher levels of savings (Spader, 2009).

Implementing financial education at "teachable moments" when participants can apply what is learned in the training can also reinforce behaviors. These moments include signing up for insurance or taking out a loan, right after learning how to do so. In a financial intervention intended to increase savings for Malawi farmers, farmers in the treatment group were making allocations decisions in the "cold state" before receiving proceeds from tobacco sales (Brune, 2010). The results of the intervention revealed that funds in accounts were withdrawn quickly rather than saved after the initial deposit of crop proceeds. Kaiser (2016) quantified the importance of timing based on a meta-analysis and found that offering financial education at teachable moments increased effect sizes by 0.079 standard deviations.

Pairing interventions

Pairing interventions is a way to create teachable moments as you can give participants assets that they can use to practice what they learned. Many interventions will target the teachable moments by providing training to individuals who are already part of a financial institution. For example, an intervention in rural India partnered with a microfinance company to provide training on saving behavior right after individuals received their loans (Bali, 2010). The intervention can also create teachable moments by providing opportunities to practice behaviors. After the screening of a Nigerian movie about proper financial behavior, entrepreneurs were able to talk with microfinance counselors and sign up for savings accounts. Providing an option to sign up for savings accounts right after the movie, channels the agency of people to immediately act on new information they learned (Coville, 2014). To facilitate savings for farmers in Malawi, one intervention provided farmers with a formal savings account after receiving the training. The account helped farmers save between harvests and lead to increases in agricultural productivity (Brune, 2015). Providing financial tools can create teachable moments but they can also overcome many other barriers in the uptake of financial tools. For example, opening bank accounts on your own requires time, resources, and knowledge. When households in India were given access to bank accounts after receiving a financial literacy training, formal savings rates in poor households increased (Calderone, 2014).

Financial literacy interventions have worked better when paired with providing people an asset such as money, technology, or livestock by encouraging participation in the training, allowing the participant to more readily practice the behaviors learned in the interventions, and smoothing consumption (Banerjee, 2015). In India, financial education was found to be 16% more effective when combined with a full premium payback guarantee on insurance (Gaurav, 2011). In an intervention across six countries, participants were given a list of productive assets to choose from then given training on the asset as well as general life skills coaching. Two years after participating in the program, households report higher per capita consumption, increased household assets and revenue, and increased health (Banerjee, 2015). The impact of providing additional assets seem to be long lasting. In India and Indonesia offering monetary incentive to create bank accounts increased the usage of bank accounts to deposit, withdraw, send, and receive funds which lasted two years after the initial intervention (Cole, 2009). In an intervention in Sri Lanka that provided loans to participants, it was found that information alone was unlikely to be enough to increase loan usage (de Mel, 2011). The positive impact of offering assets is even greater for females. In a business training for entrepreneurs in Central America, it was found that females who receive financial support as well as training were much more likely to start a business than those who just received training (Klinger, 2007). This difference may suggest that women face larger financial constraints.

Duration

The duration of a financial literacy training impacts its effectiveness. Kaiser (2016) showed that an increase in one hour of financial education per week led to a 0.004 standard deviation unit increase in the impact on good financial behaviors. However, this impact is limited. Clancy et al. (2001) found a small window of positive effects on savings for only the first 0-12 hours of education, suggesting that financial literacy exhibits decreasing marginal returns. Cole (2011) also found that short trainings which were less than five minutes were not effective. Lusardi and Mitchell (2014) note that because such a large portion of the population has low baseline financial literacy levels, it is unlikely that short exposure through one event will change participants' behaviors.

There are potential limitations to the existing conclusions on what is the most effective duration of a training. The sample size becomes very small after a certain duration because most interventions last less than 10 hours in total program time (Miller, 2014). Thus, it is unclear what exactly is the upper limit of financial trainings where the impact starts plateauing. Furthermore, the positive effects from longer duration are driven by interventions focused on savings and borrowing behavior (Kaiser, 2016). This may be because savings and borrowing are behaviors which require repetition to become long lasting habits in a person's life. There is limited evidence on how increased duration of trainings impacts other financial behaviors.

Another consideration for timing is that the longer the training the higher the chance of attrition. In a business training for female entrepreneurs in Peru, the most often reported reason when participants were asked why they stopped coming to the training was that the meetings were too long or that they were far away (Valdivia, 2006). This may be compounded for marginalized groups that face time poverty issues. For example, women respond better to interventions in the afternoon because in the morning they have more childcare and home responsibilities.

Channel

Holtzmann (2010) identified 4 delivery mechanisms for financial literacy programs.

1) The most common is formal financial education. These are one-on-one or classroom based. For example, targeting school children. Most interventions in developing countries are in person with a teacher in a classroom setting (Frisancho, 2019). Much fewer have one on one support (Miller, 2014).
2) To target people working in the informal economy, some interventions use social marketing and edutainment. These include radio and TV interventions.
3) Financial education for micro-enterprises target skills needed to run a business. Due to the high rates of entrepreneurship in developing countries, business training is a common form of financial literacy program (Miller, 2014).
4) The government also provides financial literacy opportunities through government to people transfers such as conditional cash transfers.

Generally, classroom training appears to be more effective than non-classroom training for financial literacy levels but not in changing financial behaviors (Kaiser, 2016). A business literacy training in Mexico found that small classroom sizes of no more than 25 entrepreneurs per two teachers helps facilitate participation during the training (Calderone, 2019). Some interventions also leverage the impact of the community on changing behaviors by applying peer-based learning into the classroom. In an intervention providing financial education to foreign domestic workers in Singapore, classes were organized and led by participants so that the material taught was tailored to the needs of the group (Barua, 2012). In a training for Brazilian high school students, students who were put into groups to work on assignments together were more likely to talk to their parents about finances (Lundberg, 2014).

A small number of financial literacy interventions use mass media outlets such as TV shows and radio (Miller, 2014). Mass media and edutainment is easier to implement and has shown short term success in changing financial behavior. In a soap opera aired in South Africa, attrition was low, with 93% of the baseline participants watching the entire soap opera and participating in the follow up survey (Berg, 2013). A telenovela encouraging Mexican immigrants to use banks was successful in increasing trust in banks (Spader, 2009). Different media outlets can also be used for different demographics. For example, women are more likely to spend time at home and be reached by radio and telenovelas. Special attention should be paid to creating storylines that are representative of the experience of the target demographic. For example, including young people in a financial literacy TV show that targets high school students. Generally, having multiple types of media is more effective than a course with just one type of delivery channel (Miller, 2014).

A limitation of mass media is that the impact seems to be short term rather than sustained. Lack of retention of information has been a concern when sending public service messages through mass media channels (Berg, 2013). This can be circumvented by delivering complementary interventions and scheduling regular reappearances of characters. The short-term impact can also result in behavior changes if there is an opportunity to act right after the intervention (Lundberg, 2014). These behaviors should be one-time actions that have long term impact. For example, signing up for a bank account and getting vaccinated. Budgeting would be harder to influence because it is a behavior that requires sustained actions for continuation of impact.

