*Oxford Economic Papers*, 72(2), 2020, 435–452
doi: 10.1093/oep/gpz032
Advance Access Publication Date: 21 April 2019

OXFORD

# Microfinance participation and intimate partner violence among women in Bangladesh

**By Prabal K. De[a] and Alvin Christian[b]**

[a]Department of Economics, Colin Powell School, City College, New York, NY 10031, USA; Department of Economics, The Graduate Center, CUNY, New York, NY 10016, USA; e-mail: pde@ccny.cuny.edu
[b]Department of Education, Brown University, Providence, RI 02912, USA; e-mail: alvin_christian@brown.edu

## Abstract

We examine the links between microfinance, often a vehicle for credit and entrepreneurship for the poor, and intimate partner violence (IPV) using the 2006 Bangladesh Urban Health Survey. Unlike existing studies, we distinguish between various types of microfinance programmes, isolating programmes that exclusively make loans versus programmes with a more diverse portfolio. In order to address potential self-selection bias we use matching estimators in a multiple-treatment format, controlling for some of the observed differences between participants and non-participants. We find that the association of microfinance participation with IPV is heterogeneous. Members of organizations such as BRAC, Proshika, or ASA report significantly higher rates of IPV, while such results do not hold across all organizations. Specifically, we find that organizations focused exclusively on making loans are not associated with either increased or reduced violence in a significant way.

**JEL classifications:** G21, J12, O10.

## 1. Introduction

In a provocatively titled letter to the Guardian Global Development Professionals Network, Saif Islam, private sector-engagement coordinator for Care Bangladesh, argued that the expansion of microcredit had led to an increase in domestic violence against women in Bangladesh, a country well known for hosting the microfinance revolution started by the Nobel prize-winner Mohammed Yunus (Islam, 2013). Academic research later supported such an assertion (Schuler and Hashemi, 1994; Goetz and Sen Gupta, 1996; Koenig *et al.*, 2003; Murshid *et al.*, 2016).

The direction of the effects of participation in microfinance programmes on intimate partner violence (IPV) against women in a poor country is both theoretically and

empirically ambiguous. On the one hand, several factors may potentially reduce the likelihood of exposure to violence. First, economic independence and additional opportunities created by credit and savings can increase a woman's position within the family, protecting her from violence. Second, violence often is also a result of poverty, and microfinance programmes can (at least in principle) boost family income, reducing women's risk of violence. Finally, membership in credit and other groups also expands women's social network, potentially increasing community and peer support. On the other hand, several channels through which such participation may escalate violence include men feeling threated by newly economically empowered women and economic turmoil that failed investment projects financed by microfinance loans bring to the household. Evidence in the empirical literature is mixed also, as described in detail below.

We use data from the Bangladesh Urban Health Survey of 2006 to assess the relationship between microfinance and IPV. Unfortunately, the data are observational and cross-sectional and do not contain any natural policy experiments, so no causal claims are made. However, we address two gaps in the literature. First, none of the above studies try to differentiate between types of group membership. For example, membership in Grameen Bank in Bangladesh, an organization whose main business is to make loans mostly on group-lending contracts, must be distinguished from membership in the Bangladesh Rural Advancement Committee (BRAC), for which microfinance constituted about 33% of total business in 2012 (BRAC Annual Report, 2012). Different types of loan contracts may imply different types of personal impacts on borrowers. Moreover, different programmes give varying levels of importance to gender-based borrowing. Accordingly, at least on paper, men may or may not have access to some of the programmes. Second, most of the studies use the same Demographic Health Survey data from Bangladesh. This presents a robustness problem with the results. Will the results hold up with a different survey sample? Moreover, though the nature and severity of violence between urban and rural areas can differ (WHO, 2005), the existing literature does not compare urban and rural areas. The data in this study come from an urban survey that has rarely been used to test the relationship between IPV and microfinance participation.

Understanding the relationship between microfinance and IPV is relevant to policymakers for a variety of reasons. Microfinance ventures were not only envisioned as a vehicle for poverty reduction in poor countries; they were also assumed to introduce social changes in terms of offering women greater autonomy and economic independence. The mixed evidence this study presents is important for policy insights in microfinance organizations. They must address the question of whether the expansion of an economic institution like microfinance can aggravate social problems.

The main goal of this article is to determine whether participation in different types of microfinance and related women's group activities significantly correlates with different levels of IPV against women, focusing on Bangladesh with its long history of thriving microfinance activities and IPV against women (Schuler *et al.*, 1996; Khandker, 2005; Pitt *et al.*, 2006; Schuler and Islam, 2008; Rahman *et al.*, 2011; Sambisa et al., 2010; Kumar *et al.*, 2012; Chin, 2012). Instead of treating microfinance as a homogeneous institution, this study looks at various types of finance programmes, such as Grameen Bank versus BRAC, to try and find a more heterogeneous relationship between microfinance participation and IPV. Such outcomes are expected *a priori* because these groups operate their programmes differently, giving different levels of attention to their loan programmes. For example, a strong relationship between microfinance participation and IPV would

lead to the expectation that groups focusing almost solely on loan programmes (e.g. Grameen Bank) would show a strong relationship between programme participation and IPV. Additionally, this study focuses on a number of risk factors for IPV which the literature describes, such as education and employment (Capaldi *et al.*, 2012). Finally, instead of using the Demographic Health Survey, the main source of evidence on this issue in Bangladesh, this study relies on evidence from a survey hitherto unused in this field except by Christian (2015).

We find that the effects of different programmes on IPV are diverse, and Grameen Bank participation in particular is not associated with either increased or reduced violence in a significant way. While general microfinance participation is positively associated with IPV, when using matching estimators, arguably controlling for observed differences, general microfinance programme participation does not affect the propensity for violence either way. With or without using matching estimators, participation in BRAC, Proshika, and ASA is associated with higher IPV. The results are also robust to using an alternative definition of IPV.[1]

The rest of this article is organized as follows. Section 2 discusses the theoretical and empirical background. Section 3 is a review of the data, variables, and descriptive statistics. Sections 4 and 5 contain the methodology and results, respectively. Section 6 discusses the overall findings of the article and its policy implications.

