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Microfinance and health interventions: Factors influencing loan repayment success with young men in Dar es Salaam, Tanzania

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Abstract

Poverty is associated with numerous poor health outcomes. Youth unemployment in Tanzania is approximately 13.7%, and concentrates in urban areas. These youth lack relevant job skills and access to financial capital. Microfinance continues to be implemented globally to address poverty, and increasingly has been linked to health interventions. Men less frequently are recipients of microfinance loans. We offered microcredit to young men in an area of Dar es Salaam with high poverty as part of a randomised controlled-trial to assess the efficacy of a microfinance and health leadership intervention in preventing STI acquisition. We used mixed methods to understand

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predictors of successful loan repayment. Our qualitative sub-study showed that leader influence, prior business experience, personal motivation, and planning facilitated repayment. Using a modified Poisson approach, our quantitative analysis showed that successful repayment was associated with business experience, education, increasing number of children, community of residence, percentage of network members trained in business, and repayment success of peer leaders. Our results suggest that enforcing group accountability and repayment rules, offering ongoing training, and using successful entrepreneurs as role models could increase repayment success in similar populations. These strategies could provide financial opportunity for men while minimizing risk for microfinance institutions.

Keywords

poverty; microfinance; loan repayment; young men; Tanzania

Introduction

Lack of employment has been associated with a range of negative outcomes, including poor physical and psychological health (Bartley, Sacker, & Clarke, 2004; Hammarström, 1994), increased stress related to financial contributions to household (Krishnan et al., 2010), anti-social behavior (Peter, 2013), violence (Pulerwitz & Barker, 2008), and conflict in youth and criminal enterprises (Okojie, 2003). Persistent youth unemployment has negative long-term consequences including higher risk for future unemployment, unstable jobs, depressed income growth (Morsy, 2012), reduced job satisfaction and poor health (Arulampalam, Gregg, & Gregory, 2001). Further, unemployment among youth is a critical concern in sub-Saharan Africa, where the region continues to report the highest global poverty rate among working youth at 70% (ILO, 2016). Factors contributing to youth unemployment in Africa are known to include: high regional unemployment, small private sectors, inappropriate school curricula, rapid rural to urban migration, and rapid population growth (Okojie, 2003). Despite the need for youth in this region to participate in the workforce, youth unemployment has been on the rise in recent years, reaching 10.9% regionally in 2016 (ILO, 2016).

Microfinance, or the provision of small loans to poor entrepreneurs lacking access to credit, has been championed worldwide as an effective credit delivery service to foster self-employment and combat poverty (Khandker, 2005). In 2014 over 115 million of the poorest clients accessed microfinance loans (Reed, 2015). Men are less frequent targets for microfinance credit. Of the 211.1 million people globally who received a microfinance loan in 2014, 75% (157.7 million) were women (Reed, 2015). Women are reported to be better money managers than men, have a greater tendency to invest business profits in their family and businesses, and more punctual in repayment (Armendáriz & Morduch, 2010; Engle, 1993; Lundberg, Pollak, & Wales, 1997; Pitt & Khandker, 1998; Thomas, 1990). However, some studies have found that women are more frequently delinquent in repayment than men (Nawai & Shariff, 2012), and other studies have found no significant differences in successful repayment between women and men (Seibel & Almeyda, 2002).

Denying impoverished men access to loans could have unintended consequences within partnerships and families. For example, the balance of power in a couple's relationship could be disrupted by providing loans to only women, potentially leading to conflict (Armendáriz & Roome, 2008). If men in sub-Saharan Africa who have role expectations as economic providers are unable to provide for their families, it could lead to stress and the perpetration of violence (Krishnan et al., 2010; Sivaram, Latkin, Solomon, & Celentano, 2006). Further, according to youth in Tanzania, violence in their country is driven by poverty, income inequality, and men's need to feel respected in society (Sommer, Likindikoki, & Kaaya, 2013). Targeting young, poor men with microfinance loans could improve men's financial security and thus serve as a social protection mechanism.

Because of the link between poverty and health, microfinance programs increasingly are linked to health interventions. Loan repayment sessions provide an opportunity to reach groups of people with health information. Studies integrating microfinance and health have helped participants avoid illnesses that reduce businesses activity, and reported positive impacts on client knowledge, health behaviors, use of health services, and health outcomes (Leatherman & Dunford, 2010; Leatherman, Metcalfe, Geissler, & Dunford, 2011), and in sub-Saharan Africa, microcredit has shown positive impacts on health, savings, and asset accumulation (Van Rooyen, Stewart, & De Wet, 2012).

The financial and health benefits possible through microfinance are dependent on loan maintenance and repayment success. Delinquency and default among participants enrolled in a microfinance and health intervention could have unintended negative consequences. Participants may stop showing up at health or combined microfinance and health sessions if they are unable to make payments. Participants who need to cover large, delinquent payments of their group members could experience increased financial stress, and defaulters may lose already sparse resources if their belongings are repossessed. Understanding contextual and individual factors that facilitate loan repayment can help identify approaches that would prevent these negative consequences.

