



Men's Perpetration of Partner Violence in Bangladesh: Community Gender Norms and Violence in Childhood

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Abstract

Men's perpetration of intimate partner violence (IPV) is common, but its multilevel determinants are understudied. We leveraged novel data from a probability sample of 570 *junior men* (married, 18–34 years) from 50 urban and 62 rural communities who took part in the Bangladesh survey of the 2011 *UN Multi-Country Study of Men and Violence*. We tested whether more equitable community gender norms among senior men (N=938; married, 35–49 years) was negatively associated, and a junior man's greater exposure to childhood violence was positively associated, with his lifetime count (or scope) of physical IPV acts perpetrated. We also tested whether more equitable community gender norms mitigated the association of more violence in childhood with the lifetime scope of physical IPV acts perpetrated. Among younger married men, 50% reportedly ever perpetrated physical IPV, the mean lifetime scope of physical IPV types perpetrated was 1.1 (SD 1.3) out of 5.0 listed. A majority (64%) reported childhood exposure to violence. In multilevel Poisson models, a man with more childhood exposure to violence had a higher log scope (Est. 0.31, SE 0.04, $p < .001$) and a man living amidst the most equitable gender norms had a lower log scope (Est. -0.52 , SE 0.19, $p < .01$) of physical IPV acts perpetrated; however, no significant cross-level interaction was observed. Interventions that address the trauma of childhood violence *and* that promote more equitable community gender norms may be needed to mitigate IPV perpetration by younger men.

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Authors are listed in the order of contribution. KY generated the idea for the study, guided the data analysis, and drafted most of the paper. LJH implemented the data analysis, drafted parts of the paper, and edited the paper for critical content. YFC provided technical expertise on the data analysis, performed parts of the analysis, drafted part of the paper, and edited the paper for critical content. RTN commented on drafts of the paper.

Keywords

Bangladesh; child maltreatment; gender norms; intimate partner violence; men's perpetration; multilevel analysis; spouse abuse

Men's Perpetration of IPV

Intimate partner violence (IPV) is behavior within an intimate relationship that causes physical, sexual, or psychological harm, including acts of physical aggression, sexual coercion, psychological abuse and controlling behaviors (Breiding, Basile, Smith, Black, & Mahendra, 2015). Globally, men perpetrate IPV more often than do women (Breiding, Black, & Ryan, 2008; Butchart, García-Moreno, & Mikton, 2010; Swan, Gambone, Caldwell, Sullivan, & Snow, 2008), and one in three women experience physical and/or sexual IPV in their lifetime (Devries et al., 2013). In Bangladesh, IPV also typically occurs by men against their wives, because almost all Bangladeshis marry (National Institute of Population Research and Training [NIPORT], Mitra & Associates, & ICF International, 2009) and rarely admit to having extra-marital sexual relationships (Schuler & Islam, 2008). Lifetime rates of physical and/or sexual IPV are especially high in Bangladesh, with 53% to 87% of married women reporting exposure (Azziz-Baumgartner et al., 2014; Bangladesh Bureau of Statistics, 2013; Hasan, Muhaddes, Camellia, Selim, & Rashid, 2014; Ziaei, Naved, & Ekström, 2014) and 55% to 74% of men reporting perpetration (Johnson & Das, 2009; Sambisa, Angeles, Lance, Naved, & Curtis, 2010). In Bangladesh and globally, women's exposure to IPV adversely affects their health and that of their children (Asling-Monemi, Naved, & Persson, 2009a, 2009b; Boy & Salihu, 2004; Decker et al., 2008; Naved & Akhtar, 2008; Silverman, Gupta, Decker, Kapur, & Raj, 2007; Yount, DiGirolamo, & Ramakrishnan, 2011; Zureik-Brown, Lavilla, & Yount, 2015), and men's IPV perpetration predicts their own lower life satisfaction (Yount, Miedema, Martin, Crandall, & Naved, 2016).

Most research on IPV globally is based on women's reported exposure, with little known about the reasons for men's perpetration (Johnston & Naved, 2008; Sambisa et al., 2010). Limited evidence from poorer settings suggests that violence in childhood and inequitable local gender norms may synergistically elevate men's risks of perpetrating IPV, but these risk factors have not been studied together (Abramsky et al., 2011; Ackerson & Subramanian, 2008; Dalal, Lee, & Gifford, 2012; Heise, 2011; Jewkes, 2002). Below, we discuss relevant theory and evidence for these determinants from poorer settings, South Asia, and Bangladesh.

Men's Childhood Exposure to Violence and Perpetration of IPV

Social learning theorists argue that boys who witness inter-parental violence or who directly experience violence may come to view such violence as normal (Anderson & Kras, 2007; Cyr, Michel, & Dumais, 2013; Feshbach, 1980; Schwartz, Hage, Bush & Burns, 2006; Straus & Yodanis, 1996; World Health Organization [WHO], 1999). Moreover, ideas about hierarchy, male dominance, and violence may be learned in highly gendered ways in childhood. According to Hearn, "not only may boys learn that violence is possible and is

performed by older males, but that it is done in the context of male domination more generally” (Hearn, 1998, p. 27). Thus, boys may learn that masculine dominance is expressed through physical force in gender and generational hierarchies, such as father-on-mother violence and father-on-son violence, respectively (Abrahams, Jewkes, Laubscher, & Hoffman, 2006; Holt, Buckley, & Whelan, 2008; Martin et al., 2002; Naved & Persson, 2005; Schwartz et al., 2006; Walker, 1977–1978; Whitfield, Anda, Dube, & Felitti, 2003; Yount & Carrera, 2006; Yount et al., 2015).