For both classroom and mass media channels, it is important to help participants practice and to incentivize good behaviors. Most interventions have homework and exercises that participants complete that supplement their training (Sarr, 2012). In Indonesia, participation in the financial education program required people to save $5 a month (Barua, 2012). In an Indian rainfall insurance intervention, farmers would play a game that simulated the effects of insurance (Gaurav, 2011). An intervention for Brazilian high schoolers took students to local markets and companies to learn how they operate (Bruhn, 2014). For interventions that provide additional assets, they can be used not only as a tool to help people practice financial literacy but also a way to incentivize and reward people for coming to the training. Practicing these behaviors can be supported by many types of positive reinforcement and not just assets. Giving out rewards such as certificates and badges has been successful at motivating behavior (Barua, 2012). A theater road show hosted by Visa gave out free FIFA tickets to those who came to the show (Visa). These rewards can be given out based on performance on tests, engagement in trainings, and completion of exercises.

Application of Training

Financial education can improve financial knowledge but has mixed results in improving financial behaviors (Kaiser, 2016). Specifically, financial literacy programs seem to consistently improve saving rates and record keeping but have less of an impact on borrowing behaviors such as loan defaults. Miller et al. (2014) argued that financial education had more of an impact when the behavior measured was one that the individual had greater control over. Savings and record keeping are decisions that can be made by an individual, while loans are influenced by banks and external economic shocks.

Changing financial behavior involves barriers beyond knowledge. Additional barriers include lack of assets, psychological barriers, and repressive social norms. Financial literacy training is also hard to put in practice during times of shortage and financial difficulty. However, sustained long term impact of a financial literacy training is important because an important financial decision point such as a birth, starting a new business, or a marriage may not happen until years after the training (Gray, 2009).

In previous interventions it was found that repetition of exposure and peer communities can support long term impact for people post intervention.

Social networks are useful not only to encourage enrollment to a program, they are useful in ensuring sustained impact after the program is over. In India, it was found that individuals in an area where neighbors or friends were distributed financial literacy materials were more likely to purchase insurance (Giné, 2012). A similar phenomenon was found in China where insurance uptake increased when friends of individuals attended training sessions (Cai, 2013). These social networks can be used to follow up on people as accountability measures after the training is over. For example, in Singapore, participants in the training were matched with each other. Through the training and afterwards, they were encouraged to send out weekly inspirational SMS messages and reminders to meet their financial goals (Barua, 2012).

Longer term change can be supported by repetition of exposure to messages from the training. In a business training in Tanzania, the training had the longest impact for those who participated most frequently in the course (Bjorvatn, 2009). In edutainment, Berg (2013) finds that scheduling regular reappearances of characters from a soap opera led to greater retention and continuation of impact. In addition to increasing retention of information, repetition can be used to form good habits that participants sustain after the training. For example, a training can encourage participants to use diaries to track how they apply the learnings from the training. At the end of the training, participants have formed a habit of tracking their expenses and are more likely to continue the behavior.

Conclusion

In order to conduct a good financial literacy training, organizations should be intentional about the enrollment process, the training itself, and the support offered after the training.

Encouraging sign up and attendance is difficult in developing countries due to time poverty, perceived lack of usefulness of the training, and other systemic barriers. There are certain groups which face larger barriers to attendance. Women are less likely to attend trainings when previous research shows that women may benefit more from attending trainings due to the self-awareness of their financial literacy levels as well as their vulnerability to financial shocks. Similarly, those who live in rural areas are less likely to attend trainings when they are a population more exposed to risk. Women, those who live in rural areas, and those who have lower education levels may be both under-targeted by programs as well as face additional barriers to attending. Enrollment should target the people who are the most disadvantaged and can benefit the most from the program. Additionally, leveraging peer groups has been shown as an effective way to encourage attendance especially from marginalized communities.

The delivery of the training depends on the content, the duration, and the channel of delivery. There are four different types of content that trainings usually cover: financial service use, day to day cash flows, planning for the future, and promoting enabling behavior. The most effective financial literacy interventions have taught a mix of these topics in a way that is simple to apply, relevant to the participant's needs, and is paired with another intervention. There is mixed evidence on the exact window of time that a financial literacy program should last. However, it is clear that financial literacy training experiences diminishing marginal returns. The longer the intervention the more impactful it will be, but at a certain point the impact does level off. Financial literacy programs have been delivered in four different channels: formal financial education, edutainment, trainings for business owners, and government cash transfers. Amongst the different types of delivery, in person trainings have been more impactful while edutainment has shown short term success. For any channel, a good intervention encourages participants to practice and incentivizes good behavior.

Financial literacy trainings improve financial knowledge but have lower impact on financial behaviors, especially behaviors which are subject to external shocks. Changing behaviors involves barriers beyond a lack of knowledge and long-term impact is difficult to sustain during times of hardship. However, it is important for programs to achieve long term impact as big financial decision points may happen long after a training is completed. Some interventions use peer communities as a way to increase behavior change as well as an accountability measure. It has also been shown that repeated exposure to the message of the training can increase knowledge retention while repetition of a behavior can help it become a habit.

Works Cited

Bali Swain, Ranjula and Varghese, Adel. (2010) "Microfinance 'Plus': The Impact of Business Training on Indian Self Help Groups." *Uppsala University*.

Banerjee, Abhijit, Duflo, Esther, Goldberg, Nathanael, Karlan, Dean, Osei, Robert, Pariente, William, Shapiro, Jeremy, Thuysbaert, Bram, Udry, Christopher. (2015) "A Multifaceted Program Causes Lasting Progress for the Very Poor: Evidence from Six Countries." *Science*. Doi: http://www.econyale.edu/~cru2/pdf/Science-2015-TUP.pdf.

Barua, Rashmi, Shastry, Kartini Gauri, Yang, Dean. (2012) "Evaluating the Effect of Peer-Based Financial Education on Savings and Remittances for Foreign Domestic Workers in Singapore." Doi: http://research.economics.unsw.edu.au/scho/WEE/papers/Rashmi Barua.pdf.

Bjorvatn, Kjetil, and Bertil Tungodden. (2009) "CHR Michelson Institute." *Teaching Business in Tanzania: Evaluating Participation and Performance*.

Bruhn, Miriam, Ibarra, Gabriel Lara, McKenzie, David. (2014) "The Minimal Impact of a Large-Scale Financial Education Program in Mexico City." *The World Bank*. https://www.poverty-action.org/sites/default/files/publications/jderevision2mexicov2.pdf.