An understanding of the multiple levels of influence (e.g., individual characteristics as well as group-level characteristics) could help future microfinance programs implement strategies and criteria to maximise repayment success. For example, while repayment success has been linked to individuals having social ties to loan solidarity group leaders (Hermes, Lensink, & Mehrteab, 2006), the effect of broader social group characteristics on individual repayment are not well understood. We implemented a microfinance and health study with networks of young men in Dar es Salaam, Tanzania. The focus of this paper is to assess individual and contextual factors associated with successful loan repayment among young men participating in a microfinance and health intervention in Dar es Salaam, Tanzania.

Background

Tanzania has experienced steady Gross Domestic Product growth of 7% per annum over the last decade, yet this has not translated into reduced unemployment and poverty among youth (RAWG, 2011). Each year approximately 900,000 Tanzanian youth enter the job market competing for 50,000 to 60,000 new jobs (Marupa, 2016). Tanzania has one of the largest

youth populations in the world (<http://www.restlessdevelopment.org/tanzania>), with the largest concentration of youth living in Dar es Salaam. Youth migrate to Dar es Salaam, one of the largest and fastest growing cities in East Africa, in search of opportunity (Goldberg, Garcia, & Fares, 2009; RAWG, 2011), and as a result nearly half (46.8%) of the city's citizens are between 15-35 years old (Francisco et al., 2013). Overall unemployment in Dar es Salaam, defined as not working within the last 7 days, at 21.5%, is double the mainland national average (NBS, 2015). While the rate of youth unemployment in Dar es Salaam is less than the city's overall employment rate, a young person in Dar es Salaam is greater than 6 times more likely to be unemployed than a rural youth (Morisset, 2013).

In addition to a dense and highly competitive labor market in Dar es Salaam, absence of relevant skills and lack of access to capital are primary barriers to employment (Chiligati, 2007). More youth are accessing higher education (RAWG, 2011), but curricula in Tanzania train students for examinations, resulting in highly educated youth with skills mismatched to employer needs or self-employment (Ndyali, 2016). Thus, despite a willing population of local workers, employers have turned to non-nationals with more appropriate skills (Peter, 2013). Tanzania ranked 13th out of 15 countries in sub-Saharan Africa for access to credit in 2016 (ICAEW, 2016). Decades of financial reform have increased credit access for the private sector (RAWG, 2011); however, these programs have been reported to be unreliable (Chiligati, 2007), or perceived to target specific groups of youth (Peter, 2013). Credit for business development has largely depended on community members pooling resources to form Village Community Banks (VICOBA) or Savings and Credit Cooperatives (SACCOS) (Bwana & Mwakujonga, 2013; Lushakuzi, 2017). Access of microfinance loans has increased in the last decade, yet remains a relatively young industry in Tanzania (MFTransparency, 2011). Given their lack of relevant skills and access to capital, youth that do find employment work in informal or vulnerable jobs where remuneration is low and sustainability infrequent (Goldberg et al., 2009; Ndyali, 2016; Okojie, 2003).

Combating youth unemployment remains a national priority in Tanzania (YED, 2015). Recent priority areas have included investing in human capital and creating a more enabling business environment, yet, a gap in credit access for the smaller enterprises remains (RAWG, 2011).

Methods

We targeted young men from four wards of Kinondoni Municipality, Dar es Salaam, offering access to microfinance loans as part of a cluster-randomised trial to assess the efficacy of a microfinance and health leadership intervention on STI incidence and IPV perpetration (Kajula et al., 2015). These contiguous wards are densely populated and include citizens with some of the lowest social economic status in the city (NBS, 2013). Through a pilot project in one of the wards we learned that these young men were mostly unemployed, with limited income generating activities, and lacked access to credit to start personal businesses (Maman et al., 2016). The use of microfinance as an intervention component was informed by this pilot work with young men's social networks through which we learned that some of the young men engaged in some business activities with their peers, but desired business training and needed start-up funds to build their businesses. We found providing small loans

to young men in this population, who are normally distrusted and lack collateral to access credit, to be feasible and acceptable (Maman et al., 2016).

Participants were primarily male members of urban social groups locally referred to as 'camps' (Yamanis, Maman, Mbwanbo, Earp, & Kajula, 2010). Camps consist of stable social networks that occupy fixed locations, existed for an average of eight years, had on average 26 members, nominated leaders, and required membership dues. Common activities in camps included socializing through sports or dancing, and in some camps, collective business endeavors. Members also provided both social and instrumental support to each other (Yamanis et al., 2010). Camps offered venues through which to access networks of young men for this study. The average age of men enrolled in this cluster-randomised trial was 26 years (Mulawa et al., 2016), and 75% of men enrolled were under 30 years of age. Thus, the vast majority of study participants were youth, according to the African Youth Charter which defines youth as persons between 15 and 35 years of age (Union, 2006). Sixty camps were randomly selected for participation in the trial and 30 were randomly assigned to receive the two-year intervention beginning in March 2014 (Kajula et al., 2015). We obtained IRB approval from The University of North Carolina (12-1111) and Muhimbili University of Health and Allied Sciences (MUHAS).