## 2. Background

Evidence from both developed and developing countries indicates that economic variables correlate with cultural factors such as IPV—Bangladesh is no exception (Naved *et al.*, 2006). The theory of Status Inconsistency explains some of these relationships. A traditionally patriarchal society includes what sociologists sometimes call 'Status Imbalance' (Katz, 1976, p. 122). The theory suggests that differences in status lead to dysfunctional behaviour when an increase in the status of the lower-status person in a relationship threatens the higher-status person (Goode, 1971; Hornung, 1977; Yick, 2001). It also contends that people feel imbalanced when they have a high status in one dimension and lower status in another dimension.[2] In the context of this study, a husband 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 people may engage in a 'stress-reducing behavioural or attitudinal response' (Hornung, 1977, p. 624). Status Inconsistency theory has been applied to studying spousal relationships with respect to how differentials in education, employment status, and earnings affect marital status, quality, and domestic violence (Hope, 1975; Qian, 1998; Gong, 2007). Higher rates of violence are found among couples in which a woman is employed and her husband is unemployed or underemployed (Macmillan and Gartner, 1999; DeMaris *et al.*, 2003).

In the context of a developing country, a longitudinal study of 744 married women in Bangalore, India, found that women who were unemployed at one visit and employed by the next visit had 80% higher odds of experiencing IPV. Similarly, women who had a

1 We define IPV as a binary measure in our main analysis and also define it as a continuous measure as a sensitivity test.

2 For example, a person who is highly educated but works in a menial job may feel imbalanced.

husband with an unstable employment status across visits were almost twice as likely to report IPV episodes (Krishnan *et al.*, 2010). In a study of garment-factory workers in Bangladesh, Heath (2014) found that a woman with low bargaining power entering the labour market faced increased risks of violence, as her husband would attempt to curb her newfound autonomy and independence. In a study based on six villages in Bangladesh, Bates *et al.* (2004) found that women who covered some of their household expenses with their own income were more likely to see violent episodes from their husbands (42% versus 33% of those who cover few or no expenses). These patterns of violence reflect the idea that a shift in the balance of power in relationships and imbalanced status can create a hostile environment and have dire consequences for women, particularly in areas with traditional gender norms.

Can an economic scheme like microfinance exacerbate the problem of IPV? The Status Inconsistency theory can help to better explain such a relationship. 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 may threaten her husband's status, causing him to lash out at her with physical abuse. Additionally, loans from these programmes often contain joint-liability components. A wife having to pay someone else's debt can impose strains on household finances and increase interpersonal tension. Some programmes are open to women only, which husbands may perceive as unfair (Rahman, 1999). Furthermore, loans—particularly those that are not for consumption, but for investment purposes—are inherently risky. A husband may perceive his wife's failed business venture as less acceptable than no risk-taking at all. Finally, even though specific programmes engage only women, there is no guarantee that women's decisions are controlled by themselves and not by their husbands or in-laws. In Bangladesh, Rahman (1999) also found and documented separate accounts from loan workers through public and private transcripts. In public documents, banks chose to lend money to women as a poverty-reducing and gender-sensitive policy, while in private transcripts, Rahman noted that it was men who predominantly used these loans. In more recent studies, Aktaruzzaman and Guha-Khasnobis (2010) and Abbink et al. (2016) also found that in rural Bangladesh access to microcredit did not reduce IPV, mainly because women exercise less control regarding the use of loans.

Other empirical evidence on this complex set of theoretical arguments has also been mixed (Kabeer, 2005; Pitt *et al.*, 2006). Some early studies showed that increased participation in credit programmes correlated with increased IPV (Schuler and Hashemi, 1994; Goetz and Sen Gupta, 1996; Koenig *et al.*, 2003). On the contrary, some studies (Levinson, 1989; Hashemi *et al.*, 1996; Kabeer, 1998; Leach and Sitaram, 2002) showed that microfinance participation is negatively associated with IPV, and others reported no relationship at all (Abdullah *et al.*, 2015). The occurrence of IPV along with microfinance also appears to be related to status and income. One study showed that for wealthier women and those with secondary or higher education membership in microfinance programmes tripled and doubled, respectively, the exposure to IPV (Dalal *et al.*, 2013). Murshid *et al.* (2016) support this claim, finding that the probability of experiencing IPV among microfinance participants was greater among wealthier individuals, and not the poorest individuals in Bangladesh. Gordon (2016) also found such results for a specific programme, *Rojiroti* (livelihood), among impoverished women in Bihar, one of the most economically disadvantaged states in India. The study concludes that some specific aspects of this particular microfinance provision, such as husbands' control of finances and their lack of feelings of financial

inadequacy, may be directly linked to reductions in domestic violence. Such findings also support this study's overall argument that distinguishing between types of microfinance is essential for assessing its impact on IPV.

Increased bouts of IPV among microcredit participants can also be attributed to self-selection. Bajracharya and Amin (2013) have argued that women who enter into microfinance programmes are more susceptible to IPV because they represent disadvantaged characteristics (i.e. poor, less educated, and less autonomous). They found that when controlling for these factors through propensity score analysis, microfinance participation had a negligible effect on IPV. A recent study shows that women who participate in microfinance programmes are much less likely to seek help from both formal and informal agents, such as legal counsel and emotional comfort from a trusted friend or religious leader, respectively (Sayem *et al.*, 2015). This suggests that microfinance participants who suffer from IPV are an especially vulnerable group and deserve greater attention. This also poses a challenge to empirically identify the effect of microfinance participation. This study relies on rich data to create matched samples, where the participants and nonparticipants have similar observable characteristics such as age, education, and socio-economic groups. To summarize, the conflicting evidence associated with autonomy, IPV, and microfinance suggests that understanding the usefulness and effectiveness of microfinance requires more research. Recent studies have tried to use experimental methods to circumvent some of the self-selection problems. For example, Shahriar (2016) found a negative relationship between IPV and repayment in Bangladesh, using extended field experiments. However, in that case, IPV is the independent variable, unlike this study.

Thus, this article adds to the existing literature on the consequences of microfinance in Bangladesh, looking particularly at how different social groups and microfinance organizations affect rates of IPV. Grameen Bank, BRAC,[3] Proshika, and ASA (Association for Social Advancement) are the four major microfinance organizations in Bangladesh. They all employ group-lending models;[4] Grameen Bank distributes loans to groups of five people, and BRAC and ASA typically have groups of 30–40 persons. They all tend to focus on rural villages with a focus on reaching women.[5] Even though these different agencies engage in microfinance activities of varying natures, all are not microfinance agencies. For example, BRAC is a multipurpose developmental organization whose mission is to alleviate poverty by empowering the poor. It is often involved in disaster management that has little to do with microfinance. The same is true for Proshika and ASA, which also spend considerable resources on health, education, sanitation, and agriculture programmes. Grameen Bank has a narrower focus on microfinance and targeting loans towards women, serving as a better indicator of microfinance participation. This distinction in microfinance engagement is important because empirically evaluating the theoretical chain of argument from microfinance to IPV calls for measuring group participation properly. To the best of our knowledge, this is the first time such evidence is provided in Bangladesh.

