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MICROFINANCE AS A DETERMINANT OF DOMESTIC VIOLENCE IN BANGLADESH: WHO IS AT RISK?

Alvin Christian*

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ABSTRACT

This paper examines the impact that microfinance participation has on reported domestic violence rates among women in Bangladesh. While microfinance programs are aimed at reducing poverty, they may have unintended consequence and contribute to domestic violence or Intimate Partner Violence (IPV). Using nationally representative data from the Urban Health Survey (2006), I study the association between microfinance participation and domestic violence among currently married women. The outcome variable is domestic violence, which is coded as a dummy variable, where a women either has experienced domestic violence episodes or she hasn't. Predictor variables include microfinance participation, community attitudes, liberal views, labor force participation, and socioeconomic variables, such as age, marriage age, wages, education, and religion. My results indicate that microfinance was positively associated with incidences of domestic violence, especially among highly educated and wealthy women. Results also indicated that participants with daughters were more susceptible to violence. On the other hand, microfinance membership showed signs of reducing rates of IPV among participants living in villages, even when controlling for community attitudes towards domestic violence. Incidences of IPV also varied among different microfinance organizations.

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Introduction

This paper studies the relationship of women's participation in microfinance programs and domestic violence. Many see microfinance programs as a panacea to alleviate poverty; giving small loans to traditionally non-creditworthy individuals would give the destitute the ability to invest into ventures and raise income levels. Bangladesh has provided loans for poor women since the 1970s as a tool to combat poverty. Loaning to women became a particular area of interest for these banks because women had excellent repayment rates, which contributed to the sustainability of these organizations. Grameen Bank reported in 2009 that 98% of its 8 million borrowers were women (Loro, 2013).

Past studies that examine the effectiveness of these programs have shown that they may play a role in reducing poverty but fail to reach the very poor (Swain et al., 2008; Abed and Martin, 2007; Khandker, 2005, 1998; Littlefield et al., 2003; Mann, 2003; Quach et al., 2003; Robinson, 2002; Vonderlack and Schreiner, 2002; Manroth, 2001; Panjaitan-Drioadisuryo and Cloud, 1999; Pronyk et al., 2007; Main and Hulme, 2003; Amin, Rai, and Topa, 2003); however, recent studies show that they may have no significant impact at all on combating poverty (Banerjee, Karlan, and Zinman, 2015). As women participate in microfinance organizations, they typically become more empowered and less vulnerable (Hashemi, Schuler, and Riley, 1996; Hoque, 2004). There is conflicting evidence on how decision-making abilities and reported wellbeing are affected by microfinance participation (Steele, Amin, and Naved, 1998; Kelkar, Nathan, and Jahan, 2004; Kasynathan, 2001). Several of these studies have also noted increased contraceptive use among members and better health outcomes for the children of participating women (Khadker, 2005; Pitt and Khandker, 1998; Pitt, Khandker, Chowdhury and Millimet, 2003; Steele, Amin, and Naved, 1998).

Although a powerful tool in relieving financial stress, microfinance programs, especially in conservative areas, come with unintended consequences. These programs challenge traditional gender norms by giving women exclusive access to income opportunities (some of these programs are restricted to women only or heavily favor women participation). Greater income can offer greater autonomy and status in the household, which can intimidate men and shake up conservative patriarchal structure, leading men to react violently. Several studies have focused on the relationship between microfinance organization and rates of intimate partner violence (IPV). Some studies show microfinance participation having a positive relationship with domestic violence (Goetz and Sen Gupta, 1996; Khan et al., 1998; Ahmed, 2003), some a negative relationship (Kabeer 1998; Hussain et al., 1998; Skinner, 1989; Levinson, 1989; Leach and Shashikala, 2002), and others no relationship at all (Abdullah, Quereshi, and Quayes, 2015). The conflicting evidence behind the effect that microfinance organizations have on rates of domestic violence makes it a continuing area of study for economists and policymakers who seek to find out more effective and efficient ways of alleviating poverty in developing countries.

This paper serves to add on to the existing literature of microfinance participation and its links to domestic violence. I find that women of higher socioeconomic status who participate in microfinance programs are more susceptible to violence, confirming the work of some recent studies. Furthermore, I show that microfinance participants with daughters as opposed to sons are more susceptible to IPV, while participants living in villages are less prone to violence. I also find that membership in different microfinance organizations affects incidences of domestic violence.

The rest of this paper is organized as follows. Section 2 discusses the existing literature. To understand how microfinance participation and domestic violence are related, I first look at

the roles microfinance organizations play in poverty reduction. Then, I examine the literature relating to how these organizations may affect rates of IPV among women. Section 3 is the theoretical framework for my study. Section 4 is a review of my data, variables, and methodology. Section 5 presents descriptive statistics and the results of my model estimations, section 6 is a discussion of these results, section 7 is the policy implications, and section 8 is my conclusion.

Literature Review

Microfinance

Grameen Bank, BRAC, Proshika, and ASA are the four major microfinance organizations in Bangladesh. Their primary aim is to alleviate poverty by giving small loans to poor individuals, particularly women. They break through traditional gender norms, encouraging women to become entrepreneurs and start small businesses. Over 30 million women have taken advantage of these opportunities (Lachman, 2011). They typically employ a group-lending model. This means that the microfinance group is responsible for the repayment of the loans of all its individual members. If one member is not able to pay back their loans, this would shut the whole group out from accessing loans in the future. Therefore, a strong bond built on mutual benefits and trust is formed among members.