Microfinance Implementation

We partnered with Youth Self-Employment Organization (YOSEFO), a local microfinance institution (MFI), for microfinance implementation. YOSEFO started as an NGO providing micro-loans to low-income entrepreneurs in 1996, built over 20,000 clients with over US \$2.5 million loaned, and recently transitioned to YETU Microfinance Bank PLC to continue serving the unbanked and underbanked (TheMix, 2012). For this study, YOSEFO conducted a five-day business and finance training with the youth, covering topics including entrepreneurship, business development and expansion, and loan financing (Table 1). We held booster sessions at six-month intervals to provide borrowers a forum to discuss issues, share techniques, and receive additional instruction. Booster sessions were offered in each participating ward and were open to all intervention camp members, regardless of whether or not they had taken a loan. Our research team financed initial loans and loan officer salaries throughout the duration of the project.

Men meeting eligibility criteria could access loans of US \$100. These criteria included having attended the five-day training, completed baseline survey, deposited \$5 in savings, paid \$5 loan fees, documented physical collateral against the loan, formed a loan solidarity group containing up to 5 members, and obtained loan application approval by group and camp leader. Individuals self-selected members for their solidarity groups. Interested borrowers deposited required savings and paid fees in three weekly installments post-training to get in the habit of meeting loan officers at a scheduled time, and received their loans at the third week post-training. Loans were available in six- or nine-month terms (18% and 27% interest respectively). Eligible participants could take a loan anytime during the first 18 months of the 2-year intervention period.

Loan officers held weekly repayment sessions in each ward of operation. Sessions consisted of payment collection followed by a loan officer led review on topics related to business

development. Men were expected to attend each repayment session with their group, and deposit minimal savings in addition to their repayment. If an individual was unable to pay, it was the responsibility of his group to provide repayment for that week. Men with three delinquent repayments defaulted; their collateral would be collected until loan repaid, and they would be ineligible for future loans. Men fully repaying loans were eligible for increasingly larger loans. Contrary to repayment rules taught during training, groups with less than five members were permitted, members did not always pay when another member was unable, and collateral of defaulters were not consistently collected. The YOSEFO CEO and loan officers explained that rules were adapted to the context to facilitate better long-term repayment.

Data Collection and Analysis

We used mixed methods to assess individual and contextual level factors affecting loan repayment among camp members. This approach included a qualitative sub-study and quantitative analysis of factors associated with repayment. Themes emerging from the qualitative results partially informed variable selection for quantitative analyses.

Qualitative data collection and analysis

We conducted a qualitative sub-study with camps participating in the microfinance intervention to understand loan access decisions, barriers and facilitators to loan repayment, and role of leadership. We purposively selected three camps and conducted in-depth interviews with 18 individuals (twelve members and six leaders). Our intervention coordinator intentionally selected five members repaying well and seven members struggling with repayment. All six leaders selected were successful in repayment. We used applied thematic analysis to note barriers and facilitators to repayment at the individual and contextual level. A team of four individuals coded interview transcripts using Dedoose, a qualitative software program. Two transcripts were double-coded across all team members and compared to develop consistency and inter-coder reliability. Themes which emerged at the individual and contextual levels for which we had complementary quantitative data were then used in a quantitative analysis to determine their association with loan repayment.

Quantitative data collection

We collected survey data using computer-assisted personal interviews at baseline, then 12 and 30 months after intervention launch. The survey included questions on demographic characteristics, and in the 12- and 30-month interviews experience with microfinance loans. Loan officers collected process data, including amount repaid, savings deposited, and repayment completion date at each repayment session, then uploaded the data via Access databases. We downloaded this data in the US to create bi-weekly reports to monitor repayment, enabling targeted follow-up with camps struggling with repayment. We obtained consent prior to the first wave of behavioral data collection.

Measures

Outcome Variable: Complete Loan Repayment.—Complete loan repayment was defined as having repaid 100% principal + loan interest. Loan repayment was treated as a

dichotomous variable in our statistical analyses (complete loan repayment or non-complete loan repayment). For descriptive purposes, we also calculated partial, minimal, and no loan repayment. Partial loan repayment was defined as having repaid 50% or more but less than 100% of principal + interest. Minimal loan repayment was defined as having repaid less than 50% of principal + interest but more than nothing. No loan repayment was defined as having made no payments towards principal + interest.