Empirically, exposure to violence in childhood is widespread (Stoltenborgh, Bakermans-Kranenburg, & Asling-Monemi, 2013; Stoltenborgh, Bakermans-Kranenburg, van Ijzendoorn, & Alink, 2013; Stoltenborgh, van Ijzendoorn, Euser, & Bakermans-Kranenburg, 2011). In Asian samples, rates of child physical abuse (17%; CI 11%–25%) (Stoltenborgh, Bakermans-Kranenburg, van Ijzendoorn, et al., 2013), child emotional neglect (30%; CI 20%–43%) (Stoltenborgh, et al., 2013), and the sexual abuse of boys (4%; CI 2%–8%) (Stoltenborgh et al., 2011) have been reported.

In South Asia, the Pacific, and other poor settings, men’s exposure to violence in childhood has been linked to a higher risk of perpetrating IPV (Abramsky et al., 2011; Fulu, Jewkes, Roselli, Garcia-Moreno, & the UN *Multi-country Cross-sectional Study on Men and Violence* research team, 2013; Koenig, Stephenson, Ahmed, Jejeebhoy, & Campbell, 2006; Martin et al., 2002). For example, in the study sites of the *WHO Multi-Country Study of Women’s Health and Domestic Violence*, which included Bangladesh, women with a male partner who had (a) witnessed father-to-mother physical IPV and (b) experienced physical abuse as a child had higher odds (ORs=1.5–9.5) of reporting prior-year physical and/or sexual IPV than did women with an unexposed partner (Abramsky et al., 2011). In the *UN Multi-Country Study of Men and Violence*, childhood exposure to specific forms of violence typically was associated with some form of IPV perpetration in half or more of the six study countries (Fulu et al., 2013). In India, associations have been found between a male partner’s exposure as a child to inter-parental violence and women’s reports of physical and/or sexual IPV (Koenig et al., 2006; Martin et al., 2002). In research in Northern Vietnam, exposure to violence in childhood has been strongly positively associated with men’s risk of perpetrating physical IPV (Yount et al., 2015; Yount, Pham, et al., 2014) and psychological IPV (Yount et al., 2015).

Community Gender Norms and Men’s Perpetration of IPV

Gender norms—or social expectations about the roles and behaviors of men and women—and the reproduction of these norms in institutions and practices, are thought to be associated with men’s health-related behaviors, with important implications for their partners (Campbell, 1995; Courtenay, 2000; Kimmel & Messner, 1989). Two related mechanisms by which inequitable gender norms may influence men’s perpetration of IPV include (a) the normalization of violence against women and (b) gender-role conflict (Moore & Stuart, 2005). First, in more patriarchal settings, “punishing” wives is socially condoned, especially for perceived transgressions of gender-normative behavior, such as going out without permission (VanderEnde, Yount, Cheong, Naved, & Sibley, 2015). By contrast, in more gender-equitable settings, the protection of women who experience IPV is normative

(Campbell, 1999; Heise, 1998), and community interference against IPV may be more active (Campbell, 1999). Ethnographic data from 15 countries show that community sanctions against husbands who beat their wives may help to control the levels of wife beating (Counts, Brown, & Campbell, 1999).

Feminist perspectives on *patriarchy* – or the systematic subordination of women and lower-status men (Courtenay, 2000) – highlight the role of gender inequitable normative contexts in sustaining men’s perpetration of IPV (Dobash & Dobash, 1998; Yllo, 2005). More gender equitable normative contexts may operate by “breaking the cycle of partner violence” that stems from men’s exposure to violence in childhood (Abramsky et al., 2011). Moreover, the social expectations of men in more patriarchal societies may include roles and behaviors that are largely unachievable, such as being the main financial provider in settings where opportunities for employment are constrained. When faced with perceived or actual challenges to their masculinity, some men may experience conflict or stress and use violence to maintain a sense of control (Moore & Stuart, 2005). In Bangladesh (Amin, Khan, Rahman, & Naved, 2013), India (Boyle, Georgiades, Cullen, & Racine, 2009; Koenig et al., 2006), and Nigeria (Linos, Slopen, Subramanian, Berkman, & Kawachi, 2012), community- and district-level norms favoring violence against women have been positively related to women’s experiences of IPV (Amin et al., 2013; Boyle et al., 2009; Linos et al., 2012) and to men’s reported perpetration (Koenig et al., 2006).