Bruhn, Miriam, Zia, Bilal. (2011) "Stimulating Managerial Capital in Emerging Markets: The Impact of Business and Financial Literacy for Youth Entrepreneurs" *The World Ban Development Research Group Finance and Private Sector Development Team* doi: https://www.researchgate.net/publication/228290888_Stimulating_Managerial_Capital_in_Emerging_Markets_The_Impact_of_Business_and_Financial_Literacy_for_Young_Entrepreneurs

Brune, Lasse, Giné, Xavier, Goldberg, Jessica, Yang, Dean. (2015) "Facilitating Savings for Agriculture: Field Experimental Evidence from Malawi." *The University of Chicago*, doi:http://econweb.umd.edu/~goldberg/docs/Brune_etal_EDCC2016.pdf.

Calderone, Gabriela, Cunha, Jesse, DeGiorgi, Giacomo. (2019) "Business Literacy and Development: Evidence from a Randomized Controlled Trial in Rural Mexico." *Economic Development and Cultural Change*. Doi: http://faculty.nps.edu/jcunha/business_literacy.pdf

Calderone, Margherita. (2014) "The Role of Financial Literacy and of Financial Education Interventions in Developing Countries" *Dutch Institute for Wirtschaftsforschung Berlin, doi:* https://www.diw.de/documents/publikationen/73/diw_01.c.481136.de/DIW_Roundup_34_en.pdf

Coville, Aidan, Di Maro, Vincenzo, Zottel, Siegfried, Alexander Dunsch, Felipe. (2014) "Nigeria's Nollywood Nudge" *The World Bank* de Mel, Suresh, David McKenzie, and Christopher Woodruff. (2008) “Returns to Capital in Microenterprises: Evidence from a Field Experiment” *The Quarterly Journal of Economics* 123 (4). 1329-1372.

Drexler, Alejandro, Fischer, Greg, Schoar, Antoinette. (2014) “Keeping It Simple: Financial Literacy and Rules of Thumb.” *American Economic Journal: Applied Economics*. https://www.povertyactionlab.org/sites/default/files/publications/124_303 Rules of Thumb AEJ Apr2014.pdf.

Duflo, Esther, and Emmanuel Saez. (2011) “The Role of Information and Social Interactions in Retirement Plan Decisions: Evidence from a Randomized Experiment.” *Quarterly Journal of Economics* 118 (3): 815-842.

Field, Erica, Jayachandran, Seema, Pande, Rohini. (2010). “Do Traditional Institutions Constrain Female Entrepreneurship? A Field Experiment on Business Training in India” *The American Economic Review*. doi: 10.1257/aer.100.2.125

Frisancho, Verónica. (2019) “The Impact of Financial Education for Youth.” *Inter-American Development Bank*. https://publications.iadb.org/en/impact-financial-education-youth.

Gaurav, Sarthak, Cole Shawn, Tobacman, Jeremy. (2011). “Marketing Complex Financial Products in Emerging Markets: Evidence from Rainfall Insurance in India.” *Journal of Marketing Research*, 48(SPL), S150–S162. https://doi.org/10.1509/jmkr.48.SPL.S150

Gray, Bobbi, Sebstad, Jennifer, Cohen, Monique, Stack, Kathleen (2009). “Can Financial Education Change Behavior? Lessons from Bolivia and Sri Lanka Global Financial Education Program” *Financial Education Outcomes Assessment*, Working Paper # 4, Microfinance Opportunities, Washington DC 20006 USA, www.MicrofinanceOpportunities.org

InterMedia. (2010). “Young Africans’ Access to Financial Information and Services: Lessons from Surveys in Kenya and Ghana.” *AudienceScapes Development Research Briefs*. InterMedia Survey Institute.

Kaiser, Tim, and Menkhoff, Lukas. (2017) “Does Financial Education Impact Financial Literacy and Financial Behavior, and If So, When?” *German Institute for Economic Research*. https://www.diw.de/documents/publikationen/73/diw_01.c.529454.de/dp1562.pdf.

Karlan, Dean, and Valdivia, Martin. (2006) “Teaching Entrepreneurship: Impact of Business Training on Microfinance Clients and Institutions.” *Social Science Research Network*. http://www.econ.yale.edu/growth_pdf/cdp941.pdf.

Klinger, Bailey, and Schundeln, Matthius. (2011) “Can Entrepreneurial Activity Be Taught? Quasi-Experimental Evidence from Central America.” *World Development*, vol. 29, no 9. pp. 1592–1610., https://www.sciencedirect.com/science/article/abs/pii/S0305750X1100091X.

Kokkizil, Melike, Karakurum-Ozdemir, Kamer, Uysal, Gokce. (2017) “Financial Literacy in Developing Countries.” *Topics in Middle Eastern and African Economies,* vol. 19, no. 2.http://meea.sites.luc.edu/volume19/pdfs/2-5 Financial literacy in developing countries.pdf.

Kose, Ayhan, Ozturk, Ezgi. (2014). “A World of Change” *International Monetary Fund Finance and Development,* doi: https://www.imf.org/external/pubs/ft/fandd/2014/09/kose.htm

Lundberg, Mattias, Mulaj, Florentina. (2014) “Enhancing financial capability and behavior in low and middle income countries.” *Financial Literacy and Education Russia Trust Fund*. Doi: https://openknowledge.worldbank.org/bitstream/handle/10986/20085/890330WP0P12120BLIc00FLIT0final0web.pdf?sequence=1

Lusardi, Annamaria, and Mitchell, Olivia. (2014) "The Economic Importance of Financial Literacy: Theory and Evidence." *Journal of Economic Literature*, 52 (1): 5-44. <https://www.aeaweb.org/articles?id=10.1257/jel.52.1.5>

Mandell, Lewis, Klein Schmid, Linda. (2007) “Motivation and financial literacy” *Financial Services Rewview* doi: http://citeseerx.ist.psu.edu/viewdoc/download;jsessionid=D4B327419572F766138902D74BDDFC0B?doi=10.1.1.392.2771&rep=rep1&type=pdf

Matewos, Kebede Refera, Kaur Dhaliwal, Navkiranjit, Kaur, Jasmindeep. (2016). “Financial literacy for developing countries in Africa: A review of concept, significance and research opportunities.” *Journal of African Studies and Development*, *8*(1), 1–12. doi: 10.5897/jasd2015.0331

Miller, Margaret, Reichelstein, Julia, Salas, Christian, Zia, Bilal. (2014) “Can You Help Someone Become Financially Capable?” *Global Financial Development Report*. http://documents.worldbank.org/curated/en/297931468327387954/pdf/WPS6745.pdf.

Sarr, Leopald, Santadarshan Sadhu and Nathan Fiala. 2012. Bringing the Bank to the Doorstep: Does Financial Education Influence Savings Behavior among the Poor? Evidence from a Randomized Financial Literacy Program in India.” Institute for Financial Management and Research, Centre for Micro Finance Working Paper.

Sonobe, Tetsushi, Suzuki, Aya, Otsuka, Keijiro, and Hoang Nam, Vu. (2011). “Kaizen for Managerial Skills Improvement in Small and Medium Enterprises: An Impact Evaluation Study in a knitwear cluster in Vietnam” *Depocen* doi: http://depocenwp.org/upload/pubs/29-%20KAIZEN%20for%20Managerial%20Skills%20Improvement.pdf

Spader, Jonathan, Janneke Ratcliffe, Jorge Montoya, and Peter Skillern. (2009) “The Bold and the Bankable: How the Nuestro Barrio Telenovela Reaches Latino Immigrants with Financial Education.” *Journal of Consumer Affairs* 43 (1) (March 1): 56-79.