Individual-Level Predictors.—We measured individual-level predictors at baseline. Individual-level predictors include demographic characteristics, loan term, prior business experience, and whether the participant was a leader in his camp. We assessed participant's age in years. Each participant was also asked to report the highest level of education completed and responses were categorised as primary school or less, some secondary school, and secondary school completed or greater. We assessed marital history by asking men whether they had ever been married. We assessed number of children by asking men to report the number of children they have had. We assessed SES using principal components analysis (PCA) to compute a composite score of a wealth index assessing ownership of 10 different household assets (Filmer & Pritchett, 2001). We then categorised the scores for each participant into terciles based on the sample of all men at baseline (Low SES, Middle SES, or High SES). Loan term (6-month vs. 9-month) was included as predictor of loan repayment to control for the effects of different loan terms on loan repayment. Prior business experience and leadership were included as individual-level predictors because they emerged as important factors affecting loan repayment through the qualitative interviews. We assessed prior business experience by asking men if they operated any business or did any self-employed activity during the last 12 months (no prior business experience vs. any prior business experience). We also asked men to report their role in their camp; responses were categorised as follows: camp leader (chairperson, assistant chairperson, secretary, or treasurer) or member.

Contextual-Level Predictors.—Since our qualitative results suggest that contextual-level factors at the camp level were important in loan repayment, we sought to examine the effect of camp-level contextual variables, including camp size, percent of male members who attended the training, percent of male members who took a loan, and whether a leader successfully repaid. Camp size was a continuous variable, defined as the number of men who were members of each camp at the start of the study period. Using camp size as the denominator, we computed the percent of male members who attended the five-day business and finance training. Similarly, we computed the percent of male members who took a loan in each camp. We hypothesised that as the percentage of those trained and accessing loans increased, repayment would increase. Finally, we looked at whether at least one camp leader completely paid off a loan in the camp. For this variable, we treated camps in which leaders did not participate in the MFI intervention as no leaders completely repaid. Drawing on our qualitative data, we also hypothesised that the camp leader's involvement and repayment success would influence members' repayment. Finally, we created dummy variables to represent each of the four wards in the study area.

Quantitative Analysis

We used a modified Poisson approach, as recommended by Zou and Donner, to produce relative risk estimates of complete loan repayment while accounting for the clustering of men within camps (Zou & Donner, 2013). Risk ratio estimates improve when adjusting for covariates when using this modeling approach. Our model looked at both individual-level and contextual-level predictors of complete loan repayment simultaneously. Statistical analysis was conducted using PROC GENMOD in SAS version 9.4 (SAS, 2011). We evaluated statistical significance at $p < .05$.

Results

Qualitative Results

Demographic characteristics were not significantly different among the three groups of participants in the qualitative component: seven camp members who were repaying loans well; five who were not repaying well; and six leaders. Among the five members repaying well the average age was 33.4, three were married, four had children, and all five fell in to the middle SES tercile. Among the seven members not repaying well the average age was 31.6, six were married, all seven had children, and 6 fell in to the middle SES tercile with the other in the low tercile. Among the six camp leaders interviewed in the qualitative component all were repaying well, the average age was 34.7, all were married, all had children, and 5 fell in to the middle SES tercile with the other in the low tercile.

Individual factors affecting loan repayment—Participants with a pre-existing business were at an advantage for loan repayment. Many of these business owners took loans to expand their product stock or location of operation. In contrast, men with no previous experience reported difficulties weathering the ebbs and flows of business, used initial profits for consumable items rather than business development, and either had to invest part of the loan in retail space or risk selling roadside without permits. One camp leader commented,

Most of those who are able to repay are those who went to develop their businesses and not start a new one.

Motivation and advanced planning were mentioned by many as key to successful repayment. Participants reported being motivated by the incentive of a larger loan upon repayment. While many participants lamented the small amount of the first loan, others focused on long-term business potential with larger loans. One leader explained,

The secret of their successes [those who repay] is that they have their personal expectations to develop themselves business-wise.

Participants used a variety of strategies to curb risk and ensure timely repayment, including diversifying businesses and distributing risk, giving friends and family small sums of money to start different businesses. Another participant reported allocating all initial sales for weekly repayment,

I know that if a customer pays me this amount I put it aside so that I go to repay the loan next week in order to get another loan.

Unforeseen expenses contributed to repayment troubles. Some participants solved personal problems with loan money including paying medical expenses for self or relatives, paying for child's school, contributing to funeral costs, and purchasing basic needs. One member explained his situation,

I didn't repay well because of this [health] problem with my mother. I was making journeys to and from...the hospital.... It disturbed me very much.....You find that the medicines have finished. So, you take the repayment money and send it there [to the hospital]. Therefore, you become unstable a bit.

Contextual factors affecting loan repayment—Both members and leaders reported that camp leaders played an integral role in promoting repayment. Leaders viewed themselves as enforcers and educators, there to remind members to repay, reinforce the consequences of delinquency, and provide guidance on business development. Leaders used a variety of tactics to promote timely repayment, including camp meetings to discuss challenges, assigning a delegate each week to collect repayments from all members, encouraging doubling payments to cover delinquencies or as insurance against future repayments, encouraging partial payment when full payment wasn't possible, and even showing up to sessions when no payment was possible. One leader explained,

When I come to the camp I tell them, 'my friends...make more efforts. Even if you have no money, get in the spirit of going to see the teachers there at the (repayment) center'.