3 BRAC was previously known as Bangladesh Rehabilitation Assistance Committee and Bangladesh Rural Advancement Committee respectively.

4 Group-lending models make use of social collateral rather than material collateral. Loans are made to small groups, and if members are not able to make loan payments, the whole group can be excluded from receiving loans in the future.

5 The percentage of active women borrowers at Grameen Bank, BRAC, and ASA are 97%, 98%, and 88% respectively (Rahman *et al.*, 2012).

## 3. Data

### 3.1 Bangladesh urban health survey

This study uses data from the Bangladesh Urban Health Survey 2006 (BUHS, 2008), a nationally representative sample survey of urban slum and urban nonslum populations. Bangladesh's National Institute of Population Research and Training (NIPORT) and The University of North Carolina's MEASURE Evaluation created the survey.[6] Using data from an urban survey contributes to the overall goal of making a new contribution to clarifying the microfinance–IPV relationship. First, research shows that IPV depends on contextual factors that can vary between rural and urban areas (Koenig *et al.*, 2006; Shannon *et al.*, 2006). Since previous literature on Bangladesh has primarily focused on microfinance ventures in rural areas, there is a dearth of research on the association between IPV and microfinance in urban areas. The only restriction for this study's sample selection was to exclude observations with missing values for *all* categories of IPV. This restriction results in a loss of about 5% of the remaining observations. The final sample includes just under 6,000 observations, depending on the estimation model used.

### 3.2 Variables

*3.2.1 Dependent variable* IPV: The primary dependent variable is IPV. The survey asked if within the last year there were any disagreements that caused the respondent's husband to engage in: '(i) Pushing or shaking you or throwing something at you; (ii) Slapping you or twisting your arm; (iii) Punching you with his fist or with something that could hurt you; (iv) Kicking you or dragging you; (v) Trying to strangle you or kill you or burn you'. We create a dichotomous variable to reflect IPV. If the respondent answered 'yes' to any of the above questions, it was coded as 1, and coded 0 otherwise. The Appendix shows the results with an alternative, continuous measure of IPV.

*3.2.2 Independent variables* We select independent variables based on the literature on IPV (Pitt, Khandker, and Cartwright, 2006; Murshid *et al.*, 2016). These are known elements that affect IPV rates among women. Listed below are the main independent variables used to carry out the analysis:

Age: This is determined by the respondent's answer on the survey.
Marriage Age: This is the age of the respondent the first time she was married.
Years of Schooling: This is the highest grade of schooling a respondent completed.
Employment: This is measured as a categorical variable, where the occupation categories are not working (reference group), self-employed, private firm, government organization, and day labour.
Islam: This is coded as a dichotomous variable. If a respondent said her religion was 'Islam', it was coded as 1, and as 0 otherwise.
Microfinance Participation: Membership in a microfinance organization is coded as both a dichotomous variable and a categorical variable. In the first case, 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 are said to participate in microfinance organizations and the variable is coded as 1. If they said 'no', it is coded as 0.

6 Associates for Community and Population Research, a Bangladeshi private research firm, assured its successful implementation. The data are available to download from MEASURE Evaluation's website.

The multiple categories were created by looking at membership at Grameen Bank as one category, with BRAC, Proshika, and ASA in a second category (as the survey included them in a single category), and Mothers' Club and Non-governmental organizations in a third category.

Decision Making: The variable is an average of six binary variables representing six categories of decision-making—food to be cooked, health care, child health care, daily household purchases, larger household purchases, and when to visit family.

Community Attitude: This variable is created to measure how a community's views and acceptability of IPV affect rates of IPV. We use only the views of men for this variable. It is created using five questions where men were asked if a husband is 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; and (5) she visits her friend without her husband's permission. These questions are coded as dichotomous variables, so if one thought a husband was justified in beating his wife, the variable is coded as 1, and as 0 otherwise. The average of these five variables serves as a proxy for a man's view of the acceptability of IPV. Then, these averages are averaged against the 512 primary sampling units (PSU), conceptually meaningful neighbourhoods drawn from both slum and nonslum areas. This grand average illustrates regional variances in the acceptability of IPV.

Own attitude: This variable is a proxy for whether women have liberal attitudes, specifically examining how women look at the prospect of women in the workforce. If a woman 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 woman is said to either have liberal views or not.

Slum: This is coded as a dichotomous variable; if a woman responds 'yes' to living in a slum, it is coded as 1 and as 0 if they live elsewhere.

At least one son: Women are categorized into three groups: women without children, women without any sons. and women who have at least one son. Due to the well-known preference for sons in South Asian countries (Das Gupta *et al.*, 2003), we test if having a boy reduces the propensity for violence against women.[7]

Socioeconomic status: Based on respondents' dwelling characteristics, household durable assets, and land ownership, the survey administrators at the Urban Health Survey created a socioeconomic index. Then five quintiles of that index were created and reported in the data. (BUHS, 2008).

### 3.3 Sample selection and descriptive statistics

Tables 1 and 2 show summary statistics for the key variables in the sample. Table 1 reports instances (measured in proportions) of various types of IPV in the sample, showing that: (1) Incidents like pushing and slapping are common, as almost half of the women have experienced them; (2) Incidents like pushing and slapping are more commonly reported than kicking and threatening to kill; and (3) Looking simply at the proportions, BRAC, Proshika, and ASA participants do report a significantly higher incidence of IPV compared to their nonmember counterparts, in line with much of the previous research (Murshid, *et al.*, 2016). The last row reports the proportions of the study's composite-violence measure, which equals 1 if a respondent has experienced at least one form of violence.

7 Studies on Bangladesh and India have found that a woman having living sons results in significant protection against the risk of violence (Schuler *et al.*, 1996; Rao, 1997)

**Table 1.** The incidence of various forms of IPV. Married women aged 13–59 in the Bangladesh Urban Health Survey 2006

| Variable | No organization | Grameen | BRAC | NGOs/Mothers' Clubs |
|---|---|---|---|---|
| Pushed in last year | 0.3511 | 0.3558 | 0.4203 | 0.3893 |
| | [.4774] | [.4799] | [.4938] | [.4878] |
| Slapped in last year | 0.4822 | 0.5192 | 0.518 | 0.4995 |
| | [.4998] | [.5008] | [.4999] | [.5003] |
| Punched in last year | 0.2521 | 0.3221 | 0.3017 | 0.2812 |
| | [.4343] | [.4684] | [.4592] | [.4498] |
| Kicked in last year | 0.2023 | 0.2163 | 0.2495 | 0.243 |
| | [.4018] | [.4127] | [.4329] | [.4291] |
| Threatened to be killed in last year | 0.0736 | 0.0721 | 0.0769 | 0.069 |
| | [.2611] | [.2593] | [.2665] | [.2536] |
| Any violence in last year | 0.6537 | 0.6875 | 0.7049 | 0.6818 |
| | [.4758] | [.4646] | [.4563] | [.466] |
| Observations | 3737 | 208 | 1054 | 971 |

*Note:* Standard deviations are in brackets.
*Source*: Authors' calculations based on the Bangladesh Urban Health Survey 2006.