Stuart, Guy. (2012) "Uganda Financial Education Impact Project." *Microfinance Opportunities*.

Visa, "Inspiring Financial Literacy" *FIFA* doi: https://www.fifa.com/worldcup/news/visa-inspiring-financial-literacy-1187400

Xu Lisa and Zia Bilal. (2012). "Financial Literacy Around the World: an overview of the evidence with practical suggestions for the way forward", Policy Research. Working. Paper. 6107, The World Bank Development Research Group, Finance and Private Sector Development Team.

Cassie He

Evaluating the effectiveness of Tostan's financial literacy training through a series of surveys

Table of Contents

Introduction:

This paper is intended for use by Tostan International as part of their Community Empowerment Program to evaluate the effectiveness of the Aawde program in improving financial knowledge, behaviors, and wellbeing. This will be done through a series of surveys which intend to:

- Measure levels of financial literacy among individuals. These data will serve as a baseline to understand the demand for financial interventions.
- Compare financial literacy levels across demographic groups if sample size allows for disaggregation
- Measure subsequent levels of financial literacy through time. These data can be used to measure how successful of financial literacy interventions are for wellbeing.

For this paper, the definition for financial literacy will be the same as that of the OECD International Network on Financial Education (INFE). They define financial literacy as "a combination of awareness, knowledge, skill, attitude and behavior necessary to make sound financial decisions and ultimately achieve individual financial wellbeing." It is noteworthy that this definition of financial literacy includes knowledge and awareness about economic information, as well as attitudes and behaviors that allow individuals to make informed decisions.

This study was designed based on an analysis of previous literature on financial literacy surveying in developing countries. Special consideration is given to the specific needs of Tostan International.

Tostan International is an NGO headquartered in Dakar, Senegal with programs across West Africa. Their mission is to "empower communities to develop and achieve their vision for the future and [inspire] large-scale movements leading to dignity for all." Part of their model includes the Community Empowerment Program (CEP), which trains communities in "project management and social mobilization skills" such as engagement in grassroots democracy, literacy and math, and female leadership. Teaching financial literacy is part of the Aawde program of the CEP. The Aawde program teaches participants the basic skills of financial literacy. Skills taught include, the importance of work, profit calculations, record keeping, and budgeting.

This study is intended for use by Tostan International Aawde program participants in Senegal. Thus, the survey questions are designed according to the skill levels and financial infrastructure in these communities.

Methodology:

The intended respondents of these surveys are:
- Adults
- Individuals
- Do not need to be the head of the household
- Do not need to be entrepreneurs

The broader goal of these surveys is to help Tostan answer the question "Does the Aawde program improve rates of financial literacy, change financial behavior, and improve economic wellbeing?" In order to do so, Tostan should aim to conduct a randomized control trial (RCT). RCTs are considered the gold standard in research, as they measure the impact of an intervention. RCTs involve randomly assigning people to either treatment or control groups. The randomization creates two groups that are very similar, so that differences in the groups should arise only because of the intervention (Duflo 2007). Now is a good time for Tostan to conduct a randomized control trial, as the training has been well developed and there is a potential to use this surveying to scale more programs.

To execute an RTC, Tostan firstly needs to identify who will participate in the study. Tostan should target the group of people who would normally be interested in participating in the Aawde program. The goal is to create a group of people who on average, have very similar characteristics (Kopper, 2020). So, create a list of all the people Tostan would normally reach out to participate in their programs. Tostan should then contact this sample and ask if they are interested in participating in the study. It is best to reach out to people more than once and during different times, to reduce selection bias. For example, women may be harder to reach at certain times due to time poverty or childcare constraints.

If Tostan were specifically interested in capturing minority groups, they can introduce quotas; for example, they could reach out to and collect responses from at least 50% women. Tostan can use tools such as the World Health Organization's "STEPS Sample Size Calculator and Sampling Spreadsheet" to calculate how big their sample should be to be able to draw conclusions from the data (World Health Organization, 2017). Participants should be told clearly and explicitly the intention of the study and the required steps to participate. The initial contact can take the form of letters, communications with community leaders, or telephone calls, so it need not be face to face. It is important to make clear to participants that this is a variation of the normal Tostan programming and involves participation in an additional study. The participants of the study, including the control group, should be compensated for their participation in the surveys.

Of those who agree to participate, Tostan should conduct a random assignment to determine the treatment and comparison groups. It may be best for Tostan to peruse individual randomization to treatment and control groups rather than randomizing groups of individuals. This is because the training happens at the individual level. Additionally, there is less risk of spillover which happens when the comparison group is affected by the treatment group (Heard, 2017). For example, it could happen if a business owner who participates in Aawde teaches his/her employees what was learned in the training (Heard, 2017).

It could also be possible for Tostan to do randomization based on the household. The decision should be made based on what Tostan is interested in measuring and impacting, household wellbeing or individual wellbeing. For example, Tostan should randomize at the household level if the organization is interested in understanding how the female head of household benefits from the program; alternatively, if Tostan randomized at the individual level, it would be measuring the impact of the program on women.

Having a randomly selected control group is crucial to being able to calculate the impact of an intervention. The determination of treatment status should be done randomly from the list of participants who agreed to be in the study. The treatment status should then be communicated to participants privately. Levels of financial literacy may change not because of the intervention but because of other factors: for example, new government programs or technologies could be introduced, independently of the training. While some might see it as unethical to deny people access to a potentially positively impactful program, this can be remedied by letting the control group participate in Aawde at a later time.

Prior to survey implementation, it could be useful to conduct a focus group so as to better understand the survey participants' interests and concerns. Focus groups can thus serve as a way to assess overall awareness of financial tools before including specific questions in the survey. This is beneficial because firstly, being asked repeatedly about things one does not know about can be damaging to the respondents' self-esteem and decrease willingness to complete the survey (Atkinson, 2011). Secondly, it saves interviewers' and respondents' time if the group can scope out the types of financial tools used, rather than asking each individual respondent. Some potential focus group questions are included in the appendix.

Tostan should aim to conduct two surveys throughout the program timeline to capture the impact of Aawde. All surveys should be conducted personally, either read aloud face to face or on the telephone, rather than sent in a letter or provided online. Surveys will be given before the program and after the program. The OECD has recommended a target 60% response rate to surveys. The surveys in the appendix will be written in English. However, to be more effective, they should be translated into the local languages such as Wolof or French. This includes modifying the survey so that it retains its original meaning within the cultural context: for example, the currency can be changed to reflect local money. It is also important to ensure that the interviewers are properly trained: they should understand both the experiment and the survey. Quality checks on the surveyors' data must also be collected. The OECD recommends that briefings to the interviewers can have both motivational and instructional impacts, teaching good interviewing skills.