Some camp leaders used creative pressures to encourage repayment and maintain the integrity of the camp's name. In one camp, leaders with ties to local government had members delinquent in repayment report to these officials prior to repayment sessions. Another camp's leaders threatened to cancel camp membership of those not repaying. He explained,

When it reaches the day of repayment he is not seen. We later on told him that we will stop him from being a member. So, the one who is not repaying, we will repay for him but he will not be in our unity [camp]. So they have started to bring the repayments.

Participants were also motivated by leaders to achieve collective camp goals. These goals were consistent across various camps and included becoming registered with the government, collecting an emergency reserve, and building a collective camp business. As one leader explained,

I want the camp to be very big and become camp businessmen. Eeeh, that's why I insist them that they should not ignore this project.

Repayment in some camps stalled due to the perception that the loan was a grant from foreign donors, a rumor that spread among some camps. One leader explained,

It happened that one camp (Name withheld) said that the money is from white people so this money is not needed to be repaid. Therefore, that one [camp rumor] was also affecting our camps here.

This rumor spread among physically proximal camps in adjacent wards. Another leader added,

That poison penetrated into their minds and then some of them [members] started being stubborn in making their repayments. That's how the difficulties came about after that rumor spread.

Other camps in the vicinity resisted the rumor, at least partially due to leader influence. One leader explained his camp's reaction,

The rumors entered into their [members] minds in the beginning but after a certain period we sat with the center leadership and resolved the issue. I sat with the center leadership and we arranged and called members who took the loan and talked with them so that condition ended.

The business training offered may have influenced repayment. Participants reportedly valued the depth of training offered. As one member described,

The education given here is different from that one from [other lender] because the education here took about seven days unlike those ones where you are just educated for only two hours.

However, participants requested ongoing training to increase understanding of credit. One leader explained,

I see that if time is available YOSEFO should make a seminar again for us so that people know that they take the loan for what purpose. Although we have been educated about the benefits, but people do not understand. Perhaps they should give us educative seminar to know that when you take money, what does that money mean.

Quantitative Results

Among men who participated in the baseline assessment and were invited to the intervention arm (n=621), 525 (85%) attended training and 162 (26%) took a loan. One of the men died during the trial, thus we present data on 161 men. Individuals taking a loan represented 22 of the 30 camps randomised to the intervention; members from eight camps did not participate in microfinance.

The mean age of those who took a loan was 29.8 (std dev: 7.5). The education level among the majority of those who took a loan was primary education or less. The majority were never married but most had at least one child. The majority were classified as high SES compared to the rest of the population in the study. In terms of contextual characteristics of the 22 camps participating, 30% of the invited camp members took loans. Among the camps that took loans, 50% of these camps included a camp leader who successfully repaid the loan (Table 2).

Among men that took an initial loan, 56% (n=90) repaid completely, 17% (n=27) repaid partially, 19% repaid minimally (n=31), and 8% (n=13) repaid nothing. Repayment differed by ward (Figure 1). Of the TZS 34,240,000 (USD 21,400) borrowed for the first loan, a total

of TZS 30,351,200 (USD 18,970), 88.6% of principal, or 72.2% of principal + interest was repaid. Average per capita savings deposited as part of this project was TZS 49,783 (USD 31.11).

Individual Level predictors of loan repayment—Controlling for all other variables in our multivariate model, men who had prior business experience were significantly more likely to completely repay their loan (risk ratio RR=1.28, $p=.03$) (Table 3). Increasing number of children was significantly associated with complete loan repayment (RR=1.08, $p=.03$). Compared to men who completed primary school or less, those who completed secondary school or greater were significantly more likely to have completely repaid (RR=1.47, $p=.02$). Men who completed some secondary school did not differ from men who completed only primary school or less in complete repayment. Marital history, age, SES, being a camp leader, and loan term were not significantly associated with complete loan repayment.

Contextual-level predictors of loan repayment—As the percent of camp members who attended the five-day business and finance training increased, men were significantly more likely to completely repay their loan (RR=1.02, $p=.04$), controlling for all individual-level and contextual-level predictors. Interestingly, as the percent of male members who took a loan increased, men were less likely to completely repay (RR=0.98, $p=.003$). Men within camps in which at least one camp leader completely paid off a loan were significantly more likely to completely repay (RR=2.00, $p=.05$). Finally, ward was significantly associated with complete loan repayment. Specifically, compared with men in Ward D, men in Ward A were significantly more likely to successfully repay their loan (RR=2.04, $p=.03$). Similarly, men in Ward B were significantly more likely to successfully repay than men in Ward D (RR=2.10, $p=.02$). The difference in complete loan repayment between men in Ward C and men in Ward D did not reach statistical significance.