The descriptive statistics show that more than 65% of the respondents admitted to having experienced IPV by their husbands during the course of the last year, making it a widespread phenomenon.

Table 2 presents summary statistics for most of the control variables used in the empirical analysis, shown separately for women participating in the three microfinance groups and otherwise. The average age at marriage for all groups is about 15. As related research points out, early marriage often handicaps women economically by limiting their education and labour-market participation (Field and Ambrus, 2008). Accordingly, the average years of schooling figure is also low. Bangladesh is a Muslim-majority country and that is reflected in the sample. The female employment rate lies between 25% and 28%.

Women's autonomy in decision-making is weak. For both groups, women report in less than half of the number of categories describing participation in household decision-making (recall that the variable is an average of six binary variables representing six categories of decision-making). For both groups, almost 70% of women reported that women should not participate in the labour market even though their husbands were earning enough income—numbers closely aligned with the employment rate.

## 4. Empirical analysis: Association of microfinance participation with intimate partner violence against married women in Bangladesh

### 4.1 Linear probability model estimation

We specify a linear probability model (LPM) function to identify the probability of women experiencing violence by their husbands (during the 12 months before the survey interview), which depends on women's participation in various microfinance groups, along with the individual, household, and community characteristics described above. Four models are estimated separately. The first model looks at the bivariate relationship between the propensity

**Table 2.** Means of selected variables by programme participation status. Married women aged 13–59 in the Bangladesh Urban Health Survey 2006

| Variable | No organization | Grameen | BRAC | NGOs/Mothers' Clubs |
|---|---|---|---|---|
| Age of respondent | 31.2826 | 32.1683 | 32.6556 | 31.6447 |
| | [9.8271] | [9.0349] | [9.1229] | [9.1346] |
| Age at current marriage | 15.3976 | 14.851 | 14.9213 | 15.2873 |
| | [2.9261] | [2.6397] | [2.7838] | [2.6653] |
| Years of schooling | 3.4311 | 3.3846 | 3.0436 | 3.4119 |
| | [3.9075] | [3.5244] | [3.3487] | [3.4643] |
| Islam | 0.9403 | 0.9423 | 0.9307 | 0.9434 |
| | [.2369] | [.2337] | [.254] | [.2313] |
| Employed | 0.2692 | 0.274 | 0.2505 | 0.2729 |
| | [.4436] | [.4471] | [.4335] | [.4457] |
| Average number of categories of decision-making[a] | 0.2564 | 0.274 | 0.2823 | 0.294 |
| | [.2823] | [.2884] | [.285] | [.2989] |
| Average years of schooling of household head | 5.1634 | 5.1894 | 5.1298 | 5.1801 |
| | [.7528] | [.7821] | [.7403] | [.7752] |
| OK for a woman to work outside the home if a husband earns enough money | 0.3219 | 0.3558 | 0.3083 | 0.312 |
| | [.4673] | [.4799] | [.462] | [.4636] |
| Community attitude towards IPV[b] | 0.1502 | 0.1574 | 0.1463 | 0.1484 |
| | [.1061] | [.0957] | [.0964] | [.0946] |
| Lives in a slum | 0.5844 | 0.4712 | 0.5806 | 0.5953 |
| | [.4929] | [.5004] | [.4937] | [.4911] |
| Observations | 3737 | 208 | 1054 | 971 |

*Note:* Standard deviations are in brackets.

[a]This is an average of six binary variables representing six categories of decision-making—food to be cooked, health care, child health care, daily household purchases, larger household purchases and when to visit family.

[b]This takes an average of males' answers to five questions on when he feel he is justified in beating his wife. The dichotmous variables are averaged for each male and then averaged across 512 primary sampling units (PSU), conceptually meaningful neighbourhoods drawn from both slum and non-slum areas.

*Source*: Authors' calculations based on Bangladesh Urban Health Survey 2006.

for violence with microfinance-group membership, where a microfinance group is broadly defined to include Grameen Bank, BRAC, Proshika, ASA, and Mothers' Club or NGOs. This definition of microfinance-group participation is also closest to the one adopted in the related literature. The model captures the raw relationship between microfinance participation and the propensity for experiencing violence. The second model adds to the first all the control variables discussed above. However, one potential problem remains, even after controlling for these variables. The effects of location-specific variables reflecting unobserved spatial factors in violence and/or microfinance participation remain unaccounted for and can bias the estimates. For example, different locations may have different 'cultures' around women's role in society, which may affect both microfinance participation and the extent of violence. This issue is addressed by including location fixed-effects, in the form of dummies for five different divisions (out of six in the sample). Since the sample size is large, including such fixed effects does not lead to a significant loss of degrees of freedom.

For the reasons discussed above, we are also interested in looking at the potentially different effects of different types of programmes on IPV. Accordingly, they include three different types of group participation—Grameen Bank; BRAC, Proshika, and ASA; and Mothers' Clubs and NGOs.

### 4.2 Results

Table 3 shows the relationship between participation in various microfinance groups and the propensity for IPV. Column 1 shows that without any intervening variables, there is a significant correlation between IPV (=1 if the wife experienced *any* of the six forms of violence described in Table 2) and microfinance participation. However, column 2, which includes all the control variables and location fixed effects, shows that after adding control variables, the coefficient on the main independent variable of interest is significant only at the 10% level in a two-tailed test, indicating that participation in microfinance groups is not strongly associated with an increase in the probability of violence toward women with a high level of significance. Coefficients in column (3) and (4) report from specifications that treat different types of membership separately, with the reference group being women with no membership.[8] In this case, only membership in BRAC, Proshika, and ASA—institutions that provide a host of other services in addition to microfinance—is positively and significantly associated with IPV; Grameen Bank is not. These results show that among married women in Bangladesh, not all types of microfinance participation are strong correlates of an increased probability of IPV.