Many studies show that microfinance organizations have a positive effect on poverty reduction (Swain et al., 2008; Abed and Martin, 2007; Khandker, 2005, 1998; Littlefield et al., 2003; Mann, 2003; Quach et al., 2003; Robinson, 2002; Vonderlack and Schreiner, 2002; Manroth, 2001; Panjaitan-Drioadisuryo and Cloud, 1999). In a study of 2,250 microfinance member and non-member households, Hussain (1996) found that microfinance participants

saved much more of their income than non-participants. The study found that 52% of member households were below the poverty line, compared with 69% of non-participant households. The study also found that 27% of members were below the extreme poverty line, compared with 37% of non-members. Not only is the poverty of participants reduced, but there are spillover effects for non-participants. Khandker (2005) found that in areas where microfinance was available, poverty rates significantly dropped for both households receiving loans and for households not receiving loans, although more subtly. Chemin (2008) found that in Bangladesh microfinance participation had a positive effect on household expenditures. The findings of Khandker and Pitt (1998) indicate that a 1% increase in lending for women led to a 0.18% increase in annual household expenditures. However, this was quickly rebuked by Morduch (1999), who used the same data as Pitt and Khandker (1998) and found that this increase could be better explained by consumption smoothing over seasons and warned against the dangers of alleviating poverty through banking. The perceived positive poverty reduction effects of microfinance organizations and their spillover effects make them very attractive tools to policymakers the international community and allow these organizations to garner international praise.

One of the critiques of the above studies is that they do not disassociate causation and correlation. They suffer from selection bias; there is a self-selection of a certain type of women into these microfinance programs and where these programs choose to operate. In a study consisting of six countries, Banerjee, Karlan, and Zinman (2015) use a randomized trial approach to establish causality and limit selection bias. They examine microfinance programs in Bosnia, Ethiopia, India, Mexico, Morocco, and Mongolia from 2003-2012. Although key estimates are positive in 4/6 countries, microfinance programs resulted in no statistically significant increase in household income. There was also no significant increase in household

consumption. They do, however, see an increase in business activity and profit. Their results also found mixed results on microfinance participation and its effect on female decision-making. Of the four countries they looked at for female decision-making power, three found no statistically significant effect of microfinance participation, and one found a slightly positive statistically significant effect on female decision-making power. The study finds that the transformative effects of microfinance may be overstated; however, the authors note that microfinance programs still provide modest benefits on occupational choice, business scale, consumption choice, female decision-making power, and improved risk management.

Many people have called into question the reach of microfinance programs and whether they are effective at reaching the most vulnerable populations. Several studies concluded that microfinance did not service the needs of the most destitute and vulnerable populations (Pronyk et al., 2007; Main and Hulme, 2003; Amin, Rai, and Topa, 2003). Daley-Harris and Zimmerman (2009) argued that microfinance programs might hurt the very poor because they may leave them debt ridden. In another study based on six Latin American countries, Gulli and Berger (1999) found that 23% to 93% of the very poor households were excluded from participating in microfinance programs and the ensuing benefits. At best, microfinance does not appear to aid the very needy.

Microfinance, Women, and Domestic Violence

In Bangladesh there are microfinance opportunities aimed at women, providing them with small loans. Over 30 million women have taken advantage of these opportunities (Lachman, 2011). Like increasing female employment, the goal of providing women loans is to increase women's autonomy and economic mobility. There is a rich history of literature supporting the notion that microfinance has reduced vulnerability, increased social capital, and led to better health

outcomes (Amin, Rai, and Topa, 2003; Garikpati, 2008; Karim, 2011; Mayoux, 2011). Evidence also shows how these sort of programs improve family life. Women who received this sort of income were more likely to use it to improve the lives of their children (Pitt and Khandker, 1998; Pitt et al., 2006). For example, Kabeer (1998) found that when mothers received microfinance funding, their daughters were more likely to stay in school.

There have been studies that have found that exposure to microfinance programs had negative effects on female autonomy. Goetz and Sen Gupta (1996) examined who actually controlled the microfinance loans women receive. The study showed that married women had little control over their loans, and even unmarried women were likely to give over their loans to nephews or sons-in-laws in exchange for a guarantee of a regular supply of food. Additionally, larger loans were more likely to be used by other household members. Another study found that while 100% male recipients of loans retained control over them, very few women did (Montgomery et al., 1996).

Other studies show that microfinance participation led to greater female autonomy (Cheston and Kuhn, 2002; Lane, 2003; Noreen, 2011). In a study on rural Bangladesh, Pitt et al. (2006) found that women who participated in microfinance programs took on a greater role in household decision-making, had more economic resources, a stronger social network, more bargaining power in their relationships, and greater mobility. In a study based on Pakistan, Asim (2009) found no relationship between microfinance participation and female autonomy. There is inconsistent evidence on how socioeconomic status, microfinance participation, and female autonomy interact to affect domestic violence rates (Schuler et al, 1996; Bloch and Rao, 2002).

Although a powerful tool in relieving financial stress and improving family life, microfinance programs can have negative effects on women in developing countries because

they challenge traditional gender norms. An important area of study has been the role microfinance opportunities for women have on rates of domestic violence. There have been studies showing that increased participation in credit programs was correlated with increased domestic violence (Goetz and Sen Gupta, 1996; Khan et al., 1998; Ahmed, 2003). The occurrence of IPV along with microfinance appears to be related to status and income. One study showed that for wealthier women and women with secondary or higher education, membership in microfinance programs increased the exposure to IPV three and two times, respectively (Dalal, Dahlström, and Timpka, 2013). A recent study from Murshid et al. (2015) supports this claim, finding that the probability of experiencing domestic violence among microfinance participants was greater among wealthier individuals, and not for the poorest individuals; although, they found no correlation with domestic violence and education levels.

There have also been studies showing the opposite is true, that credit programs were associated with less domestic violence due to increased economic prosperity (Kabeer, 1998; Hussain et al., 1998; Skinner, 1989; Levinson, 1989; Leach and Shashikala, 2002). Schuler (1996) found that access to these programs reduced domestic violence incidents because participation in credit programs made the lives women more public. Hadi (2000) found that sexual abuse and sexual violence was less prevalent among women who partook in credit programs and financially contributed in their families. Kabeer (2005) argued that microfinance lowered domestic violence rates because it lowered financial pressure and stress related to poverty among families, which reduced the need to externalize the stress through domestic violence.

Other studies find no link between domestic violence and participation in microfinance programs (Abdullah, Quereshi, and Quayes, 2015). Some have argued that increased bouts of

domestic violence among microcredit participants can be attributed to self-selection.