Discussion

Overall repayment of microfinance loans offered to young men in Dar es Salaam had mixed results, with slightly over half of borrowers completely repaying their first loan. This rate of repayment is low compared to well established MFIs, where repayment rates above 90% are common and necessary towards operational or self-sufficiency (Accion, 2017). High rates of default in other microfinance programs have been associated with various factors. Programs in India reached 20% default due to natural crises (Srinivasan, 2010), in Ghana lack of monitoring, screening, and training led to 34% default (Addae-Korankye, 2014), and in Pakistan loose enforcement of rules contributed to 51% default (Kurosaki & Khan, 2012).

Our qualitative and quantitative analyses helped identify contextual and individual factors that contribute to complete loan repayment in this population. Both modes of inquiry revealed the importance of group leadership, prior business experience, and training in loan repayment. Our quantitative results indicated members of camps in which at least one leader completely repaid a loan were twice as likely to repay as members of camps where no leaders had completely repaid a loan. Similarly, through our qualitative inquiry we learned that some leaders were directly involved in the entire loan process, followed member

repayment closely, and served as role models for other borrowers. As such, developing the capacity of network leaders to promote business development and loan repayment among their network members may be a useful strategy for men engaged in microfinance.

Prior business experience was also quantitatively and qualitatively associated with loan repayment. Our qualitative findings suggest that men with prior businesses succeeded in part due to existing infrastructure and experience weathering customer variability. Other studies have shown that those with business experience or a high propensity for business reduced temptation expenditures and invested more in their business (Banerjee, Duflo, Glennerster, & Kinnan, 2015). Prior business experience is a common criteria for loan access among MFIs, but was not a criteria for our study.

In regards to training, the percent of camp members trained influenced repayment in our multivariate model. Members of camps in which a greater proportion of the membership participated in the business training had a higher likelihood of completely repaying their loans. Having more members who participated in training may have been indicative of greater social cohesion in the camp, which may have indirectly influenced success with loan repayment. Further, these camps may have more strongly understood and endorsed microfinance principles. Qualitatively we found that the depth of business training was valued, and participants desired even more. Some participants, however, felt uncomfortable accessing business loans despite training, citing a need for further knowledge. Other studies have warned of the unfavorable cost-benefit ratio of investing in knowledge support for entrepreneurship (Chakrabarty & Bass, 2013). However, investing in human capital is a national priority in Tanzania (Chiligati, 2007), and access to entrepreneurial training has yet to reach pockets of the national population (RAWG, 2011). Investing in ongoing entrepreneurial training can serve to prepare men in this community to access credit for business development.

Contrary to the positive repayment results in camps with greater overall participation in training, members of camps in which a greater proportion of the membership accessed loans had a lower likelihood of completely repaying their loans. We suspect that this result is linked to the qualitative finding in which some camps perceived the loan to be a grant. Through our bi-weekly monitoring exercise to investigate and encourage camps where members had low repayment, we learned that this rumor had at least spread among two camps with particularly high numbers of borrowers. Other studies similarly have found that delinquency is contagious (Sterns, 1995). The difference in repayment success among wards can also be partially explained by the rumor that the loan was a grant. The two wards with the lowest repayment rates were contiguous, and qualitative results confirmed that this rumor had reached camps from both wards. Further, these wards had the highest number of borrowers and denser populations, which may indicate increased competition in these areas. In response to these contextual issues we moved a more experienced loan officer in to the ward with lowest repayment midway through the intervention.

Additional demographic factors that predicted loan repayment included education and number of children. Higher education predicted better repayment compared to those with the least education. This is not surprising considering those continuing to higher education have

the resources, time, and dedication to further their education. Additionally, we found that having an increasing number of children was significantly associated with likelihood of complete loan repayment. An increasing number of children may have served as a motivation to successfully repay the loan. Finally, personal characteristics including motivation and planning were linked to repayment in the qualitative data. These data indicate that sharing planning strategies during training could net positive repayment results. Our quantitative data supported the idea of using criteria including prior business experience and education attainment for loan eligibility to improve overall repayment; however, if we had used these criteria, we would have eliminated a number of willing borrowers. Microfinance and health programs may thus wish to consider criteria such as business training and peer mentorship as proxy for business experience to access credit, as both facilitated positive repayment results with participants in this study.

Emergency expenditures such as family medical and education needs reduced our participants' payments. While unexpected expenditures affected complete repayment success, the loan provided a solution to a personal problem. Developing emergency funds in lending groups may help smooth this consumption spending, and has been shown to help families deal with adverse health shocks (Gertler, Levine, & Moretti, 2009).