Attached in the appendix are the proposed survey questions.

The first survey should be conducted immediately before the intervention, to establish a baseline for future comparison. If the results between the treatment and the control groups are significantly different, it may signal that randomization was not successfully achieved and there are systematic differences between the two groups. In this case, the randomization will need to be revisited.

A second survey should be conducted at the program's end, ideally immediately after Aawde to capture the immediate differences in the treatment and intervention groups. Alternatively, it could be conducted a few months after the training, to measure retention of knowledge and the sustainability of impact. It is critical here that respondents understand that the survey is not a test and will in no way impact their participation in future programs.

After all these surveys are conducted, Tostan can measure the average outcomes of the treatment group and compare that to the outcomes of the control group. Those differences represent Aawde's impact.

Appendix:

Make sure the participants are all coded anonymously. The values coded will be similar to the ones used by OECD (2011). This is intended to help standardization with other data and ideally comparison across regions. A select few members of the data collection team will know the identities of the participants to be able to conduct the follow up surveys. Otherwise, the identities of the participants will remain anonymous.

I. Focus group

The purpose of the focus group is to help narrow down and test the questions to be used in the survey. Depending on the resource constraints of Tostan and the participants' understanding, the focus group may not be necessary. Another reason for the focus group is for Tostan to identify important sub-populations in which they will be interested. For example, the literature shows that women consistently score lower on financial literacy quizzes than do men. Tostan may see initially in the focus group that there are differences in answers based on gender and decide in the survey to include more questions that can measure the impact of their training on women. For example, Tostan may choose to include more questions about household decision-making power. Other segments Tostan may be interested in are gender, economic status, or education levels.

The participants of the focus group should be a randomly selected group of the target population.

The questions QC1 from the survey are aimed at understanding the types of institutions such as retirement savings, investment, credit, and insurance in a certain region. During the focus group if certain products are rarely being mentioned, it is not necessary to ask about them in the survey. For example, if the majority of people have not heard of a pension fund, QC1 can be excluded in the subsequent surveys.

True or False?
a) An investment with a high return is likely to be high risk
If 'risk' is difficult to translate, the following question is a possible alternative. It would be advisable to test both versions in the focus group
a_alt) If someone offers you the chance to make a lot of money there is also a chance that you will lose a lot of money

c) It is usually possible to reduce the risk of investing in the stock market by buying a wide range of stocks and shares
If the stock market is not widely understood, the following question may be more appropriate. It would be advisable to test both versions in the focus group
c-alt) It is less likely that you will lose all of your money if you save it in more than one place.

II. Survey pretraining

These survey questions are adapted from the OECD INFE (2011) survey

Question	Coding instructions

Respondent ID	Every respondent should have an ID that is used to anonymize them. This ID will be used in subsequent surveys so you can measure changes in time.
READ OUT: I would like to start by asking you a few background questions.	
Demographic Questions	
QDi) What is your gender? a) Male b) Female c) Prefer not to answer	Variable Name: QDi Label: Gender Values: 1 Male 0 Female -99 Prefer not to answer
QDii) What best describes the community you live in? a) A village, hamlet or rural area (fewer than 3000 people) b) A small town (about 3000 to 15000 people) c) A town (15000 to 100000 people) d) A city (100000 to 1000000 people) e) A large city (with over 1000000 people) f) Don't know g) Prefer not to answer	Variable Name: QDii Label: Urban Values: 1 2 3 4 5 -97 -99
QDiii) ***Record the language used to conduct the interview***	
QD3) Could you tell me how old you are?	Variable name: QD3 Label: AGE Age Band Values: 1 18-19 2 20-29 3 30-39 4 40-49 5 50-59 6 60-69 7 70-79 -99 Refused
QD4) What is the highest educational level that you have attained? If you are a student, what is your current education level? g) No formal education f) Some primary school e) Complete primary school d) Some secondary school c) Complete secondary school	Variable Name: QD5 Label: Educational Level 7 6 5 4 3

b) Technical/vocational education beyond secondary school level a) University-level education h) *Refused*	2 1 -99
QDiv) What region do you live in? a) Dakar b) Thiès c) Diourbel d) Saint-Louis Matam e) Tambacounda f) Sédhiou g) Kolda	
QD5_a) Which of these bests describes your current work situation? *Interviewer: READ OUT and mark all that apply* a) Self employed [work for yourself] b) In paid employment [work for someone else] c) Looking for work d) Looking after the home e) Unable to work due to sickness or ill-health f) Retired g) Student h) Not working and not looking for work i) Apprentice j) Other k) *Don't know* l) *Refused*	Variable name: QD6_a Label: Work situation 1 2 3 4 5 6 7 8 9 10 -97 -99
QF1) Who is responsible for day-to-day decisions about money in your household? a) You b) You and your partner jointly [do not read out if no partner at QD1] c) You and another family member(s) jointly d) Your partner [do not read out if no partner at QD1] e) Another family member(s) f) Somebody Else g) *Nobody* h) *Don't Know* i) *Refused*	Variable name: QF1 Label: Who is responsible for day to day decisions about money 1 2 3 4 5 6 7 -97 -99
READOUT: **This next question is about household budgets.** A household budget is used to decide what share of your household income will be used for spending, saving or paying bills.	Variable name: QF2 Label: Household budget

QF2) Does your household have a budget?	
a) Yes	1
b) No	0
c) *Don't know*	-97
d) *Refused*	-99

These next questions are aimed at understanding the types of institutions such as retirement savings, investment, credit, and insurance in a certain region. The products that you ask about will depend on what gets the most responses in the focus group. For example, if no one as stocks and shares, it is not necessary to include that product in the survey.

QC1_a should be asked for every product and used to create a filter for the remaining questions
QC1_b and QC1_c should be asked only if the answer to QC1 is yes.

Product Questions				
	QC1_a) Please can you tell me whether you have heard of any of these types of financial products.	**QC1_b) and now can you tell me whether you currently hold any of these types of produces (personally or jointly)?**	**QC1_c) and in the last two years, which of the following types of financial products have you chosen (Personally or jointly) whether or not you still hold them. Please do don't include products that were renewed automatically.**	**Variable names: QC1_a/QC1_b_/ QC1_c_; Labels: Heard of [followed by product]; Currently holds []; Recently chosen [].**
A pension fund	1	1	1	**For each question, create one variable for each product using the appropriate suffix, plus one variable for don't know, another for refused and one**
An investment account, such as a unit trust	2	2	2	
A mortgage	3	3	3	
A bank loan secured on property	Etc.	Etc.	Etc.	
An unsecured bank loan				
A credit card				

A <current> account				**for 'none of the above'. Note that a missing value will then reflect those for whom the question was not relevant**
A savings account				
A microfinance loan				
Insurance				
Stocks and shares				
Bonds				
Mobile phone payment account				
Prepaid payment card				
Don't know	-97	-97	-97	
Refused	-99	-99	-99	
If respondent has heard of/ holds/ chose of none of the above	0	0	0	