Bajracharya, Ashish, and Amin (2013) have argued that women who enter into microfinance programs are more susceptible to domestic violence because they are selective of disadvantaged characteristics (i.e., poor, less educated, and less autonomous). They found that when controlling for these factors through propensity score analysis there was a negligible effect of microfinance on domestic violence.

Women who participate in microfinance are a particularly interesting case to look at when it comes to domestic violence. Evidence has shown that microcredit has increased income and cash-saving for the slum-dwellers (Alamgir et al., 2009). However, the help-seeking behavior of microcredit participants who suffer from domestic violence is an area of concern. A recent study shows that women who participate in microfinance programs are much less likely to seek help from both formal and informal agents (Sayem, Begum, and Moneesha, 2015). This suggests that microfinance participants who suffer from IPV are an especially vulnerable group and deserve greater attention.

The conflicting evidence associated with autonomy, domestic violence, and microfinance suggests that more research must be done to understand the usefulness and effectiveness of microfinance. Thus, this paper adds on to the existing literature of the consequences of microfinance in Bangladesh, looking at particularly how different social status groups are affected by microfinance.

Theoretical Framework

The theoretical framework of status inconsistency can be applied to study microfinance use and its links to domestic violence. This theory suggests that differences in status leads to dysfunctional behavior when the higher status person in a relationship is threatened by the

increase in status of the lower status person (Goode, 1971; Hornung, 1977; Yick, 2001). The theory contends that people feel imbalanced when they have a high status in one dimension and a lower status in another dimension. For example, a person who is highly educated but works a menial job may feel imbalanced. In this study a man may feel imbalanced if his wife, his subordinate according to cultural and patriarchal norms, has more economic potential or power than he deems appropriate.

Status differentials and status imbalances can be “psychologically stressful” and so people engage in “stress reducing behavioral or attitudinal response,” (Hornung, 1977, p. 624). Domestic violence is one way this response is played out; therefore, it is possible that the increased autonomy women receive via microfinance loans is likely to instigate domestic violence or perpetuate it. When a woman joins a microfinance group, she is developing a source of income and not entirely dependent on her husband, giving her economic freedom and greater economic status. This in result may threaten her husband’s status, causing him to lash out at her with physical abuse.

Method

Data

I employed data from the Urban Health Survey (2006). This data is a nationally representative sample survey of urban slum and urban non-slum populations. Bangladesh’s National Institute of Population Research and Training (NIPORT) and The University of North Carolina’s MEASURE Evaluation created the survey. Associates for Community and Population Research, a Bangladeshi private research firm, assured the successful implementation of it. The data is available to download from MEASURE Evaluation’s website.

The aim of the survey is to capture a broad profile of urban dwellers in Bangladesh. It provides information on various characteristics and measures for health-seeking behavior in the country. Some variables of interest that it captures include whether respondents are members of different organizations, migrants, smoking and drug abuse, chronic diseases, fertility and family planning, etc. The data contains 31,249 observations and 1,192 variables, a very healthy amount of data. It contains 15,979 male observations and 15,270 female observations. Whereas the data is rich in multiple aspects, for this paper, I looked at only married female observations and focused on measures of participation in microfinance groups and domestic violence incidences.

Dependent Variable: Domestic Violence

The primary dependent variable in this study is domestic violence. The survey asked if there were any disagreements which caused the respondent's husband to do the following:

1. Pushing or shaking you or throw something at you?
2. Slapping you or twisting your arm?
3. Punching you with his fist or with something that could hurt you?
4. Kicking you or dragging [sic] you?
5. Trying to strangle you or killing you or burning you?

A dichotomous variable was created to reflect domestic violence. If the respondent answered "yes" to any of the above questions, it was coded as 1 and 0 otherwise.

Independent Variables

The independent variables were chosen as key measures of socioeconomic status and based on the literature behind domestic violence. These are known elements that affect domestic violence

rates among women. Listed below are the main independent variables I used to carry out my analysis.

Age

Age was determined by the respondent's answer in the survey.

Marriage Age

This was the age of the respondent the first time they were married.

Primary Wage

Wages were determined by how much Taka the respondent earned through salary or wages in the past month. For this study, wages were looked at as a categorical variable broken up by four quantiles. The top three quantiles were compared against the bottom quantile.

Education

Two measures of education were used in this study. One measure, "years of schooling", was measured as an interval variable as the highest grade of schooling a respondent completed. The other measure, "level of schooling", was an ordinal variable with three levels—primary education, secondary education, and tertiary education. Secondary and tertiary education were measured against primary education.

Labor Force Participation

This was measured as a dichotomous variable, where if women were currently working, it was coded as 1 and 0 otherwise.

Islam

This was coded as a dichotomous variable. If a respondent said their religion was “Islam”, it was coded as 1 and 0 otherwise.

Microfinance Participation

Membership in a microfinance organization was coded as a dichotomous variable. If the respondent answered yes to being a member of at least one of the four major microfinance organizations, Grameen Bank, BRAC, Proshika, and ASA, then they were said to participate in microfinance organizations and the variable was coded as 1. If they said no, it was coded as 0.

I also looked at how membership in different organizations affected rates of IPV. Participation in Grameen Bank was coded as a dichotomous variable, where if they were a member of this organization, it was coded as 1 and 0 otherwise. Another variable was used to look at participation in the other organizations. Because the survey grouped BRAC, Proshika, and ASA in one category, they are looked at together. If a women was a member of one of those three organizations, the dichotomous variable was coded as 1 and 0 otherwise.

Community Attitudes

This variable was created to measure how a community’s views and acceptability of domestic violence would affect rates of IPV. I used only the views of men for this variable. It was

developed based on five variables, which were based on five questions where men were asked if a husband was justified in beating his wife if:

1. She neglects the children.
2. She argues with her husband.
3. She fails to provide food on time.
4. She visits her family without her husband's permission.
5. She visits her friend without her husband's permission.