A number of other variables we hypothesised would be associated with repayment – age, SES, camp role, and marital status – were not associated with complete loan repayment in our multivariate model. Being a camp leader was also not associated with loan repayment. However, we may not have had enough leaders to detect significant differences. Participants in the microfinance were relatively older (29.8 years) than the average age of all study participants (26 years). Since age is a common eligibility criteria for loan access, we thought increased age would be associated with loan repayment. Younger members may have self-selected not to participate in the microfinance intervention. These younger men might need more support and could benefit from peer role models in order to feel comfortable accessing loans in the future. Further, with no association between SES and repayment, our data suggest that screening on SES in this context may not be fruitful. Finally, we expected married individuals to be motivated in business to support their families. It is possible that married borrowers were one of many family earners, which may have decreased pressure on them to repay. Competing family pressures and expenses may have also reduced ability to pay back.

The alteration of repayment rules during the course of the study may also have affected repayment in both a positive and negative way. Lax enforcement may have fueled the rumor that the loan was a grant and created poor repayment habits in some camps. Lack of timely repayment enforcement has led to delinquency or default in other populations (Kereta, 2007). Loan officers justified alterations as a means to decrease pressure and thus increase comfort with the process. Adaptations to microfinance rules are not uncommon when serving the poorest clients who are at high risk of default (Giné & Karlan, 2014). For example, while weekly repayments have been shown to facilitate informal risk sharing, reduce risk of skipping payments, and maintain discipline (Feigenberg, Field, & Pande, 2013; Vigenina & Kritikos, 2004), other studies have shown no difference in repayment success between weekly and monthly repayment (Field & Pande, 2008). Allowing more

time between repayment dates can also reduce repayment stress (Field, Pande, Papp, & Park, 2012). In addition, group lending has traditionally been more popular with poorer populations lacking collateral (Madajewicz, 1999), though individual lending liability has gained popularity in combination with better screening (Tsukada, 2014). For example, the Grameen Bank relaxed the group pressure component of group liability. Their microfinance groups are now using individual liability while maintaining group meetings which can be helpful in other ways for participants (Dowla & Barua, 2006; Giné & Karlan, 2014). The context of poverty in which the youth in our study live suggest that enforcing group repayment rules, or using individual lending liability with enhanced screening and group meetings would be beneficial. These strategies could increase access to credit in this community while minimizing risk.

This study has limitations. We did not interview camp leaders who failed to repay their loan. Doing this could have further elucidated the impact that leaders have on camp members. We also did not ask if children of participating fathers live with that father. Since greater number of children was associated with better loan repayment, understanding who was dependent on the borrower could help explain repayment success. It is important to note that our data come from men who are members of camps in Dar es Salaam, and as such, may not be generalizable to other peer networks in sub-Saharan Africa. However, organised groups of mostly men have been described elsewhere in Africa (Covey, 2010; Kynoch, 1999; Soldan, 2004; Spergel, 1990). Furthermore, according to a book of ethnographic descriptions of youth all over the world, more and more young people (and particularly those in urban areas of developing countries) are participating in social groups or 'gangs' that are similar to the camps we studied because of the 'increasingly prolonged, decoupled transitions between education and work, dating and mating, and childhood and adulthood' (Nilan & Feixa, 2006). Thus, the camps in our study may not be unique to Dar es Salaam, Tanzania, but rather characteristic of poor urban settings throughout sub-Saharan Africa.

Our study also had several strengths. We used mixed methods to uncover both individual and contextual factors related to loan repayment. We were able to capture these contextual factors quantitatively because we included a defined population, camp members, in our study. Finally, we reached a young, largely uneducated group of men who are traditionally overlooked by microfinance programs.

Conclusion

Our findings offer insights on strategies to promote business and loan repayment success with young men in sub-Saharan Africa, improving likelihood of success of microfinance and health programs for men. At the individual level, screening based on characteristics such as business experience and education may improve repayment rates. However, these criteria may have rendered the youth we targeted for this intervention ineligible. Alternatively, microfinance programs could require business training and provide mentoring for younger and less experienced borrowers. At the contextual level, leveraging leaders of social groups and peers successful in business could promote repayment. Peer role models could share context-specific strategies they used to generate business, help motivate individuals as their comfort with business development and borrowing increases, and serve as mentors for new

businesses. In addition, providing ongoing access to business skills training could improve confidence in business engagement among young men and comfort with microfinance rules. Finally, enforcing rules adapted to this population, including group repayment meetings, and consequences for missing payments could help keep borrowers accountable. Flexible rules through a pilot project may help implementers discover techniques to maximise repayment from borrowers, but more rigid rules used over time have proven key to high repayment rates (Seibel & Almeyda, 2002). Requiring savings could also offer borrowers a forum and location to save profits for future investments. Future research in similar settings with young men could explore using individual liability loans coupled with group meetings, the potential of savings groups for emergency expenses, and mentoring programs that pair current business owners with aspiring entrepreneurs.