While the above coefficients show that violence toward women may not be sensitive to microfinance participation across the board, the same does not hold true for some other variables. Older women are more likely than younger women to indicate that they have suffered from violence in the past year. Age at marriage is significant at the 10% level, indicating that women who are married younger are more likely to face violence. Education measured by formal schooling years is also not significant, in line with some previous studies (Murshid *et al.*, 2016). It is not the case that more highly educated women are less susceptible to IPV.[9] The next important variable is employment status. Despite the fact that the main pathway proposed for the link between microfinance participation and IPV works through women's entrepreneurship or self-employment, the previous literature is silent on such a link. Therefore, it is worth examining whether self-employment plays a role in IPV. Table 3 shows that self-employment is not significant across all specifications. The same is true for women's personal attitude, such as women's right to participate in the labour market, even if their husbands earn enough money; community attitude toward violence; and having at least one son. Similar to what Murshid *et al.* (2016) found, we find that women in a higher socioeconomic status face a higher degree of violence. Women from a higher socioeconomic status may be more willing to speak out about violence because they have more access to support resources that women from a lower status do not, and because they have more outside options. Finally, religion (captured by Muslim and non-Muslim) is not associated with the probability of experiencing violence.

8 Some women have multiple memberships. However, a multicollinearity test reveals that there were no concerns in treating these variables independently.

9 The result remains qualitatively the same if we code schooling as a categorical variable: no schooling, primary schooling, secondary schooling, and tertiary and above.

**Table 3.** Estimates of the effect of microfinance participation on the probability of experiencing IPV in the last year. Married female respondents in the Bangladesh Urban Health Survey 2006

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Microfinance | 0.21** | 0.14* | | |
| | (0.088) | (0.082) | | |
| Grameen | | | 0.02 | −0.05 |
| | | | (0.139) | (0.143) |
| BRAC, Proshika, ASA | | | 0.27*** | 0.18** |
| | | | (0.103) | (0.088) |
| NGO/Mothers' Club | | | 0.06 | 0.01 |
| | | | (0.096) | (0.086) |
| Age groups (Ref: 13–20) | | | | |
| 21=–30 | | 0.45*** | | 0.45*** |
| | | (0.102) | | (0.104) |
| 31–40 | | 0.96*** | | 0.96*** |
| | | (0.119) | | (0.122) |
| 41–50 | | 1.35*** | | 1.35*** |
| | | (0.155) | | (0.156) |
| Years of schooling | | 0.000 | | 0.000 |
| | | (0.018) | | (0.018) |
| Islam | | 0.16 | | 0.17 |
| | | (0.260) | | (0.256) |
| Employment status (Ref: Not employed) Self-employed | | 0.21 | | 0.22 |
| | | (0.143) | | (0.145) |
| Private company | | 0.09 | | 0.09 |
| | | (0.095) | | (0.094) |
| Government | | 0.99** | | 0.97** |
| | | (0.427) | | (0.422) |
| Day labour | | 0.42* | | 0.41* |
| | | (0.214) | | (0.214) |
| Age at first marriage | | −0.02* | | −0.02* |
| | | (0.012) | | (0.012) |
| Autonomy index[a] | | −0.11 | | −0.12 |
| | | (0.123) | | (0.123) |
| Has son dummy | | −0.05 | | −0.05 |
| | | (0.064) | | (0.064) |
| Has liberal attitudes dummy | | 0.08 | | 0.08 |
| | | (0.082) | | (0.083) |
| Slum dummy | | −0.07 | | −0.08 |
| | | (0.063) | | (0.062) |
| Household head years of schooling | | 0.00 | | 0.01 |
| | | (0.031) | | (0.031) |
| Socio-economic status (Ref: Quintile = 1) | | | | |
| Quintile = 2 | | 0.03 | | 0.03 |
| | | (0.084) | | (0.082) |
| Quintile = 3 | | 0.09 | | 0.09 |
| | | (0.101) | | (0.099) |

(continued)

**Table 3.** Continued

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Quintile = 4 | | 0.25** | | 0.24** |
| | | (0.117) | | (0.117) |
| Quintile = 5 | | 0.37** | | 0.37** |
| | | (0.153) | | (0.158) |
| Community attitude[b] | | −0.04 | | −0.02 |
| | | (0.335) | | (0.334) |
| Observations | 5970 | 5245 | 5970 | 5245 |

*Note*: Robust standard errors in parentheses. ***p < 0.01, **p < 0.05, *p < 0.1.
[a]This is an average of six binary variables representing six categories of decision-making—food to be cooked, health care, child health care, daily household purchases, larger household purchases and when to visit family.
[b]This takes an average of males' answer to five questions on when he feels he is justified in beating his wife. The dichotomous variables are averaged for each male and then averaged across 512 primary sampling units (PSU), conceptually meaningful neighbourhoods drawn from both slum and non-slum areas.
*Source*: Authors' calculations based on the Bangladesh Urban Health Survey 2006.

### 4.3 Matching estimators

We tried to make the regression analysis as comprehensive as possible by controlling for a large number of control variables, some of them for the first time in the literature. Nonetheless, it is worthwhile to perform some sensitivity analyses to examine if the estimates are robust to alternative specifications. To this end, the next step is to use matching estimators. While these estimators cannot necessarily establish causality, because they cannot control for unobserved heterogeneity, they discard some data effectively based on economic insight and observed patterns in the data. These estimators work particularly well with large datasets, for which this study is suitable (n > 5000).

To use matching estimators, the question is recast in the following way: Suppose a hypothetical researcher could randomly assign women into a microfinance programme *and* some women were subject to IPV after such assignment. Referring to microfinance participation as *treatment*, the interest is in estimating the difference in the propensity for violence between the microfinance participants (treatment) and nonparticipants (control) to identify the association of microfinance with IPV.

Empirically, the 'fundamental problem of causal inference' (Holland, 1986, p. 947) is that only one of the potential outcomes is observed. Each treatment level has an outcome (experiencing IPV or not experiencing IPV) that would be observed if the wife participated in a microfinance programme. But for these participants, the potential outcome if they had not participated is missing. Matching estimators solve this missing data problem by comparing outcomes of matched individuals, based on their observed characteristics and following the inverse propensity score method that Wooldridge (2007) introduced. Although it is likely that the two groups differ on unobservable characteristics, matching is done on observable characteristics that the literature shows to be strong correlates of IPV.