These questions were coded as dichotomous variables, so if one thought a husband was justified in beating his wife the variables were coded as 1 and 0 otherwise. The average of these five variables served as a proxy for a man's acceptability of domestic violence. Then, these averages were averaged against the 512 primary sampling units (PSU) in the data, conceptually meaningful neighborhoods drawn from both slum and non-slum areas. This average then serves to highlight regional variances in the acceptability of domestic violence.

Liberal attitudes

To proxy for whether women have liberal attitudes I looked at how women looked at the prospect of women in the workforce. If a women said that it was acceptable for women to work outside the home for extra income when the husband is making enough money, she is said to have a liberal attitude. This is coded as a dichotomous variable, so a women is said to either have liberal views or not.

Village

This is coded as a dichotomous variable; if a women responds “yes” to living in a village, it is coded as 1 and 0 if they live elsewhere.

Daughters at home

This dummy variable was created by selecting only for women who have children living at home. If a women had children living at home who were female, the variable was coded as 1 and 0 otherwise. This means that a woman coded as 0 had only sons living at home.

Methodology

I start by calculating univariate descriptive statistics of the sample’s key independent variables, microfinance participation and socioeconomic status. I did the same for the key dependent variable, domestic violence. These demographic characteristics are provided on table 1 and table 2.

Next, I looked at the association between the independent variables and domestic violence. Since domestic violence was operationalized as a binary variable (you either suffered from domestic violence or you didn’t), I used maximum likelihood probit regressions to determine how the various independent variables affected the likelihood of a women experiencing domestic violence. I used the statistical software *R* to carry out all statistical operations. The significance level was set at $p < .05$ (two-tailed) for all statistical analysis.

Results

Descriptive Statistics

[Please insert table 1 here]

The full data set for women had 15,277 observations. Since the focus is on domestic violence, the sample was restricted to 11,202 currently married women, or 73% of the total sample. The age of women ranged from 13 to 59, with the average age being 31. Approximately 90% of the women interviewed identified as Muslims. There were a negligible amount of Hindus, Christians, and Buddhists. Two-thirds of women have attended some sort of schooling. About 2,700 women, 24% of currently married women, indicated that they were currently working. The mean income for working women was 2,123 Taka a month.

About 2,000 women partook in microfinance programs, 90% of which are married. Over one third of microfinance participants suffer from domestic violence. Women who participate in microfinance marry younger on average than those that do not participate in microfinance programs, especially those that face domestic violence. Microfinance participants tend to be less liberal than non-participants and those that suffer from domestic violence are much less likely to have liberal views.

[Please insert table 2 here]

A smaller proportion of microfinance participants have ever attended school compared to non-participants. Participants are also much less likely than non-microfinance participants to attend college or university (6% vs. 18%). Of those women that have faced domestic violence, there is almost no difference in the proportion of women that have attended school among microfinance participants and non-participants, although non-participants on average have more years of schooling than participants and are more likely to attend college or university. Unsurprisingly, women who do not suffer from IPV are more likely to have attended school. Two-thirds of women that do not deal with IPV and participate in microfinance have ever attended school. They have an average of 7 years of schooling. Women who do not deal with

domestic violence and participate in microfinance are more likely to have higher education experience compared to women who face domestic violence, among both microfinance participants and non-participants. Over 80% of non-IPV victims and non-microfinance program participants have ever attended school, and they have attended for almost 9 years on average. A very large number (26%) of these non-victims and non-participants have higher education experience.

Microfinance participants are more likely to be working and poorer compared to non-participants. Of those that participate in microfinance, a greater proportion IPV victims are likely to be working compared to non-victims. IPV victims who participate in microfinance earn about 37% less a month than victims who are non-participants. Women who face IPV have a much smaller monthly wage compared to women who do not face IPV. Women who suffer from domestic violence and participate in microfinance earn 18% less a month compared to non-participant domestic violence victims and 23% less a month compared to women who participate in microfinance and do not suffer from IPV.

Multivariate Regression Analysis

[Please insert table 3 here]

Using a probit regression model, I estimate the likelihood of women experiencing domestic violence. The results are summarized in table 3. Schooling and marriage age are negatively correlated with incidences of domestic violence. On the other hand, community attitudes, labor force participation, microfinance participation, and being a Muslim have positive relationships with domestic violence. The coefficient estimate for microfinance participation is 0.286, which implies that those that participate in microfinance programs are over 30% more likely to report

suffering from IPV. Having liberal views and age are not correlated with domestic violence. This supports the findings of existing studies.

[Please insert table 4 here]

I use a linear regression robustness check as seen on table 4. It indicates that microfinance participation, community acceptability, labor force participation, and Islam are still positively associated with domestic violence. Education and marriage age are still negatively associated with domestic violence.

[Please insert table 5 here]

Next, I look at specifically how wages and schooling levels influence domestic violence rates. The results are shown in table 5. Women with more education have smaller rates of domestic violence; women who have tertiary education experience are half as likely as those with only primary education experience to suffer from domestic violence. Income shows a similar pattern. Women in the third and fourth quantile are much less likely to experience bouts of violence. The coefficient estimates for the third and fourth quantile are -0.412 and -0.508, respectively, which implies that women in these income groups are almost 40% less likely to report suffering from domestic violence. In this model, being liberal appears to be negatively correlated with domestic violence; however, it is statistically insignificant (p value > 0.05). This supports existing literature that indicates that women of higher socioeconomic status are less likely to suffer from IPV.

[Please insert table 6 here]

Table 6 show the results of interacting microfinance with education and wages. When interacting microfinance with education levels, my model shows that women who are college educated and partake in microfinance present a coefficient estimate of 1.044, which implies that

they are almost 3 times as likely as those with only primary school education to experience domestic violence. The coefficient estimate is 0.503 for women in the top quantile who participate in microfinance, which means they are almost 2 times as likely to experience bouts of domestic violence compared to those at the bottom quantile.

Approximately 88% of the respondents have reported giving birth and 95% of those with children have their sons or daughter living with them. Women who have given birth show to be more exposed to domestic violence. There appears to be no statistically significant relationship between children living at home and domestic violence. When looking at having boys or girls living at home there appears to be a difference when microfinance is thrown into the equation. If a woman has sons living at home there is no link to domestic violence. If a woman has daughters living at home there also appears to be no link to domestic violence. However, my model shows a coefficient estimate of 0.491 if a woman participates in microfinance and has daughters at home, which means she is almost 60% more likely to experience bouts of domestic violence compared to non-participants with sons at home.