Our University-MFI endeavor mirrored a donor-lender partnership. Public-private partnerships including MFIs, donors, trainers, and government could collaboratively support microfinance and health initiatives in areas with risky borrowers. MFIs often rely on donors in the growing stages and work towards self-sufficiency and profit (Robinson, 1998). Early financial support can provide the opportunity to learn context-specific characteristics of borrowers and repayment success to develop screening and rules to maximise reach and borrower success. Funding support through our study made working with our population a low-risk enterprise for the local MFI. At the conclusion of our study, the agency opened an office in a participating ward to sustain operations with youth served by our study. Numerous camp members continued with larger loans and recruited others to participate. At this time, prior business is not a requirement to receive a loan, and rules and regulations are strictly enforced. Further studies should evaluate whether public-private partnerships to support microfinance are associated with long-term borrowing success and greater self-sufficiency among high-risk borrowers such as the ones in our study. For the young men in our study, there were limited options for employment or accessing capital for business development. Research on strategies to overcome barriers to microfinance, such as this one, could have the long-term effect of expanding access to credit and savings for similarly under-privileged groups.

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Figure 1.
Loan repayment success by ward.

Table 1:

Five-day entrepreneurship, business development, and loan financing training offered to intervention participants

DAY 1: Entrepreneurship
Characteristics of Entrepreneurship and Entrepreneurs
Behaviors of Entrepreneurs
How Entrepreneurs Fail, How they Succeed
Envisioning Entrepreneur
DAY 2: Marketing, Sales And Customer Service
Price, Product, Placement, Promotion
Identifying Customers
Five Ways to Increase Profit
Customer Service Provision
Difficult Customers
DAY 3: Techniques For Business Growth And Expansion
Expanding Network
New Customer Research
Creating Demand
Using Current Resources for New Business
DAY 4: Costs, Sales And Prices In Business
Calculating Cost of Sale
Pricing for Profit
The Importance of Cash Flow
Mock Business Exercise
DAY 5: Effects Of Aids, Business And Family, Loan Financing
Characteristics of Family Business
AIDS Prevention for Business Stability
Loan Criteria
Loan Repayment Procedures
Loan Request Process

Table 2:

Participant demographics and camp characteristics of those participating in microfinance.

Individual Characteristics	Participants (n=161) n (%) or Mean (SD)
Age (years)	29.8 (7.5)
Education	
Primary school or less	102 (63.4%)
Some secondary school	17 (10.6%)
Secondary school or more	42 (26.1%)
Marital history	
Ever married	70 (43.8%)
Never married	90 (56.3%)
Children	
0	59 (36.4%)
1	59 (36.4%)
2	29 (17.9%)
3 or more	15 (9.3%)
SES (relative to baseline sample)	
Low	25 (15.5%)
Medium	52 (32.3%)
High	84 (52.2%)
Loan term	
6 months	150 (93.2%)
9 months	11 (6.8%)
Prior business experience	
No	82 (50.9%)
Yes	79 (49.1%)
Camp leader	
No	134 (82.2%)
Yes	27 (16.8%)
Completely repaid loan	
No	71 (44.1%)
Yes	90 (55.9%)
Contextual Characteristic	Camps (n=22) n (%) or Mean (SD)
Camp Size	26.1 (10.3)
Percent of male camp members who received microfinance training	67.5 (19.6)
Percent of male camp members who took a loan	30.3 (21.6)
Camp had leader who completely repaid	11 (50.0%)
No	11 (50.0%)
Yes	

Individual Characteristics	Participants (n=161)
	n (%) or Mean (SD)
Camps accessing loans by ward (denominator = total camps with loans)	
Ward A	4 (18.2%)
Ward B	8 (36.4%)
Ward C	3 (13.6%)
Ward D	7 (31.8%)

Table 3:

Relative risk estimates of complete loan repayment while accounting for the clustering of participants

	Risk Ratio	95% CI	P-value
Individual-Level Predictors			
Age	1.02	(1.00, 1.04)	0.12
Education			
Secondary school completed or greater	1.47	(1.07, 2.03)	0.02
Some secondary school	1.01	(0.70, 1.47)	0.94
Primary school or less	REF	REF	REF
Marital history	1.08	(0.83, 1.40)	0.56
Number of Children	1.08	(1.01, 1.15)	0.03
SES			
Low SES	REF	REF	REF
Medium SES	1.12	(0.68, 1.85)	0.65
High SES	1.38	(0.86, 2.21)	0.18
Loan term (6 vs. 9 months)	2.06	(0.88, 4.84)	0.10
Prior business experience	1.28	(1.02, 1.61)	0.03
Camp leader	1.18	(0.97, 1.45)	0.1
Contextual-Level Predictors			
Camp size	0.98	(0.96, 1.01)	0.13
Percent of male camp members who received microfinance training	1.02	(1.00, 1.04)	0.04
Percent of male camp members who took a loan	0.98	(0.97, 0.99)	0.003
Camp had leader who completely repaid	2.00	(1.02, 3.94)	0.05
Ward			
Ward A	2.04	(1.07, 3.89)	0.03
Ward B	2.10	(1.14, 3.85)	0.02
Ward C	1.65	(0.83, 3.29)	0.15
Ward D	REF	REF	REF