### 4.4 Results from matching estimators

Table 4 reports the effects of microfinance participation on the incidence of IPV when matching is done on a wide set of covariates. The choice of covariates is guided by including

**Table 4.** Estimates of single treatment (any microfinance group) and multiple treatment (differentiated groups) on IPV in the last 12 months. Married female respondents in Bangladesh Urban Health Survey 2006

| | Single Treatment | Multiple Treatments | | |
|---|---|---|---|---|
| | (1) vs. (0) | (1) vs. (0) | (2) vs. (0) | (3) vs. (0) |
| ATT | 0.014 | 0.058 | 0.089*** | 0.075* |
| | (0.015) | (0.067) | (0.038) | (0.0413) |
| Z-values | 0.94 | 0.86 | 2.38 | 1.80 |

*Note*: Robust standard errors in parentheses. ***p < 0.01, **p < 0.05, *p < 0.1.
Treatment is defined as (0) no group member, (1) member of Grameen, (2) member of BRAC, Proshika, or ASA, and (3) member of Mothers' Clubs or other non-government organizations. Matching has been performed on age, socio-economic status, slum dwelling and religion.
*Source*: Authors' calculations based on the Bangladesh Urban Health Survey 2006.

predetermined variables like religion, and by the regression results where variables like income and socioeconomic status are significant associates of IPV. Accordingly, individuals are matched on age, socioeconomic status, slum dwelling, and religion. Each cell reports the estimated average treatment effect on the treated (ATT), i.e. the effect of microfinance participation on IPV when individuals are matched.

Compared with the LPM regressions, there are few qualitative differences in the results, including no significant effect of microfinance participation on the propensity for IPV, using the broader definition of microfinance. However, the effects are different across different types of microfinance programmes. Participation in BRAC, Proshika, and ASA is associated with more violence and significant at the 1% level. Similarly, participation in Mothers Clubs and NGOs is associated with more violence, though it is only significant at the 10% level. We also note that in both cases of the LPM and matching estimators, the standard errors are low, showing a tight distribution around the point estimates. To summarize, the matching procedure fails to produce a statistically significant effect of microfinance participation different from zero for the broader definition and for Grameen Bank, which focuses almost exclusively on microfinance. However, there is an effect for those organizations that do not focus solely on microfinance.

Figure 1 presents a diagnostic check for the matching estimator. The graph displays the estimated density of the predicted probabilities that a nonparticipant is a victim of IPV and the estimated density of the predicted probabilities that a participant is not a victim of IPV. It is reassuring to see that both plots track each other closely, and neither plot indicates a large probability mass near 0 or 1; and that the two estimated densities have most of their respective masses in regions in which they overlap each other. This justifies confidence that the overlap assumption (i.e. the matched samples are not too different from each other) is not violated.

## 5. Discussion

Though the microcredit, or more broadly microfinance, movement was spearheaded to give poor borrowers without collateral better access to credit, policymakers across the world

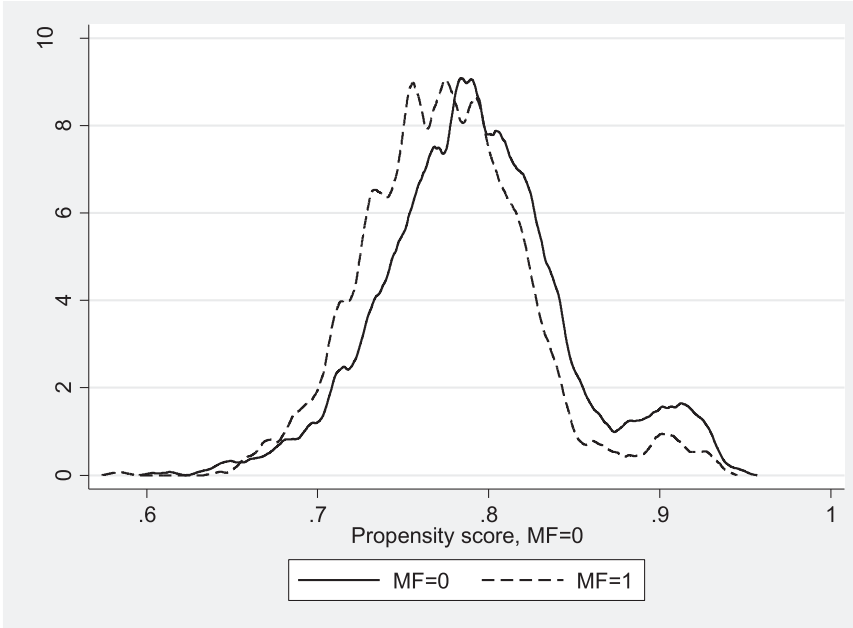


**Fig. 1.** Distributions of treated (MF = 1) and non-treated (MF = 0) groups in Bangladesh UHS sample.

viewed such programmes as a potential tool to also extend gains that were not necessarily economic. It was hoped that economic freedom would also bring more empowerment for women within the household. This included greater decision-making autonomy and freedom from traditional gender-related atrocities like IPV. Ironically, due to the web of complex social, institutional, and economic forces, allegations emerged that microfinance participation led to more violence against women. Such theoretical conjectures and anecdotes were also backed by some broader empirical support. This is particularly true in Bangladesh, a place that has a long history of violence against women (Niaz, 2003) as well as where microfinance expanded rapidly to serve millions of people (Lachman, 2011; Kumar *et al.*, 2012).

This article examines the relationship between microfinance and IPV in Bangladesh, using some hitherto unused data and confounding variables. Its main finding is that there is little credible evidence in the sample that participation in various microfinance and quasi-microfinance groups is significantly associated with a higher propensity for IPV. Sensitivity analyses using alternative specifications and estimation methods are in general agreement with that main result, though there is a statistically significant relationship between microfinance and IPV for women belonging to the group comprised of BRAC, Proshika, and ASA. However, this association cannot be solely attributed to microfinance participation because these organizations have missions that extend beyond microfinance and offer other programmes in addition to their microfinance arm. BRAC, for example, provides legal aid services, and ASA provides agricultural support programmes. BRAC, in particular, has found limited success in urban areas. For example, Nahar *et al.* (2011) show that maternal clinics set up by BRAC in urban slums of Bangladesh did not significantly reduce delay in seeking care for pregnant women with non-life-threatening conditions. No meaningful

relationship was found between Grameen Bank membership, the organization most narrowly focused on microfinance, and IPV. The main explanation for the statistically insignificant association of microfinance participation in specialized organizations with IPV is that IPV is anchored in deeply rooted structures of gender and ideological norms. Even after controlling for individual and institutional characteristics, microfinance participation may not be able to overcome these existing norms that contribute to IPV. Notably, there is no evidence that participation in such a group was associated with a *reduction* in violence.