In historically patriarchal settings like Bangladesh, community gender norms among *senior* (older, married) men may play a role in controlling levels of IPV, as senior men still wield authority in many households and communities (Ball, 2010). As such, norms among senior men about gender equity or inequity and violence against women may influence the behavior of *junior* (younger, married) men, a group at high risk for perpetrating IPV who are establishing patterns of behavior in marriage that may be more amenable to change (Aklimunnessa, Khan, Kabir, & Mori, 2007; Johnson & Das, 2009; Sambisa et al., 2010). Governments and organizations have recognized the need to engage men and boys in challenging inequitable gender norms and tolerance for violence to prevent its occurrence (Barker, Ricardo, Nascimento, Olukoya, & Santos, 2009). Yet, the process by which “old norms” of masculine dominance give way to “new norms” of gender equity and low tolerance for violence are understudied (Doull, Oliffe, Knight, & Shoveller, 2013). According to the *norm life cycle* (Finnemore & Sikkink, 1998), a norm passes through four stages before it is internalized in a society or community: *norm emergence*, *the tipping point*, *norm cascade*, and *norm internalization*. Initially, norm entrepreneurs use platforms to gather information and access to specific audiences. At this stage, when the content of the norm is formed, new norms emerge or complement and change prior norms. If sufficient numbers agree with the new norm, this agreement can reach the stage of norm acceptance, or *norm cascade*. The critical moment between *norm emergence* and *norm cascade* is the *tipping point*, after which the norms are diffused more widely. Others begin to adopt the norm, new rules and laws emerge to support the norm, and promoters work to transform more local norms to comply with the wider norm. *Internalization* occurs when the norm is assumed and no longer debated, although some norms never complete the full cycle (Finnemore & Sikkink, 1998). This framework was developed to describe the process of global norm change, but may describe processes of norm change at more local levels

(Finnemore & Sikkink, 1998). Scholars have argued that the local resonance of norms is critical for internalization (Ancharya, 2004).

In Bangladesh, strategies to change norms about gender and violence against women have included awareness raising, advocacy, community workshops, peer trainings, and “gender transformative” programming (Mahmud, Sultan, & Huq, 2012). Evidence of effectiveness is thin (Heise, 2011; Mahmud et al., 2012), but emerging (Naved & Rahman, 2014).

Conceptual Framework and Hypotheses

Overall, in settings like Bangladesh, studies are lacking on how community gender norms—especially among senior men—may influence a junior man’s perpetration of IPV, directly or by mitigating his risk of perpetration that is associated with his exposure to violence in childhood. Moreover, cohort differences may exist between more senior and more junior men, with the junior men more open to behavioral change. To address these gaps, we leveraged data from the Bangladesh survey of the 2011 *UN Multi-Country Study of Men and Violence* (Naved, Huque, Farah, & Shuvra, 2011), a unique cross-sectional population-based survey in 50 urban and 64 rural communities in which detailed measures from men 18–49 years were gathered on attitudes about gender, exposure to violence in childhood, and perpetration of IPV. Compared to more senior men, who culturally are defined as older, married fathers, younger married men in Bangladesh more often perpetrate IPV but are establishing patterns of behavior in marriage that may be more amenable to change (Aklimunnessa et al., 2007; Johnson & Das, 2009; Sambisa et al., 2010). We used multilevel analysis to test the associations of community gender norms among *senior men* (married, ages 35–49 years, N=938 across 112 of the 114 communities) and childhood exposure to violence reported by a *junior man* (married, ages 18–34 years, N=570) with his perpetration of physical IPV. These novel data offer a rare opportunity to explore these understudied relationships in a population of men with high risks of perpetrating IPV against women.

Our conceptual framework, depicted in Figure 1, integrates theories of gendered social learning (Akers, 1977; Bandura, 1977; Hearn, 1998; Yount et al., 2015), theories of gender norms and masculinity under patriarchy (Kabeer, 1999; Kandiyoti, 1988; Próspero, 2008; Yllo, 1984, 2005), and literature on the community-level determinants of IPV against women (VanderEnde et al., 2015; VanderEnde, Yount, Dynes, & Sibley, 2012). It also extends decades of work on gender attitudes and IPV against women in historically patriarchal settings (Yount, 2005; Yount & Carrera, 2006; Yount & Li, 2009; Yount, VanderEnde, Zureick-Brown, Anh, et al., 2014; Yount, VanderEnde, Zureick-Brown, Minh, et al., 2014), including Bangladesh (Yount, Halim, Head, & Schuler, 2012).

The bold pathways in Figure 1 reflect our hypotheses (H₁–H₃). Drawing on feminist theories of masculinity under patriarchy and the idea of a tipping point in social norm change, we expect that a junior man will have a lower adjusted scope of physical IPV acts ever perpetrated if he lives in a community in which more gender equitable norms among senior men exceed a threshold (Figure 1, H₁). Drawing on gendered social learning theory, we expect that a junior man’s experiences of violence in childhood will be associated with a higher adjusted scope of physical IPV acts ever perpetrated (Figure 1, H₂). Finally, we expect that the adjusted influence of a junior man’s exposure to violence in childhood on the

scope of physical IPV acts he ever perpetrated will be weaker in communities that exceed a threshold for more gender equitable norms among senior men because an alternative norm to that learned in the family prevails in the community (Figure 1, H₃). Findings will inform national policies and community-based programs to reduce men's perpetration of IPV in Bangladesh, as well as research and policy in similar settings.