ASK ALL THOSE WHO ANSWERED YES TO any QC1_c excluding stocks, shares and bonds or WHO ANSWERED YES TO any QC1_b excluding stocks, shares and bonds. **QC2) Which of the following statements best describes how you last chose a [*TAKE A PRODUCT AT RANDOM FROM POSITIVE REPONSES TO QC1_c: if none: TAKE A PRODUCT AT RANDOM FROM POSITIVE REPONSES OT QC1_b]?*** *Note: Only use products from QC1_b if the respondent has not chosen anything in the last 2 years (i.e. Has not answered Yes at any QC1_c). Please record the product being discussed, indicating whether it was chosen from QC1_c or QC1_b. Do not ask this question about stocks, shares or bonds*	Variable name: QC2 Label: Shopping around

a) I considered several [Use the most appropriate word: products/loans/policies/accounts] from different companies before making my decision b) I considered the various [products/loans/policies/accounts] from one company c) I didn't consider any other [products/loans/policies/accounts] at all d) I looked around but there were no other [products/loans/policies/accounts] to consider e) *Don't know* f) *Not applicable* g) *Refused*	_1 _2 _3 _4 _-97 _-98 _-99

ASK ALL THOSE WHO WERE ASKED QC2, including those who refused or responded 'don't know' **QC3) which sources of information do you feel most influenced your decisions about which one to take out?** *These category headings can be edited for country specific options. They are not to be read out* *INTERVIEWER: WAIT FOR RESPONSE. READ OUT LIST IF NECESSARY.* ***1 Product-specific information*** a) Unsolicited information sent through the post b) Information picked up in a branch c) Product specific information found on the internet d) Information from sales staff of the firm providing the products ***2 Best buy guidance*** e) Best-buy tables in financial pages of newspapers/magazines f) Best-buy information found on the internet g) Specialist magazines/publications	**Variable names: QC3_** **Labels: Information influenced decision: [].** _1 _2

h) Recommendations from independent financial advisor or brokers	
3 General advice i) Advice of friends/relatives (not working in the financial services industry) j) Advice of friends/relatives (who work in the financial services industry) k) Employer's advice	_3
4 Media coverage l) Newspaper articles m) Television or radio programmes	_4
5 Adverts n) Newspaper adverts o) Television adverts p) Other advertising	_5
6 Other q) My own previous experience r) Another source	_6
s) *Don't know*	_-97
t) *Not applicable (no recent choice)*	_-98
u) *Refused*	_-99

Decisions about money	
Read out: I now have some more general questions about money. Remember that there are no particular wrong or right answers; everyone has their own way of doing things.	
QMP1) I am going to read out some attitude behavior statements. I would like to know how much you agree or disagree that each of the statements applies to you, personally. Please use a scale of 1 to 5, where 1 tells me that you completely agree that the statement describes you and 5 shows that you completely disagree: *INTERVIEWER: READ OUT EACH STATEMENT AND WAIT FOR RESPONSE. Repeat the scale as many times as necessary. If respondent answers (dis)agree: check 'Would you say you completely (dis) agree'? If they say they don't know, check whether they feel they neither agree nor disagree (3 on scale), or if they are really uncertain. If necessary, face to face interviewers can provide a card with the scale marked on it, and ask the respondent to point to the appropriate position.*	**Variable names: QMP1_; Label using the statement** **Values: 1 to 5; -97 -98 -99** **Variable labels take the following suffixes:** Ex. QMP1_-97_1 is someone who responded they don't know to the first question
1) Before I buy something, I carefully consider whether I can afford it Completely agree, 2, 3, 4, completely disagree (*Don't know, refused)*	_1
2) I tend to live for today and let tomorrow take care of itself Completely agree, 2, 3, 4, completely disagree (*Don't know, refused)*	_2
3) I find it more satisfying to spend money than to save it for the long term Completely agree, 2, 3, 4, completely disagree (*Don't know, refused)*	_3
4) I pay my bills on time Completely agree, 2, 3, 4, completely disagree (*Don't know, refused)*	_4
5) I am prepared to risk some of my own money when saving for making an investment Completely agree, 2, 3, 4, completely disagree (*Don't know, refused)*	_5
6) I keep a close personal watch on my financial affairs Completely agree, 2, 3, 4, completely disagree (*Don't know, refused)*	_6

7) I set long term financial goals and strive to achieve them Completely agree, 2, 3, 4, completely disagree (*Don't know, refused)* 8) Money is there to be spent Completely agree, 2, 3, 4, completely disagree (*Don't know, refused)*	_7 _8
The questions below relate to the individual and not necessarily the household	
QM2) Sometimes people find that their income does not quite cover their living costs. In the last 12 months, has this happened to you?	**Variable name: QM2** **Label: In last 12 months income has not always covered living costs.**
a) Yes b) No c) *Don't Know* d) *Not applicable (I don't have any personal income)* e) *Refused*	1 0 -97 -98 -99
ASK if respondent answered yes to QM2 *Add country specific options for each category* **QM3) What did you do to make ends meet the last time this happened?** ***Do not read out options, although examples can be given*** *1 Existing resources* a) Draw money out of savings or transfer savings into current account b) Cut back on spending, spend less, do without c) Sell something that I own *2 Creating resources* d) Work overtime, earn extra money *3 Access credit by using existing contacts or resources* e) Borrow food or money from family or friends f) Borrow from employer/salary advance g) Pawn something that I own h) Take a loan from my saving and loans clubs i) Take money out of a flexible mortgage account	 **Variable names: QM3_** **Labels: Making ends meet** _1 _2 _3

j) Apply for a loan/withdrawal on pension fund *4 Borrow from existing credit line* k) Use authorized, arranged overdraft or line of credit l) Use credit card for a cash advance or to pay bills/buy food *5 Access new line of credit* m) Take out a personal loan from a financial service provider (including bank, credit union or microfinance) n) Take out a payday loan o) Take out a loan from an informal provider/money lender *6 Fall behind/go beyond arrange amount* p) Use unauthorized overdraft q) Pay my bills late; miss payments *7 Other responses* r) *Other* s) *Don't know* t) *Refused*	 _4 _5 _6 _7 _-97 _-99
QP1) In the past 12 months have you been [personally] saving money in any of the following ways, whether or not you still have the money? *Note: Please replace <informal savings club> with appropriate term.* *Read categories to respondent. Mark all that apply.* a) Saving cash at home or in your wallet b) Building up a balance of money in your bank account c) Paying money into a saving account d) Giving money to family to save on your behalf e) Saving in <an informal savings club> f) Buying financial investment products, other than pension funds [give examples such as bonds, investment trusts, stocks and shares] g) Or in some other way (include remittances, buying livestock or property) h) *Has not been actively saving (including I don't save/I have no money to save)* i) *Don't know* j) *Refused*	**Variable names: QP1_** **Labels: Actively saving: This is multi-coded. Create a single 0, 1, etc. variable for each category, plus a variable for 'Not actively saving' 'Don't know' and one for 'refused'.**
QP2) If you lost your main source of income, how long could you continue to cover living expenses, without borrowing any money or <moving house>?	**Variable name: QP2** **Label: If lost main income, how long could**

a) Less than a week b) At least a week, but not one month c) At least one month, but not three months d) At least three months, but not six months e) More than six months f) *Don't know* g) *Refused*	**respondent cover living expenses** 1 2 3 4 5 -97 -99