[Please insert table 7 here]

About half of the respondents live in a village and about half of microfinance participants live in villages. The data indicates that 60% of domestic violence victims live in villages. On its own, living in a village is not correlated with domestic violence. However, when living in a village is interacted with microfinance, it is negatively correlated with domestic violence with a coefficient estimate of -0.473. Living elsewhere (in a city corporation, district town, or abroad) and participating in microfinance appears to have no relation to domestic violence incidences.

[Please insert table 8 here]

When controlling for attitudes for domestic violence, these results did not change—the interaction between microfinance and living in a village, when controlling for community attitudes towards domestic violence, still showed to be negatively correlated with bouts of domestic violence.

[Please insert table 9 here]

Finally, I look at how domestic violence is affected by different microfinance institutions, specifically Grameen Bank compared to the other institutions, BRAC, ASA, and Proshika. My results show Grameen Bank to be slightly correlated with domestic violence, however, it is not statistically significant. The other institutions are still highly correlated with domestic violence.

Discussion

The work in this paper serves to add on to the available literature studying the effects of the determinants of domestic violence, specifically related to participation in microfinance organizations. Several qualitative and quantitative studies have found IPV to be negatively associated with microfinance participation (Kabeer 1998, 2005; Hussain et al., 1998; Skinner, 1989; Levinson, 1989; Leach and Shashikala, 2002; Hadi, 2000). Other studies show increased rates of domestic violence among microfinance participants (Goetz and Sen Gupta, 1996; Khan et al., 1998; Ahmed, 2003). I find that latter to be true; domestic violence rates are positively correlated with microfinance participation, especially among wealthier and more educated women. College educated women that partake in microfinance organizations are almost 3 times as likely as non-participants to experience IPV and women in the top quartile who participate in microfinance are almost 2 times as likely as non-participants to experience IPV. These findings are similar to the findings of Dalal, Dahlström, and Timpka (2013).

It is not clear as to why women of higher socioeconomic status participating in these microfinance programs are more susceptible to violence. Traditionally, higher household socioeconomic status and caste is shown to be negatively correlated with domestic violence (Evaluation Project, 1997; Hoffman et al., 1994; Jejeebhoy and Cook, 1997; Kim and Cho, 1992; Mahajan, 1990). However, there is inconsistent evidence with socioeconomic status and its effect on female autonomy and decision-making power (Schuler et al., 1996; Lane, 2003; Bloch and Rao, 2002). It could be that women with a higher socioeconomic status are not participating in these programs to raise their socioeconomic status, but instead may be participating in these microfinance programs to escape patterns of IPV. This hypothesis is supported by recent literature on the matter; Sayem, Begum, and Moneesha (2015) found that although women who participate in microfinance programs are much less likely to seek help from both formal and informal agents, women of higher socioeconomic status were more likely to seek out informal support and formal social support. Microfinance organizations can be an informal support system for these higher status women.

The literature shows that a mother's exposure to microfinance has a positive effect on children, especially for daughters (Kabeer, 2005). I sought to look at how having children at home would affect IPV occurrences for microfinance participants. There appears to be no statistically significant correlation between living with children and domestic violence. When having children at home is correlated with microfinance there is still no effect. My results indicate, however, that when focusing specifically on women who have daughters that live with them, microfinance does have an effect on domestic violence. When women have daughters living at home and participate in microfinance organizations, they are almost two times more likely to suffer from IPV compared to women who do not participate in microfinance and have

sons. The effect of microfinance participation along with having daughters is much stronger than the effect of microfinance on its own. Having sons living at home and the number of living sons has no statistically significant effect on the likelihood of experiencing domestic violence.

The increase in domestic violence for mothers with daughters might be attributed to traditional gender views in Bangladesh. Although not supported by my data, other studies have shown that having sons reduced risks of domestic violence (Rao, 1997; Schuler et al., 1996). In South Asian countries, many families prefer to have sons because their sons can work, provide for the family, and are likely to stay with the family for a longer period of time. Daughters, on the other hand, are less likely to provide financial support for the family and are expected to leave the family after they are married. Having daughters instead of sons can be viewed as a handicap, hurting the earning potential and socioeconomic status of a family. The prevalence of female infanticide is an issue in South Asian countries and daughters are often discriminated against when it comes to the allocation of household resources (George, Abel, and Miller, 1992; Miller, 1997). It might be the case that a man, already frustrated with his wife for bearing daughters over sons, becomes more agitated with his wife engaging in microfinance programs. His status is already threatened because he has to raise daughters and it is once again threatened by his wife engaging in work outside the home. This can result in him responding with violence; therefore, a man with daughters and a wife participating in microfinance would be more likely to beat his wife than if she had bared sons and not participated in microfinance programs.

This is a very serious issue because children who witness domestic violence growing up tend to develop emotional, behavior, and learning problems (Margolin, 1998). Moreover, this type of behavior becomes normal for these children. Daughters are likely to see physical abuse as a normal aspect of a relationship. As they grow up and get married they are likely to be more

accepting of violence. Research shows that children who live in households where domestic violence is a common occurrence are more likely to suffer from emotional, physical, and sexual abuse later in life (Holt et al., 2008). This sort of violence will continue to perpetuate harmful patriarchal ideals and domestic violence down the road and needs to be addressed immediately.

Another interesting finding is that when women in villages participate in microfinance programs they are actually much less likely to experience IPV than if they didn't participate or lived elsewhere. There was no statistically significant correlation with domestic violence when microfinance was interacted with living in other areas, such as a city corporation, town, or abroad.