Methods

Sample and Data

Study sites—The Bangladesh component of the *UN Multi-Country Study of Men and Violence* included an urban and a rural site. Dhaka metropolitan city, the urban site, is the capital and commercial center of Bangladesh. The Dhaka metropolitan area has a largely (~90%) Muslim population of over 15 million, is experiencing rapid population growth (The World Factbook - Bangladesh, 2010), and includes areas of extreme poverty (NIPORT, Mitra & Associates, & ICF International, 2013; The World Factbook - Bangladesh, 2010). Matlab, the rural site, is a densely populated sub-district located 55km southeast of Dhaka. Matlab has a population of around 500,000 across 22 unions, each with about 22,000 residents (Amin, Khan, Rahman, & Naved, 2013a). The International Center for Diarrheal Disease Research, Bangladesh (icddr-b) runs a health and demographic surveillance system (HDSS) covering about 225,000 residents in 142 villages (icddr-b, 2012b). Matlab is mainly (about 88%) Muslim, and is characterized by pervasive landlessness (icddr-b, 2012b) and high out-migration, at 24.5 per 100 men in 2006–8 (Alam & Barkat-e-Khuda, 2011). Compared to rural Bangladesh, Matlab exhibits a similar level of fertility (2.5 versus 2.6) (icddr-b, 2012a), and less frequent physical IPV against women (32% versus 50%) (NIPORT et al., 2013; VanderEnde et al., 2015).

Sample—The eligible sample for the original study was men 18–49 years old, which conforms to the age range of men included across sites in the *UN Multi-Country Study of Men and Violence* (Fulu et al., 2013) and in other surveys of men and violence in Bangladesh (NIPORT et al., 2009). A multistage, self-weighted sample design was implemented. The sampling frame included *mohollas*, the smallest administrative unit, in Dhaka and villages in Matlab (Figure 2). Fifty mohollas were selected with probability proportional to size (PPS), and one enumeration area with 120 households, on average, was selected randomly from each moholla. Sixty-four villages in Matlab also were selected with PPS sampling, and 30 households were chosen randomly in each selected village. One eligible man per household was selected for interview. Of selected households in Dhaka, about 2% were empty, destroyed, or had no eligible men, 22% had an eligible selected man who was not available, and 4% had an eligible man who declined to be interviewed. In Matlab, less than 1% of households was empty or destroyed. Because of high out-migration, 21% of sampled households had no eligible men. Two percent of sampled men declined an interview. In both sites, 0.2% of the sample had an incomplete interview. Of 3,316 sampled households, 2,400 men in 114 communities were interviewed from January to June of 2011. Thus, the individual response rate among eligible, resident men was 73% in Dhaka and 93% in Matlab. We analyzed data from 1,508 men, 570 married men 18–34 years and 938 married men 35–49 years in 112 communities. Two communities of the original 114 were

dropped, as there were no married junior men living in them. We excluded 892 never-married men 18–34 years, as our focus was on men’s perpetration of IPV against their wives.

Data collected—The icddr-b conducted the original data collection. Ethical permissions for the original study are detailed elsewhere (Naved et al., 2011). To avoid coercion, men were not compensated for their participation in the survey. The questionnaire included eight modules on demographics and employment, experiences in childhood, attitudes about gender relations, health and well-being, intimate relations, fatherhood, policies, and illicit behaviors.

Male interviewers received 12 days of training on gender issues and gender-based violence, skills to minimize distress among respondents, the questionnaire, and modes of administration. Interviewers used personal digital assistants (PDAs) to administer all modules except the last one, which was self-administered using audio enhancement to reduce potential biases in reporting risky and illegal behavior. Field supervisors re-interviewed a 5% random subsample to ensure quality and ethical standards (Naved et al., 2011).

Measures

Level-1 outcome

Junior man’s scope of physical IPV ever perpetrated: The level-1 outcome was measured using five yes-no items adapted from the Revised Conflict Tactics Scale (CTS2) (Straus, Hamby, Boney-McCoy, & Sugarman, 1996), a standard, behaviorally based measure of IPV. Example items were “Have you ever slapped a partner or thrown something at her that could hurt her?” and “Have you ever pushed or shoved a partner?” The modal value was imputed for five items, each with two missing values. Items were summed to capture a count for the number of different types of physical IPV that a man reported to have ever perpetrated (Table 1). We chose to model a count outcome over a binary response because logistic models are 25% to 50% less efficient than a cumulative logit model for a five-level ordered response (Armstrong & Sloan, 1989). Similar count measures have been used in studies to capture the “scope” of IPV perpetrated (Cochran, Jones, Jones, & Sellers, 2016). Cronbach’s alpha for the five-item scale was adequate in this sample ($\alpha=.77$).

Level-1 and level-2 exposure variables

Junior man’s exposure to violence in childhood: Our level-1 exposure was captured using a cluster-mean centered standardized factor score, based on responses to binary items capturing whether or not the junior man had witnessed or experienced seven violent events before age 18 (Table 1). All items pertained to experiences of violence in the home by a family member and were adapted from items in the brief screening version of the Childhood Trauma Questionnaire (Bernstein et al., 2003). Sample items were “Before you reached 18, you were told you were lazy or stupid or weak by someone in your family” and “Before you reached 18, you were beaten at home with a belt or stick or something else which was hard.” Missing values for two items (n=1 case for each item) were replaced with their respective modal values. This measure was validated for this population using exploratory factor

analyses (EFA) and confirmatory factor analysis (CFA) in split-half samples of all men, then CFA with all junior men. High factor loadings (0.52–0.81), adequate fit statistics (RMSEA=0.08, CFI=0.95, TLI=0.93), and theory supported a unidimensional construct. Cronbach's alpha for the seven-item scale was adequate in the sample of junior men ($\alpha=.71$).