The quiz questions are heavily adapted from Lusardi and Mitchell (2011)

QK: Questionnaire	
READ OUT: The next section of the questionnaire is more like a quiz. The questions are not designed to trick you, so if you think you have the right answer, you probably do. If you don't know the answer, just say so rather than guessing.	
Change the relationship between the individuals if this is likely to be culturally sensitive. Each section has a category for -999 for irrelevant answers. These might include: 'it depends how old the brothers are'. It is not necessary to record the irrelevant response itself. **QK1) Imagine that five <brothers> are given a gift of $1,000. If the <brothers> have to share the money equally, how much does each one get?** *Read question again if asked* ***Record response numerically (currency symbol not necessary)*** a) *Don't know* b) *Refused* c) *Irrelevant answer*	**Variable name: QK1** **Label: Imagine that five <brothers> are given a gift of <currency>.** **Correct response=200** -97 -99 -999
Keep the same relationship as in the previous question. Add in current inflation rate in your country and provide a note on the rate used and the date it was taken. D) can be considered correct but should not be read out. **QK2) Now imagine that the <brother> have to wait for one year to get their share of the $1,000 and inflation stays at X percent. In one year's, time will they be able to buy:** *Read out a-c*	**Variable name: QK2** **Label: Brothers have to wait for one year with inflation at X percent.** **Correct response will generally be c**

a) More with their share of the money than they could today; b) The same amount; c) Or, less than they could buy today. d) *It depends on the types of things that they want to buy* e) *Don't know* f) *Refused* g) *Irrelevant answer*	1 2 3 4 -97 -99 -999
Consider whether the term interest is appropriate (possibly replace the second sentence with 'What is the return you have earned on this loan') **QK3) You lend $25 to a friend one evening and he gives you $25 back the next day. How much interest has he paid on this loan?** ***Record response numerically (percentage symbol not necessary)*** a) *Don't know* b) *Refused* c) *Irrelevant answer*	**Variable name: QK3** **Label: Interest on loan** **Correct response= 0** **Also acceptable is 'none' and 'nothing'** -97 -99 -99
Do not change the percentage rate. If savings accounts incur fees, please include a phrase in <> to reflect the wording and provide a note. **QK4_a) Suppose you put $100 into a <no fee> savings account with a guaranteed interest rate of 2% per year. You don't make any further payments into this account and you don't withdraw any money. How much would be in the account at the end of the first year, once the interest payment is made?** ***Record response numerically (currency symbol is not necessary)*** a) *Don't know* b) *Refused* c) *Irrelevant answer*	**Variable name: QK4_a** **Label: Suppose you put <currency> into a <no fee> savings account with a guaranteed interest rate of 2% per year.** **Correct response=102** -97 -99 -999
This question is intended to indicate whether the respondent knows about compound interest, and so the amount in each of the options must be exactly equal to the total interest without compounding. **QK4_b) and how much would be in the account at the end of the five years remembering there are no fees? Would it be:** *Read out a-d* a) More than $110 b) Exactly $110 c) Less than $110	**Variable name: QK4_b** **Label: How much would be in the account at the end of five years** **Correct response=a** 1 2 3

d) Or is it impossible to tell from the information given	4
e) *Don't know*	-97
f) *Refused*	-99
g) *Irrelevant answer*	-999
QK5) I would like to know whether you think the following statements are true or false:	**Variable names: QK_5** **Values: For each variable**
a) True	1
b) False	0
c) *Don't know*	-97
d) *Refused*	-99
Read out each statement and wait for response	**Correct response=True in each case** **Variable labels take the following suffixes**
a) An investment with a high return is likely to be high risk	_1
If 'risk' is difficult to translate, the following question is a possible alternative. It would be advisable to test both versions in the focus group	_1_alt
a_alt) If someone offers you the chance to make a lot of money there is also a chance that you will lose a lot of money	
	_2
b) High inflation means that the cost of living is increasing rapidly	
	_3
c) It is usually possible to reduce the risk of investing in the stock market by buying a wide range of stocks and shares	
If the stock market is not widely understood, the following question may be more appropriate. It would be advisable to test both versions in the focus group	_3_alt
C-alt) It is less likely that you will lose all of your money if you save it in more than one place.	
Read out: People get income from a wide range of sources. This might include <wages and salaries, benefit payments, pensions or maintenance payments>.	**Variable name: QD7**
QD6) Considering all of the sources of income coming into your household each month, would you say that your household income is regular and reliable?	**Label: Income stability**
a) Yes	1
b) No	0
c) *Don't know*	-97
d) *Refused*	-99

QD7) And finally, can you tell me which of these categories your household income usually falls into [*Use as appropriate:* Before/after tax]? *Use median income. Note the data used and the date it was collected.*	**Variable name: QD8** **Label: Household income** **Bands should reflect:** a) [Low income (up to 75% of median household income) b) [Average income] c) [High income (more than 125% of median household income)]
a) Up to $X a month b) Between $X and $Y a month c) $Y or more a month d) *Don't know* e) *Refused*	1 2 3 -97 -99

<u>III.Post training survey:</u>

The goal of the post training survey is to measure the impact of the complete training and measure knowledge retention. This survey can be conducted immediately after the training and/or some time after the training.

Question	Coding Instructions
Respondent ID	

Resurvey the following questions from the survey pre-training:
Demographic questions (QD5, QD7, QF1)
Product questions (QC1, QC2, QC3)
Decisions about money (QM2,QM3, QP1,QP2)
Change the "Q" in the coding to a "P". For example QD5 becomes PD5