Despite its strengths and novelty, the study suffers from several limitations and the results should be interpreted with caution. Due to limitations imposed by the data, there is no pre-microfinance participation information. Additionally, while the matching estimators control for many observed characteristics, any unobserved omitted variables affecting both group participation and IPV cannot be ruled out. However, we have fitted a number of models involving different constructions of IPV, different definitions of group participation, and different estimation methods. The association is weak across the board. Second, for variables like IPV, there is some risk of under-reporting. However, the UHS dataset seems not to suffer from such problems, because the women answered questions in privacy (and the proportions of reported violence are not low).

We do not make any causal claims; it is possible that BRAC, Proshika, and ASA enabled their members to be more aware of IPV and emphasized reporting such instances. For otherwise similar women, some microfinance participants report higher levels of IPV than their counterparts. We believe that the value of the results lies in the fact that microfinance organizations are different, and the nature of their associations can be heterogeneous. This article, along with some of the recent literature on microfinance (Gordon, 2016), emphasizes the importance of understanding these differences and the mechanisms through which they operate. Offering different lending structures or certain services beyond microfinance can reduce or propagate IPV, and while we are not able to explore them in detail in this article, they do matter. This article also highlights the value of using different data sources to stress test the literature. Broadly speaking, economic policies need to focus on cultural factors underlying economic institutions; failure to do so may bring unintended consequences for the stakeholders. In this case, the findings show that even though microfinance can potentially open up opportunities for poor women,[10] it may be associated with other undesirable consequences. One effective policy option may be to continue to offer access to credit and focus on poverty alleviation but modify programme designs to make sure that women do have increased confidence, decision-making power, and control over resources. It is unlikely that microfinance institutions can change social norms in the short run, but they can be agents of change in the longer term.

## Supplementary material

Supplementary material is available on the OUP website. These are the data and replication files and the online appendix. The original survey data used in this article can be downloaded from https://www.measureevaluation.org/resources/publications/tr-08-68.

10 Banerjee *et al.* (2015) show that microfinance programmes provide modest benefits in occupational choice, business scale, consumption choice, female decision-making power, and improved risk management

## Funding

The authors received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

## Acknowledgements

We thank the two anonymous referees for their extensive and insightful comments. We also thank the editors for their helpful comments and support at various stages that led to improving the final version of the article. Finally, we thank Kevin Foster, Richard Hendra, seminar participants at the Gabelli School of Business at Fordham University for helpful comments and Riley Tinney for early encouragement.

## References

**Abbink, K., Islam, A., and Nguyen, C.** (2016) *Whose voice matters? An experimental examination of women empowerment in microfinance* (No. 40–16). Monash University, Department of Economics.

**Abdullah, S., Qureshi, H., and Quayes, S.** (2015) The adverse effect of child marriage on women's economic well being in Bangladesh – Can microfinance help? *The Journal of Developing Areas*, **49**, 109–25.

**Aktaruzzaman, K. and Guha-Khasnobis, B.** (2010) Does control over microfinance matter in reducing domestic violence? Evidence from rural Bangladesh. CORE Working Paper, UK.

**Bajracharya, A. and Amin, S.** (2013) Microcredit and domestic violence in Bangladesh: an exploration of selection bias influences, *Demography*, **50**, 1819–43.

**Banerjee, A., Karlan, D., and Zinman, J.** (2015) Six randomized evaluations of microcredit: Introduction and further steps, *American Economic Journal: Applied Economics*, **7**, 1–21.

**BUHS (Bangladesh Urban Health Survey 2006)** (2008) National Institute of Population Research and Training (NIPORT), Bangladesh.

**BRAC (Bangladesh Rural Advancement Committee)** (2012) 2012 annual report of the Bangladesh Rural Advancement Committee, http://www.brac.net/sites/default/files/BRAC-Annual-Report-2012e.pdf (last accessed 15 February 2019).

**Bates, L.M., Schuler, S.R., Islam, F., and Islam, M.K.** (2004) Socioeconomic factors and processes associated with domestic violence in rural Bangladesh, *International Family Planning Perspectives*, **30**, 190–9.

**Capaldi, D.M., Knoble, N.B., Shortt, J.W., and Kim, H.K.** (2012) A systematic review of risk factors for intimate partner violence, *Partner Abuse*, **3**, 231–80.

**Christian, A.** (2015) Microfinance as a Determinant of Domestic Violence in Bangladesh: Who is at Risk? (MA Dissertation), https://academicworks.cuny.edu/cgi/viewcontent.cgi?article=1585&context=cc_etds_theses (last accessed 15 February 2019).

**Chin, Y.M.** (2012) Credit program participation and decline in violence: does self-selection matter? *World Development*, **40**, 1690–9.

**Dalal, K., Dahlström, Ö., and Timpka, T.** (2013) Interactions between microfinance programmes and non-economic empowerment of women associated with intimate partner violence in Bangladesh: a cross-sectional study, *BMJ Open*, **3**, e002941.

**Das Gupta, M., Zhenghua, J., Bohua, L., Zhenming, X., Chung, W., and Hwa-Ok, B.** (2003) Why is son preference so persistent in east and South Asia? A cross-country study of China, India and the Republic of Korea, *The Journal of Development Studies*, **40**, 153–87.

**DeMaris, A., Benson, M.L., Fox, G.L., Hill, T., and Van Wyk, J.** (2003) Distal and proximal factors in domestic violence: a test of an integrated model, *Journal of Marriage and Family*, **65**, 652–67.

**Field, E. and Ambrus, A.** (2008) Early marriage, age of menarche, and female schooling attainment in Bangladesh, *Journal of Political Economy*, **116**, 881–930.

**Goetz, A.M. and Sen Gupta, R.** (1996) Who takes the credit? Gender, power, and control over loan use in rural credit programs in Bangladesh, *World Development*, **24**, 45–63.

**Gong, M.** (2007) Does status inconsistency matter for marital quality? *Journal of Family Issues*, **2**, 1582–610.

**Goode, W.J.** (1971) Force and violence in the family, *Journal of Marriage and the Family*, **33**, 624–36.

**Gordon, R.** (2016) Succeeded where others have failed? Has Rojiroti's model of microfinance led to a reduction in domestic violence? *Enterprise Development and Microfinance*, **27**, 173–91.

**Hashemi, S.M., Schuler, S.R., and Riley, A.P.** (1996) Rural credit programs and women's empowerment in Bangladesh, *World Development*, **24**, 635–53.

**Heath, R.** (2014) Women's access to labor market opportunities, control of household resources, and domestic violence: Evidence from Bangladesh, *World Development*, **57**, 32–46.

**Holland, P.W.** (1986) Statistics and causal inference, *Journal of the American Statistical Association*, **81**, 945–60.

**Hope, K.** (1975) Models of status inconsistency and social mobility effects, *American Sociological Review*, **40**, 322–43.