Senior men's community gender norms: Our level-2 exposure for senior men's community gender norms relied on a contextual definition of seniority. In Bangladesh, men's median age at first marriage is 24 years (NIPORT et al., 2013), so we chose married men 35–49 years to represent senior men—as almost all of them had achieved the valued social milestones of marriage and fatherhood (Ball, 2010) and had been heads of their nuclear families for some time. In sensitivity analyses, we altered the age-group criteria for seniority and assessed differences in scores for community gender norms and their associations with the outcome (available on request). Our focus on senior men's community gender norms permitted us to create this measure from a sample that did not overlap in age with the junior men on whom the outcome was observed, strengthening the argument that the community measure was exogenous to the outcome (Sampson & Groves, 1989).

Our measure for senior men's community gender norms was based on eight validated questions about gender roles (Pulerwitz & Barker, 2008). The responses to all items were recoded so “1” denoted more equitable gender norms and “0” denoted less equitable gender norms. Sample items were “A woman's most important role is to take care of her home and cook for her family” and “There are times when a woman deserves to be beaten.” One item was missing 6 values, for which the modal value was imputed. Cronbach's alpha was adequate in the sample of senior men ($\alpha=.72$), and factor loadings (0.38–0.70), fit statistics (RMSEA=0.07, CFI=0.93, TLI=0.90), and theory favored a unidimensional construct. For multilevel analyses, mean factor scores for each community were dichotomized, with communities in the highest (most equitable) quartile compared to those in the lower three quartiles combined. This approach allowed us to test a threshold effect (rather than a linear effect) of more equitable community norms, reflecting the idea that community norms must reach a “tipping point” before they influence longstanding practices, such as IPV (Acharaya, 2004; Finnemore & Sikkink, 1998; Mackie, 1996).

Covariates—Control variables were considered based on theoretical and empirical justifications about their potential to confound the relationships of interest (Miller & Chapman, 2001) and tests in this sample. The following level-1 covariates were tested: completed grades of schooling (Abrahams et al., 2006; Aklimunnessa et al., 2007), age in years (Aklimunnessa et al., 2007; Sambisa, Angeles, Lance, Naved, & Thornton, 2011), alcohol use (Sambisa et al., 2011), religion (Sambisa et al., 2011), gender attitudes (Sambisa et al., 2011), steady employment (Sambisa et al., 2011), home ownership (Sambisa et al., 2011), TV ownership (Coyne et al., 2011), number of living children (Aklimunnessa et al., 2007), dowry at marriage (Naved & Persson, 2005), and spousal age in years, spousal completed grades of schooling, and spousal income differences (Yount & Carrera, 2006). The following level-2 covariates were tested: urban-rural residence, the proportion of senior men owning a home, and the mean factor score for exposure to violence in childhood among

junior men (Benson, Fox, DeMaris, & Van Wyk, 2003). As appropriate, mean or modal values were imputed for seven covariates missing between 1 and 12 values each.

Given the limited sample size of junior men, we added to the final model one control variable at level-1, a junior man's completed grades of schooling. This variable was selected because individual and family schooling attainment have predicted exposure to violence in childhood and IPV perpetration in adulthood (WHO, 2012). We added two control variables at level-2. First, reintroducing the community mean value for exposure to violence in childhood among junior men allowed us to estimate better the level-1 effect of exposure to violence in childhood. Second, introducing the proportion of senior men owning a home allowed us to adjust for the expected association of community socio-economic status with community gender norms and a junior man's risk of perpetrating IPV (Benson et al., 2003). No values were missing on either level-2 covariate.

Analysis

Stata 14.0 (STATA Corp, 2015) and MPlus (Muthén & Muthén, 1998–2012) statistical software were used for all analyses. Exploratory data analyses included methods to assess the location (e.g., mean, median), spread (e.g., variability), and distribution of each variable. We also assessed bivariate associations between our main variables as well as differences in the attributes of junior men across more- and less- gender equitable communities.

Two-level Poisson regression models (Raudenbush & Bryk, 2002) then were used to test hypotheses H₁–H₃. Let η_{jk} denote the log count (or scope) of physical IPV acts ever perpetrated by participant j in community k . Let $ChildViolence_{jk}$ denote his exposure to violence as a child, $GenderNorm_k$ denote the gender norms of community k , and $ChildViolence_{jk} * GenderNorm_k$ denote their cross-level interaction. Control variables captured individual-level completed grades of schooling, $Schooling_{jk}$, the community-level mean score for junior men's exposure to violence in childhood, $MeanChildViolence_k$, and the community-level proportion of senior men owning their home, $OwnHome_k$. As the cross-level interaction between a junior man's exposure to childhood violence and more gender equitable community norms among senior men were of interest, we applied cluster mean or within-group centering to all individual-level variables (Enders & Tofighi, 2007; Hofmann & Gavin, 1998). Such centering removes all between-cluster variation in the variables and helps to ensure the estimated interaction effects are non-spurious (Enders & Tofighi, 2007). The community-level predictors were centered around their grand means to facilitate interpretations of the results. A two-level Poisson regression model can be represented as:

$$\eta_{jk} = \gamma_{00} + \gamma_{01} GenderNorm_k + \gamma_{02} OwnHome_k + \gamma_{03} MeanChildViolence_k + \gamma_{10} ChildViolence_{jk} + \gamma_{20} Schooling_{jk} + \gamma_{11} ChildViolence_{jk} * GenderNorm_k + v_{0k}$$