The strong effect microfinance has on IPV reduction among women in villages might be explained by a reduction in financial stress. Women living in villages on average are much poorer than those living in city corporations, towns, or abroad. Therefore, they are more likely to be financially strained. Microfinance programs would make village participants better off because they would have access to loans to help meet their financial needs. The financial stress relieved through microfinance participation would be very important to the husband and the family. The work of Kabeer (2005) supports this notion. She noted that women who participated in microfinance organizations saw reductions in violence. She argued that violent episodes dissipated because of economic stress reduction and because men started to see women as sharing responsibility in family provision rather than being another part of a man's responsibility. Moreover, women are likely to use their loans to provide for their children, loosening the financial constraints of her husband (Pitt and Khandker, 1998; Pitt et al., 2006). This would reduce household financial stress and not threaten a man's status because his wife would still be fairly needy. Yes, she would have more autonomy and bargaining power, but not

so much that her husband would be at risk of losing her. He would still be more likely to control the finances in the household and use of the loans. This reduction in stress and marginal, non-threatening increase in female autonomy and bargaining power would help reduce episodes of IPV.

Women in villages are generally much more susceptible to domestic violence because of their status. Women who live in villages on average have the lowest income of all the living areas in the data and are generally the least educated. Women in villages earn on average 17% less a month than those living in city corporations. Compared to those living in city corporations, women in villages on average do one less year of schooling. The literature shows that poorer and less educated women are much more susceptible to domestic violence (Bates et al., 2004; Khan, 2005). Moreover, villages tend to be the more conservative areas. Koenig et al. (2003) found that short-term participation in microcredit groups in conservative areas lead to greater bouts of domestic violence. In my data, 45% of women in villages believe a man is justified in beating his wife, compared to 36% of women in district towns, and 38% of women in city corporations. When controlling for community attitudes towards domestic violence, living in a village interacted with microfinance still has a negative effect on the likelihood of women experiencing domestic violence. This implies that the effect of conservative attitudes in regards to domestic violence and the status inconsistency brought about as a result of microfinance participation would be outweighed by the fall in financial stress that microfinance entails. When women in villages participate in microfinance organizations, their husbands are less likely to look at them as burdens and more likely to see them as equals and an asset.

The variation in microfinance institutions and their effects on domestic violence is an interesting finding. Participation in Grameen Bank is shown not to be correlated with domestic

violence, while participation in other organizations, like BRAC, ASA, and Proshika, are still found to be highly associated with domestic violence. This discrepancy can partially be explained by demographics. Grameen Bank members have a higher income on average compared to participants in other organizations (1,492 Taka a month compared to 1,384 Taka a month). They also tend to have attained more education than those in other microfinance groups; 9% of Grameen Bank members have experience in tertiary education, as opposed to 6% of those in other groups. Grameen Bank members appear to have a higher socioeconomic status than members of other groups, so they are less likely to suffer from violence. However, that is not to say that these members are shielded from violence. While 65% of women from the other organizations suffer from domestic violence, 63% of Grameen Bank members also suffer domestic violence. Nonetheless, the variation among different microfinance groups is something that should be explored further and considered when developing microfinance programs.

Limitations

There are certain limitations with this study. One major issue is the underreporting of domestic violence. Bangladesh is a country where domestic violence is typically accepted, so acts that westerners might consider domestic violence are not seen in the same light there. There isn't a stigma or alertness that comes with it like there is in the west, so women may underreport IPV incidences. My results show that 53% of married women in Bangladesh have experienced episodes of domestic violence. A survey conducted by the Bangladesh Bureau of Statistics and the United Nations Population Fund found that 87% of Bangladesh married women are abused by their husband (Hossen, 2014). The underreporting of domestic violence would have reduced

the accuracy of my results and understate the severity of domestic violence experienced by members of microfinance organizations.

Another limitation is due to the nature of the data used. For this study I used cross-sectional data and not longitudinal data; therefore, it is not possible to establish effects on domestic violence from before and after program participation. There are also issues with establishing causality because of endogeneity, having the explanatory variables correlated with the error term, which makes it difficult to discern the direction of the relationship between participation in microfinance programs and domestic violence. There are also many variables that are omitted and cannot be measured, which rules out the possibility of establishing definitive causality.

For this study, I coded my main explanatory variable, microfinance participation, based on the participation in at least one of these four organizations: Grameen Bank, BRAC, Proshika, and ASA. There may be differences in the way these organizations carry out their loans and operations, which would explain my results when I examined at specific organizations. One group may carry out their operations in a way that may instigate domestic violence, while another may not. For example, some are more open to allowing males to participate, while others are not. While 98% of Grameen Bank's customers are women, only 71% of ASA's customers are women and 66% of Proshika's Employment and Income Generating funding goes to women (Loro, 2013; Choudhury, 2008; Proshika). Males may be less likely to resort to violence if they are able to get loans along with their wives. These differences between organizations are not measured because the survey does not differentiate among the organizations nor does it ask male respondents if they participate in microfinance programs. The differences in criteria and

organizations are not accounted for and therefore can skew the actual effects microfinance participation have on domestic violence.

Policy Implications

Several policy implications can be drawn from the results to deal with the prevalence of domestic violence among microfinance participants. Actions can be taken by both the Bangladeshi government and the organizations themselves to reduce the severity and incidences of IPV among participants. The government of Bangladesh can provide more anti-domestic violence resources to the organizations and utilize data provided by microfinance organizations. The organizations themselves can reduce domestic violence through education and developing stronger bonds among members and the community.

The government of Bangladesh can provide microfinance organizations with resources to reduce the severity of domestic violence. Since women who participate in these organizations are more likely to experience domestic violence, the government can provide organizations with funds to invest in anti-domestic violence resources. The microfinance organizations can use these funds to set up educational workshops for women and their spouses and give women information on how to mitigate domestic violence and how to appropriately report incidences of domestic violence.

Funds can also be used to provide women with mentors and social workers. Mentors would provide these women with important perspectives and key advice to allow them to use their loans wisely. This can help increase the poverty reduction abilities of loans, reducing financial stress and the likelihood a women would experience domestic violence. Exposure to social workers would provide women outside resources they can reach out to and discuss issues at home. Workers would be able to provide support for participants who are experiencing

domestic violence and give them advice and tools on how to best deal with their situations.

Together, the availability of mentorship and social workers would help reduce incidences and the severity of IPV.