**Hornung, C.A.** (1977) Social status, status inconsistency and psychological stress, *American Sociological Review*, **42**, 623–38.

**Islam, H.M.** (2013) Domestic violence in Bangladesh: blame it on microfinance, https://www.theguardian.com/global-development-professionals-network/2013/sep/11/microfinance-bangladesh-violence-against-women (last accessed 15 February 2019).

**Kabeer, N.** (1998) 'Money can't buy me love'? Re-evaluating gender, credit and empowerment in rural Bangladesh. *Discussion Paper-Institute of Development* Studies, *University of Sussex (United Kingdom)*.

**Kabeer, N.** (2005) Is microfinance a magic bullet for women's empowerment? Analysis of findings from South Asia, *Economic and Political Weekly*, **40**, 4709–18.

**Katz, F.E.** (1976) *Structuralism in Sociology: A Phenomenological Philosophy of Practice*. SUNY Press, New York.

**Khandker, S.R.** (2005) Microfinance and poverty, *The World Bank Economic Review*, **19**, 263–86.

**Koenig, M.A., Ahmed, S., Hossain, M.B., and Mozumder, A.K.A.** (2003) Women's status and domestic violence in rural Bangladesh: individual-and community-level effects, *Demography*, **40**, 269–88.

**Koenig, M.A., Stephenson, R., Ahmed, S., Jejeebhoy, S.J., and Campbell, J.** (2006) Individual and contextual determinants of domestic violence in North India, *American Journal of Public Health*, **96**, 132–8.

**Krishnan, S., Rocca, C.H., Hubbard, A.E., Subbiah, K., Edmeades, J., and Padian, N.S.** (2010) Do changes in spousal employment status lead to domestic violence? Insights from a prospective study in Bangalore, India, *Social Science & Medicine*, **70**, 136–43.

**Kumar, N., Manjunath, S.J., and Srikanth, H.S.** (2012) Microfinance: a comparative study of Bangladesh and India, *Journal of Business and Management*, **5**, 27–35.

**Lachman, P.** (2011) Microfinance in Bangladesh. Fordham Political Review, http://fordhampoliticalreview.org/microfinance-in-bangladesh/ (accessed 24 January 2015).

**Leach, F. and Sitaram, S.** (2002) Microfinance and women's empowerment: a lesson from India, *Development in Practice*, **12**, 575–88.

**Levinson, D.** (1989) *Family Violence in Cross-Cultural Perspective*. Sage Publications, Inc.

**Macmillan, R. and Gartner, R.** (1999) When she brings home the bacon: labor-force participation and the risk of spousal violence against women, *Journal of Marriage and the Family*, **61**, 947–58.

**Murshid, N.S., Akincigil, A., and Zippay, A.** (2016) Microfinance participation and domestic violence in Bangladesh: results from a nationally representative survey, *Journal of Interpersonal Violence*, **31**, 1579–96.

**Nahar, S., Banu, M., and Nasreen, H.E.** (2011) Women-focused development intervention reduces delays in accessing emergency obstetric care in urban slums in Bangladesh: a cross-sectional study, *BMC Pregnancy and Childbirth*, **11**, 11.

**Naved, R.T., Azim, S., Bhuiya, A., and Persson, L.Ö.** (2006) Physical violence by husbands: magnitude, disclosure and help-seeking behavior of women in Bangladesh, *Social Science & Medicine*, **62**, 2917–29.

**Niaz, U.** (2003) Violence against women in South Asian countries, *Archives of Women's Mental Health*, **6**, 173–84.

**Pitt, M.M., Khandker, S.R., and Cartwright, J.** (2006) Empowering women with micro finance: Evidence from Bangladesh, *Economic Development and Cultural Change*, **54**, 791–831.

**Qian, Z.** (1998) Changes in assortative mating: the impact of age and education, 1970– 1890, *Demography*, **35**, 279–92.

**Rahman, A.** (1999) Micro-credit initiatives for equitable and sustainable development: who pays? *World Development*, **27**, 67–82.

**Rahman, M., Hoque, M.A., and Makinoda, S.** (2011) Intimate partner violence against women: Is women empowerment a reducing factor? A study from a national bangladeshi sample, *Journal of Family Violence*, **26**, 411–20.

**Rahman, M.W., Luo, J., Ahmed, S., and Xiaolin, W.** (2012) The synthesis of grameen bank, BRAC and ASA microfinance approaches in Bangladesh, *World Applied Sciences Journal*, **20**, 1055–62.

**Rao, V.** (1997) Wife-beating in rural South India: a qualitative and econometric analysis, *Social Science and Medicine*, **44**, 1169–80.

**Sambisa, W., Angeles, G., Lance, P.M., Naved, R.T., and Curtis, S.L.** (2010) Physical and sexual abuse of wives in urban Bangladesh: husbands' reports, *Studies in Family Planning*, **41**, 165–78.

**Sayem, A.M., Begum, H.A., and Moneesha, S.S.** (2015) Women's attitudes towards formal and informal support-seeking coping strategies against intimate partner violence, *International Social Work*, **58**, 270–86.

**Schuler, S.R., and Hashemi, S.M.** (1994) Credit programs, women's empowerment, and contraceptive use in rural Bangladesh, *Studies in Family Planning*, **25**, 65–76.

**Schuler, S.R., Hashemi, S.M., Riley, A.P., and Akhter, S.** (1996) Credit programs, patriarchy and men's violence against women in rural Bangladesh, *Social Science & Medicine*, **43**, 1729–42.

**Schuler, S.R., and Islam, F.** (2008) Women's acceptance of intimate partner violence within marriage in rural Bangladesh, *Studies in Family Planning*, **39**, 49–58.

**Shahriar, A.Z.M.** (2016) Exposure to intimate partner violence and repayment of microcredit: Evidence from field experiments in Bangladesh, *Journal of Banking & Finance*, **72**, 1–14.

**Shannon, L., Logan, T.K., Cole, J., and Medley, K.** (2006) Help-seeking and coping strategies for intimate partner violence in rural and urban women, *Violence and Victims*, **21**, 167.

**Wooldridge, J.M.** (2007) Inverse probability weighted estimation for general missing data problems, *Journal of Econometrics*, **141**, 1281–301.

**WHO (World Health Organization)** (2005) *WHO Multi-Country Study on Women's Health and Domestic Violence Against Women: Summary Report of Initial Results on Prevalence, Health Outcomes and Women's Responses*. WHO, Geneva.

**Yick, A.G.** (2001) Feminist theory and status inconsistency theory: application to domestic violence in Chinese immigrant families, *Violence against Women*, **7**, 545–62.