(1)

We compared the robustness of the results based on equation 1 to alternative model specifications (all available upon request). First, we checked and confirmed the robustness of the results to over-dispersion in the outcome at level 1. Second, we identified two outlying clusters with respect to community gender norms, re-estimated the model for eq. (1) without the two clusters, and found the results to be comparable to the model based on 112 clusters. Third, we substituted other covariates at level-1 and level-2 to confirm the robustness of our findings to alternative potential sources of confounding. Fourth, we estimated a two-level logistic regression model analogous to that in eq. (1) for the binary outcome, ever perpetrated any physical IPV. The results were consistent with those presented here. Because of prior use in the literature of a count measure for the scope of physical IPV acts ever perpetrated (Cochran et al., 2016), and the statistical efficiency of the cumulative logit model over the logit model, we presented the findings based on the multilevel cumulative logit model. Finally, for the “threshold” measure of community gender norms, we substituted the mean factor score and the mean factor score squared for each community. We found a non-significant effect of the mean factor score for senior men’s community gender norms but a significant negative effect of the quadratic term, with the point of inflection close to the 75th percentile of the mean factor score. This finding lent empirical support for our theoretically based decision to estimate a “threshold effect” of community gender norms and to set the threshold at the 75th percentile of the mean factor score.

Results

Characteristics of Sample Men

Demographics—On average, junior men had completed almost seven grades of schooling, were just under 30 years old, and had wives who were almost 23 years old (Table 1). Almost one in four junior men had marriages that involved a dowry, just over one third owned a home, just over one half owned a television, and most worked throughout the year (Table 1). Most junior men were Muslim, and few reported ever drinking alcohol. Junior men had about one living child, on average. By comparison, senior men, on average, had completed almost one grade less schooling, more often owned a home, had more living children, had older wives, and reported ever drinking alcohol even less often. Otherwise, junior and senior men were similar on other demographic attributes (Table 1).

Perpetration of physical IPV—Half of junior men reported having ever perpetrated physical IPV. The most common form of physical IPV ever perpetrated was having slapped or thrown something at their partner, followed by having pushed or shoved their partner, hit their partner with a fist or something else, kicked, dragged, beaten, choked or burned their partner, and having threatened or used a gun or knife on their partner. Junior men reported using one type of physical IPV, on average.

By comparison, slightly more than half of senior men reported having ever perpetrated physical IPV, and reportedly had perpetrated more than one type of physical IPV, on average. The lifetime prevalence for most forms of physical IPV perpetration did not differ between senior and junior men (Table 1). Senior men more often reported having pushed or

shoved their partner and having hit their partner with a fist or something else, but these differences were small in magnitude.

Exposure to violence in childhood—Exposure to violence in childhood was the norm among junior men (Table 1). Almost half had been insulted or humiliated in front of others, or told that they were lazy, weak, or stupid as a child, followed by having been neglected due to parental drunkenness, having witnessed their mother being beaten, and having been forced to be touched on the buttocks or genitals or to touch those of someone else. Notable percentages of junior men reported having been beaten with a belt, stick, or hard object or having been beaten so hard it left a bruise. Levels of exposure to violence in childhood did not differ meaningfully for senior men, although junior men more often reported being told by a family member they were lazy, weak, or stupid and to have been touched or been made to touch someone else on the buttocks or genitals. Such small differences across age cohorts suggest intergenerational stability in men’s exposure to violence in childhood.

Attitudes about gender—Mean scores for the gender-attitudes items were 1.8–2.5 for junior and senior men, suggesting a common tendency to agree with customary gender relations. No differences across age cohorts were significant; however, compared to junior men, senior men expressed marginally more gender equitable attitudes in one instance, as they more often disagreed that “there are times when a woman deserves to be beaten”, and expressed marginally less gender equitable attitudes in another instance, as they more often agreed that “a man should have the final say in all family matters.”

Characteristics of Communities

On average, there were eight senior men and five junior men per community, and across communities, senior men made up just under two thirds of each community. For senior men across communities, about half owned their home, and about half reported ever perpetrating physical IPV, but the mean proportion of men reporting such violence in the last 12 months was small (Table 2). All community-level variables showed substantial variation (Table 2).