Authorities can be provided access to microfinance participant data. If authorities have access to this sort of data they can help mitigate domestic violence incidences among those that are most vulnerable, such as women with daughters and wealthier and more educated women. Authorities would be able to classify these microfinance participants as high-risk for IPV and would be able to reach out to these individuals to see if women were suffering from IPV and act accordingly. They can be present at the microfinance organizations or continually check up on high-risk women to ensure that they are safe. If these women are given a more direct line for reporting IPV, they have more opportunities and the tools required to escape abusive relationships.

Microfinance organizations can also be given tools to be more family inclusive and provide women with a stronger social structure and standing. Schuler (1996) found that when a women's life, through microfinance participation, was made more public, she was less likely to suffer from domestic violence. Microfinance organizations can encourage their participants to be more public or provide public events, such as monthly community lunches or dinners and holiday festivities. This can help increase the public exposure of its participants and strengthen bonds among participants, so there are more avenues for intervention. These sort of activities would give women more roads to report IPV incidences and would reduce the severity and likelihood of domestic violence.

Microfinance organizations can also help reduce domestic violence episodes by pouring more of their resources into villages. According to my data, about half of microfinance

participants live in villages. Women who live in villages seem to benefit the most from microfinance organizations, both through lessening financial stress and reduction in incidences of IPV. Greater marginal utility is achieved through diverting some of the resources that go towards women in cities to women in villages. These women would become empowered, less financially stressed, and would be much less likely to suffer from domestic violence thanks to these microfinance organizations.

Conclusion

Microfinance has been accessed by over 30 million women in Bangladesh, but it is not a panacea to alleviating poverty in developing countries. Its ability to reduce poverty is limited, and many times it fails to reach the poorest of the poor. It also challenges traditional gender norms, which can be dangerous in traditionally conservative and highly religious countries like Bangladesh. By challenging these cultural norms, it can set up the people it is supposed to help to face greater adversity. Women in particular are a huge market for microfinance and are also the ones most likely to suffer from the side effects of these programs. I found microfinance participation to be strongly associated with domestic violence, particularly among higher income and educated women. It also is a particular issue for mothers with daughters, which is concerning. However, it serves to be a very effective program for participants in village, largely reducing incidences of domestic violence. Although imperfect, microfinance is still a tool that governments can use to promote entrepreneurship among the impoverished. Participation in microfinance programs should still be encouraged, but the limitations should be understood and the potential side effects of these programs, like gender-based violence, need to be addressed.

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Table 1: Characteristics of Study Sample

Characteristics	Married Women	Non-microfinance	Microfinance
N	11,202	9,239	1,960
Age			
10-14	0.00	0.00	0.00
15-19	0.12	0.10	0.06
20-24	0.21	0.20	0.18
25-29	0.17	0.19	0.18
30-34	0.14	0.16	0.17
35-39	0.13	0.13	0.17
40-44	0.10	0.10	0.12
45-49	0.06	0.05	0.06
50-54	0.05	0.04	0.04
55-59	0.02	0.02	0.01
Education			
Attended School	0.67	0.68	0.60
Average Schooling Years	7.33	7.57	6.00
Primary Education	0.38	0.35	0.51
Secondary Education	0.46	0.46	0.43
Tertiary Education	0.16	0.18	0.06
Currently Working	0.24	0.23	0.26
Average Monthly Income	2,124	2,243	1,414
Islam	0.91	0.91	0.91
Age at First Marriage	16.05	16.24	15.15
Liberal Views	0.35	0.35	0.33

Table 2: Characteristics of Study Sample

Characteristics	Microfinance & IPV	Non-microfinance & IPV	Microfinance & No IPV	Non-microfinance & No IPV	N
N	1,262	4,708	698	4,513	
Age					
10-14	0.00	0.00	0.00	0.00	0.00
15-19	0.05	0.09	0.07	0.09	0.09
20-24	0.18	0.20	0.18	0.17	0.17
25-29	0.17	0.19	0.17	0.18	0.18
30-34	0.18	0.16	0.16	0.16	0.16
35-39	0.19	0.14	0.16	0.13	0.13
40-44	0.11	0.10	0.13	0.14	0.14
45-49	0.06	0.05	0.06	0.05	0.05
50-54	0.04	0.04	0.05	0.05	0.05
55-59	0.01	0.02	0.02	0.02	0.02
Education					
Attended School	0.57	0.56	0.67	0.81	0.81
Average Schooling Years	5.48	6.16	6.80	8.58	8.58
Primary Education	0.59	0.51	0.40	0.24	0.24
Secondary Education	0.38	0.42	0.51	0.49	0.49
Tertiary Education	0.03	0.07	0.09	0.26	0.26
Currently Working	0.27	0.28	0.22	0.20	0.20
Average Monthly Income	1,296	1,585	1,684	3,139	3,139
Islam	0.93	0.94	0.88	0.88	0.88
Age at First Marriage	14.91	15.37	15.59	17.15	17.15
Liberal Views	0.31	0.32	0.36	0.38	0.38

Table 3: Main determinants of IPV

	<i>Dependent variable:</i>
	Domestic Violence
Microfinance	0.286*** (0.042)
Years of Schooling	-0.104*** (0.005)
Islam	0.228*** (0.052)
Working	0.216*** (0.039)
Community Attitudes	0.599*** (0.171)
Marriage Age	-0.044*** (0.006)
Age	0.001 (0.002)
Liberal	0.001 (0.032)
Constant	0.828*** (0.135)
Observations	7,464
Log Likelihood	-4,580.305
Akaike Inf. Crit.	9,178.610

Note: This is a probit regression model. *p<0.1; **p<0.05; ***p<0.01

Table 4: Linear regression robustness check

	<i>Dependent variable:</i>
	Domestic Violence
Microfinance	0.105*** (0.015)
Years of Schooling	-0.037*** (0.002)
Islam	0.079*** (0.018)
Working	0.082*** (0.014)
Community Attitudes	0.218*** (0.060)
Marriage Age	-0.014*** (0.002)
Age	0.0005 (0.001)
Liberal	0.002 (0.011)
Constant	0.768*** (0.046)
Observations	7,464
R ²	0.137
Adjusted R ²	0.136
Residual Std. Error	0.462 (df = 7455)
F Statistic	147.901*** (df = 8; 7455)
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01