Training Feedback	
PQ1) How easy or difficult is it for you to attend the trainings given other responsibilities/work? a) Extremely difficult b) Slightly difficult c) Neither difficult not easy d) Slightly easy e) Extremely easy f) *Refused*	**Variable name: PQ1** **Label: Ease of attending** 1 2 3 4 5 -99
PQ2) How helpful/useful do you find the trainings? For example, have they taught	**Variable name: PQ2** **Label: Helpfulness**

you something you previously did not know? a) Extremely unhelpful b) Slightly unhelpful c) Neither unhelpful nor helpful d) Slightly helpful e) Extremely helpful f) *Refused*	 1 2 3 4 5 -99
PQ3) How practical or easy was it to apply was the training? a) Extremely unpractical b) Slightly unpractical c) Neither unpractical nor practical d) Slightly practical e) Extremely practical f) *Refused*	**Variable name: PQ3** **Label: Practical** 1 2 3 4 5 -99
PQ4) How frequently does the trainer ask you questions or ask you to participate during the trainings? a) Never b) Rarely c) Sometimes d) Often e) All the time f) *Refused*	**Variable name: PQ4** **Label: Participate** 1 2 3 4 5 -99
PQ5) How frequently does the trainer use terms you do not understand? a) Never b) Rarely c) Sometimes d) Often e) All the time f) *Refused*	**Variable name: PQ5** **Label: Understand** 1 2 3 4 5 -99
PQ6) How well does this training address your needs concerning finances? a) It addresses none of my needs b) It addresses a few of my needs c) It addresses about half of my needs d) It addresses most of my needs e) It addresses all of my needs f) *Refused*	**Variable name: PQ6** **Label: Address your needs** 1 2 3 4 5 -99

PQ7) Do you have more or less control over how money is spent now compared to before you participated in Aawde? a) Much less control b) Slightly less control c) No change in control d) Slightly more control e) Much more control f) *Refused*	**Variable name: PQ7** **Label: Control over money** 1 2 3 4 5 -99
PQ8) Do you have more or less ability to make decisions in your household now compared to before you participated in Aawde? a) Much less ability b) Slightly less ability c) No change in ability d) Slightly more ability e) Much more ability f) *Refused*	**Variable name: PQ8** **Label: Decision making power** 1 2 3 4 5 -99
PQ9) Do you feel more or less comfortable speaking up in community meetings now compared to before you participated in Aawde? a) Much less comfortable b) Slightly less comfortable c) No change in comfort d) Slightly more comfortable e) Much more comfortable f) *Refused*	**Variable name: PQ9** **Label: Comfort** 1 2 3 4 5 -99

Questionnare	
READ OUT: The next section of the questionnaire is more like a quiz. The questions are not designed to trick you, so if you think you have the right answer, you probably do. If you don't know the answer, just say so.	
Change the relationship between the individuals if this is likely to be culturally sensitive. Each section has a category for -999 for irrelevant answers. These might include: 'it depends how old the brothers are'. It is not necessary to record the irrelevant response itself. **PK1) Imagine that two <brothers> are given a gift of $500. If the <brothers> have to share the money equally, how much does each one get?** *Read question again if asked* ***Record response numerically (currency symbol not necessary)*** a) *Don't know* b) *Refused* c) *Irrelevant answer*	 **Variable name: PK1** **Label: Imagine that two <brothers> are given a gift of <currency>.** **Correct response=250** -97 -99 -999
Keep the same relationship as in the previous question. Add in current inflation rate in your country and provide a note on the rate used and the date it was taken. D) can be considered correct but should not be read out. **PK2) Now imagine that the <brother> have to wait for one year to get their share of the $500 and inflation stays at X percent. In one year's, time will they be able to buy:** a) More with their share of the money than they could today; b) The same amount; c) Or, less than they could buy today. d) *It depends on the types of things that they want to buy* e) *Don't know* f) *Refused* g) *Irrelevant answer*	 **Variable name: PK2** **Label: Brothers have to wait for one year with inflation at X percent. Correct response will generally be c** 1 2 3 4 -97 -99 -999
Consider whether the term interest is appropriate (possibly replace the second sentence with 'What is the return you have earned on this loan')	 **Variable name: PK3** **Label: Interest on loan**

PK3) You lend $10 to a friend one evening and he gives you $10 back the next day. How much interest has he paid on this loan? ***Record response numerically (percentage symbol not necessary)*** a) Don't know b) *Refused* c) *Irrelevant answer*	**Correct response= 0** **Also acceptable is 'none' and 'nothing'** -97 -99 -999
Do not change the percentage rate. If savings accounts incur fees, please include a phrase in <> to reflect the wording and provide a note. **PK4_a) Suppose you put $100 into a <no fee> savings account with a guaranteed interest rate of 5% per year. You don't make any further payments into this account and you don't withdraw any money. How much would be in the account at the end of the first year, once the interest payment is made?** ***Record response numerically (currency symbol is not necessary)*** a) *Don't know* b) *Refused* c) *Irrelevant answer*	 **Variable name: PK4_a** **Label: Suppose you put <currency> into a <no fee> savings account with a guaranteed interest rate of 5% per year.** **Correct response=105** -97 -99 -999
This question is intended to indicate whether the respondent knows about compound interest, and so the amount in each of the options must be exactly equal to the total interest without compounding. **PK4_b) and how much would be in the account at the end of the five years remembering there are no fees? Would it be:** *Read out a-d* a) More than $110 b) Exactly $110 c) Less than $110 d) Or is it impossible to tell from the information given e) *Don't know* f) *Refused* g) *Irrelevant answer*	 **Variable name: PK4_b** **Label: How much would be in the account at the end of five years** **Correct response=a** 1 2 3 4 -97 -99 -999

Works Cited:

Atkinson, Adele and Messy, Flore-Anne. (2011). "Assessing financial literacy in 12 countries: An OECD/INFE international pilot exercise." *Journal of Pension Economics and Finance, 10*(4), 657-665. doi:10.1017/S1474747211000539

Duflo, Esther, Glennerster, Rachel, and Kremer, Michael. (2007). "Using randomization in development economics research: a toolkit." *Development Economics, 6059*. doi: https://scholar.harvard.edu/files/kremer/files/randomization_toolkit_dev_economics.pdf

Heard, Kenya, O'Toole, Elisabeth, Naimpally, Rohit, and Bressler, Lindsey. (2017). "Real-World Challenges to Randomization and their Solutions." *Abdul Latif Jameel Poverty Action Lab,* doi: https://www.povertyactionlab.org/sites/default/files/research-resources/2017.04.14-Real-World-Challenges-to-Randomization-and-Their-Solutions.pdf

Kopper, Sarah, Sautmann, Anja, and Gibson, Mike. (2020). "Randomization." *Abdul Latif Jameel Poverty Action Lab,* doi: https://www.povertyactionlab.org/resource/randomization

Lusardi, Annamaria, and Mitchell, Olivia S. (2011). "Financial literacy around the world," *Journal of Pension Economics and Finance*, Vol. 10, special issue 4

Matewos, Kebede Refera, Kaur Dhaliwal, Navkiranjit, Kaur, Jasmindeep. (2016). "Financial literacy for developing countries in Africa: A review of concept, significance and research opportunities." *Journal of African Studies and Development*, *8*(1), 1–12. doi: 10.5897/jasd2015.0331

OECD. (2011). "Measuring Financial Literacy: Questionnaire and Guidance Notes for Conducting an Internationally Comparable Survey of Financial Literacy." *International Network of Financial Education* doi: https://www.oecd.org/finance/financial-education/49319977.pdf.

World Health Organization. (2017). "STEPS Sample Size Calculator and Sampling Spreadsheet." doi: https://www.who.int/ncds/surveillance/steps/resources/sampling/en/