Table 2 also shows Pearson pairwise correlations among community-level characteristics. As expected, the proportion of senior men reporting to have ever perpetrated physical IPV was positively correlated with the proportion reporting physical IPV perpetration in the prior 12 months and negatively correlated with senior men’s more equitable community gender norms. Senior men’s more equitable community gender norms was not correlated with their physical IPV perpetration in the prior 12 months but was negatively correlated with the proportion who owned their own homes. The proportion of senior men in the community was positively correlated with the proportion of senior men who owned their own home. The mean factor score for junior men’s exposure to violence in childhood was negatively correlated with the proportion of senior men and the proportion of senior men owning a home.

Characteristics of Junior Men across More and Less Gender Equitable Communities

Table 3 compares the characteristics of junior men across more and less gender-equitable communities, according to norms among senior men. In general, junior men in more gender

equitable communities were better off socioeconomically than their counterparts in less gender equitable communities. On average, junior men in more equitable communities had more schooling, more often had steady work, more often owned a television, less often paid a dowry, and had fewer children. That said, junior men in more gender equitable communities less often owned their own home and more often had ever consumed alcohol.

In general, compared to junior men in less gender equitable communities, those in more gender equitable communities were less violent and had more equitable attitudes about gender. Namely, junior men in more equitable communities less often perpetrated any physical IPV ever and in the prior 12 months, less often ever perpetrated specific forms of physical IPV, and perpetrated fewer forms of physical IPV in their lifetime. Junior men in more gender equitable communities typically expressed more gender equitable personal beliefs of each type than did junior men in less gender equitable communities. Unexpectedly, junior men's exposure to violence in childhood did not differ across more and less gender equitable communities (Table 3).

Results from Multilevel Poisson Regression Models

The unconditional multilevel Poisson regression model with a random intercept showed variation across communities in the log lifetime count (or scope) of acts of physical IPV perpetrated among junior men (Table 4, Model 1). Under conditions of normality, we would expect 95% of the village log event scope to fall between -1.16 and 0.92 . Junior men in communities with the most equitable gender norms among senior men had a lower log lifetime scope of acts of physical IPV perpetrated (Table 4, Model 2). More exposure to violence in childhood was positively associated with the log scope of acts of physical IPV perpetrated (Table 4, Model 3). These estimates remained stable after adding a cross-level interaction between individual-level exposure to violence in childhood and community-level gender norms (Table 4, Models 4 and 5); however, the cross-level interaction was not significant. Thus, the influence of individual-level exposure to violence in childhood on the log lifetime scope of physical IPV acts perpetrated did not depend on community gender norms.

With the inclusion of all final control variables (Table 4, Model 5), the estimated coefficients for exposure to violence in childhood, community gender norms, and their interaction were stable, and inferences did not change. Based on the results in Table 4, Model 5, one would expect, holding other variables constant, that the lifetime scope of acts of physical IPV perpetrated for a junior man in a more gender equitable community would be $100 \times \exp(-0.64)$, or 53% of that for a junior man in a less gender equitable community, a reduction of 47%. Likewise, holding other variables constant, one would expect the scope of physical IPV acts perpetrated for a junior man with a one standard deviation higher score for exposure to violence in childhood would be 132% times that of a junior man at the mean exposure level in the community, an increase of 32%.

Regarding the control variables, the mean proportion of senior men owning a home and the junior man's level of schooling were negatively associated with his lifetime scope of physical IPV acts perpetrated (Table 4). The community score for exposure to violence in childhood (Table 4) and individual-level variables for marriage involving a dowry (not

shown), having more living children (not shown), and having an older spouse (not shown) were positively associated with a junior man's lifetime scope of physical IPV acts perpetrated. No other controls were associated with the outcome (full results available on request).

Discussion

As expected (H_1), the scope of physical IPV perpetration among junior men was narrower in the most gender-equitable communities. This result supports previous findings that women's status is related to gendered violence (Koenig, Ahmed, Hossain, & Mozumder, 2003). Also as expected (H_2), a junior man with more exposure to violence in childhood perpetrated a wider scope of physical acts of IPV. These effects remained significant in models with and without controls. This analysis suggests that the gender norms in a man's community of residence *and* his exposure to violence in childhood are important, independent determinants of his propensity to perpetrate IPV. Contrary to our expectation (H_3), no cross-level interaction was apparent: junior men exposed to more violence in childhood perpetrated a similar scope of physical acts of IPV regardless of the gender norms among senior men in the community. Thus, living in a more gender-equitable community did not reduce the risk of IPV perpetration associated with more exposure to violence in childhood.

This result has important implications for efforts to prevent violence against wives in Bangladesh, and similar lower-income, less gender-equitable settings. Namely, prior efforts have focused on changing community norms about gendered violence. Our results suggest that this approach is one way to reduce men's perpetration of IPV in a community; however, our findings also indicate that, by itself, this approach may be insufficient. Men who were exposed to violence in childhood were more likely to perpetrate IPV, regardless of the gender norms in their community. Thus, preventing violence against men early in life is needed to produce greater declines in their risk of perpetrating IPV.