Table 5: Effects of wage quantiles and schooling level

	<i>Dependent variable:</i>
	Domestic Violence
Microfinance	0.403*** (0.129)
Secondary Education	-0.226** (0.091)
Tertiary Education	-0.654*** (0.146)
Wage Quantile 2	-0.124 (0.140)
Wage Quantile 3	-0.412*** (0.128)
Wage Quantile 4	-0.508*** (0.130)
Islam	0.173 (0.125)
Community Attitudes	-0.194 (0.406)
Marriage Age	-0.047*** (0.012)
Age	0.008 (0.005)
Liberal	-0.134 (0.083)
Constant	1.018*** (0.353)
Observations	1,150
Log Likelihood	-696.241
Akaike Inf. Crit.	1,416.482

Note: *p<0.1; **p<0.05; ***p<0.01

Table 6: Microfinance interaction with wages and education

	<i>Dependent variable:</i>	
	Domestic Violence	
	(1)	(2)
Microfinance	0.263 (0.165)	0.082 (0.136)
Secondary Education	-0.201** (0.098)	
Tertiary Education	-0.744*** (0.150)	
Wage Quantile 2	-0.155 (0.139)	-0.016 (0.092)
Wage Quantile 3	-0.453*** (0.128)	-0.341*** (0.090)
Wage Quantile 4	-0.531*** (0.130)	-0.662*** (0.093)
Microfinance*Secondary Education	-0.134 (0.245)	
Microfinance*Tertiary Education	1.044*** (0.396)	
Microfinance*Wage Quantile 2		-0.287 (0.209)
Microfinance*Wage Quantile 3		0.280 (0.219)
Microfinance*Wage Quantile 4		0.503** (0.227)
Community Attitudes	-0.232 (0.406)	
Marriage Age	-0.049*** (0.012)	-0.063*** (0.008)
Age	0.008 (0.005)	0.004 (0.003)
Liberal	-0.154* (0.083)	-0.184*** (0.058)
Constant	1.268*** (0.320)	1.464*** (0.174)
Observations	1,150	2,198
Log Likelihood	-693.845	-1,351.342
Akaike Inf. Crit.	1,413.690	2,724.684

Note: These are probit regression models.

*p<0.1; **p<0.05; ***p<0.01

Table 7: Microfinance and having daughters at home

	<i>Dependent variable:</i>	
	Domestic Violence	
	(1)	(2)
Microfinance	0.181** (0.091)	-0.162 (0.164)
Daughters At Home	0.019 (0.073)	-0.064 (0.080)
Microfinance*Daughters At Home		0.491** (0.196)
Wage Quantile 2	-0.169* (0.095)	-0.173* (0.095)
Wage Quantile 3	-0.247** (0.096)	-0.250*** (0.096)
Wage Quantile 4	-0.639*** (0.098)	-0.652*** (0.098)
Community Attitudes	0.511 (0.320)	0.487 (0.321)
Marriage Age	-0.061*** (0.010)	-0.061*** (0.010)
Age	-0.003 (0.005)	-0.003 (0.005)
Liberal	-0.234*** (0.069)	-0.239*** (0.069)
Constant	1.555*** (0.260)	1.644*** (0.262)
Observations	1,613	1,613
Log Likelihood	-955.940	-952.790
Akaike Inf. Crit.	1,931.880	1,927.580

Note: These are probit regression models.

*p<0.1; **p<0.05; ***p<0.01

Table 8: Microfinance and living in villages

	<i>Dependent variable:</i>	
	Domestic Violence	
	(1)	(2)
Microfinance	0.355*** (0.118)	0.639*** (0.190)
Village	-0.089 (0.083)	-0.024 (0.089)
Microfinance*Village		-0.473** (0.241)
Years of Schooling	-0.092*** (0.012)	-0.092*** (0.012)
Wage Quantile 2	-0.109 (0.140)	-0.113 (0.140)
Wage Quantile 3	-0.400*** (0.129)	-0.399*** (0.129)
Wage Quantile 4	-0.520*** (0.129)	-0.516*** (0.130)
Community Attitudes	-0.116 (0.405)	-0.116 (0.406)
Age	0.007 (0.005)	0.007 (0.005)
Liberal	-0.128 (0.083)	-0.127 (0.083)
Constant	0.869*** (0.248)	0.812*** (0.249)
Observations	1,150	1,150
Log Likelihood	-702.742	-700.746
Akaike Inf. Crit.	1,425.484	1,423.492

Note: These are probit regression models.

*p<0.1; **p<0.05; ***p<0.01

Table 9: Grameen Bank compared to other organizations

	<i>Dependent variable:</i>	
	Domestic Violence	
	(1)	(2)
Grameen Bank	0.068 (0.241)	
BRAC/Proshika/ASA		0.403*** (0.129)
Secondary Education	-0.208** (0.091)	-0.226** (0.091)
Tertiary Education	-0.668*** (0.145)	-0.654*** (0.146)
Wage Quantile 2	-0.169 (0.138)	-0.124 (0.140)
Wage Quantile 3	-0.469*** (0.127)	-0.412*** (0.128)
Wage Quantile 4	-0.563*** (0.128)	-0.508*** (0.130)
Islam	0.166 (0.125)	0.173 (0.125)
Community Attitudes	-0.207 (0.405)	-0.194 (0.406)
Marriage Age	-0.049*** (0.012)	-0.047*** (0.012)
Age	0.009* (0.005)	0.008 (0.005)
Liberal	-0.135 (0.083)	-0.134 (0.083)
Constant	1.105*** (0.351)	1.018*** (0.353)
Observations	1,150	1,150
Log Likelihood	-701.354	-696.241
Akaike Inf. Crit.	1,426.708	1,416.482

Note: These are probit regression models *p<0.1; **p<0.05; ***p<0.01