This study was uniquely able to test the influences of exposure to violence in childhood and community gender norms in the same model using a sample of *men's reports* of their IPV perpetration, when prior research in this area has relied on women's reports of exposure to IPV. Differences were found when looking at men in the most gender equitable communities. While junior men living in more equitable communities were much less likely to have perpetrated any IPV, they also were more educated and had fewer children. Thus, it may be that men who are less likely to perpetrate IPV are also more likely to choose to live in more gender equitable communities. However, because this is a largely patrilocal society, a majority of men continue to live in their communities of birth. Also, efforts to improve educational opportunities for men may have an effect on the levels of IPV in less gender equitable communities. Prior research has connected higher schooling attainment among women in Bangladesh at the community level with lower levels of IPV (Koenig et al., 2003). Answers to these questions should be addressed in future research. Men in more gender equitable communities also were more likely to drink alcohol than those in less gender equitable communities. Given the known positive correlation between perpetrating IPV and consuming alcohol in excess (McKinney, Caetano, Rodriguez, & Okoro, 2010; Sambisa et al., 2010), this finding also should be examined in more detail in future studies.

Limitations and Strengths

Some limitations of this research are notable. First, the small sample size of junior men limited our ability to add controls concurrently, possibly resulting in model misspecification. Still, the estimated coefficients for violence in childhood and community gender norms were robust to the inclusion of a range of controls (results available on request). Second, men may have under-reported perpetrating physical IPV (O’Leary & Williams, 2006; Simpson & Christensen, 2005); however, the availability of behaviorally based items likely improved disclosure. Also, other surveys in Bangladesh have shown consistent lifetime rates for women’s reported exposure to physical IPV (48.7%) and men’s reported perpetration of physical IPV (58.1%) (NIPORT et al., 2009). Third, the measure for community gender norms was based on the responses of “senior” married men ages 35–49 years, when gender norms among male peers, women, or even older men may have been more influential. Data on gender norms were not available for women, nor for men ages 50 or older, so the influence of norms in these populations could not be tested. In the sample, men 35–49 years and those 18–34 years did not differ appreciably in their attitudes (Table 1), so adding men below age 35 to the measure for community gender norms did not alter the findings (available on request). In this context, the community gender norms of men older than 49 years may be more salient than those of men 35–49 years for younger men’s perpetration of IPV. Fourth, the measure of community gender norms was not specific to norms about family violence or IPV, and the latter norms may have been more likely to moderate the relationship of childhood violence and IPV perpetration. Fifth, our measure of community gender norms was created to capture a “tipping point” beyond which junior men’s risk of IPV perpetration was lower. Longitudinal multilevel studies are needed to assess change in community gender norms and actual tipping points in behavior more dynamically. Lastly, while the findings are generalizable to married men 18–34 years in the study sites, they may not be generalizable to unmarried, widowed, or separated men in the study sites, nor to men elsewhere in Bangladesh.

Despite these limitations, our research fills several important gaps in the literature. Research on IPV globally has focused on women’s exposure, not men’s perpetration. In South Asia, men’s childhood exposure to violence is common (Stoltenborgh, Bakermans-Kranenburg, & van Ijzendoorn, 2013; Stoltenborgh, Bakermans-Kranenburg, van Ijzendoorn, et al., 2013; Stoltenborgh et al., 2011), but often poorly measured and not systematically studied in relation to men’s IPV perpetration. When community norms are added as variables in multilevel analyses of data from South Asia, norms typically are measured by aggregating individual women’s responses to questions about gender roles or justifying IPV (Boyle et al., 2009; Koenig et al., 2003; Naved & Persson, 2005; VanderEnde et al., 2012). No research has systematically explored the measurement of community gender norms among *men* (VanderEnde et al., 2012), despite the influence of senior men in South Asian communities and the identified need to engage men in norm change to reduce violence against women.

Research in historically patriarchal settings like Bangladesh also has not tested the effects of community gender norms in senior men on younger men’s perpetration of IPV and the role of more equitable gender norms in buffering the risk of perpetrating IPV that may arise from

childhood exposure to violence. Our analysis has filled these gaps using rigorous multilevel methods, adjusting carefully for relevant control variables, and performing sensitivity analyses that demonstrate the robustness of our findings.

Conclusions and Implications

Little is known outside the U.S. (Cornelius & Resseguie, 2007) about effective ways to reduce men's risk of IPV perpetration. In Bangladesh, reducing the perpetration of IPV by junior men is critical, as they have heightened risks of perpetrating IPV (Aklimunnessa et al., 2007; Sambisa et al., 2011) and are establishing patterns of behavior in marriage (O'Leary & Slep, 2012). Our results suggest that norms among senior men favoring gender equity may constrain a man's perpetration of IPV, perhaps by social enforcement or sanctions (Counts et al., 1999). It also is possible that norms specific to violence against women at the community level will influence more strongly younger men's perpetration of violence than do more general norms about gender equity. This hypothesis remains to be tested. This research suggests that past and current efforts to change community gender norms among senior men alone may not change the risk of IPV that is associated with men's exposure to childhood violence. If these associations reflect causal influences, then interventions to reduce the risk of IPV perpetration should mobilize communities to adopt more gender-equitable norms and should address exposure to violence in childhood, as the effects of these factors may be additive and not synergistic. Longitudinal research with a national sample of recently married men and larger samples of senior men and women are needed to test the generalizability of our findings and potential influences of heterogeneous community gender norms. Cluster randomized controlled trials are needed to assess the impact of community norm change alone, trauma informed care among men alone, and both interventions together, on the incidence of IPV against women.

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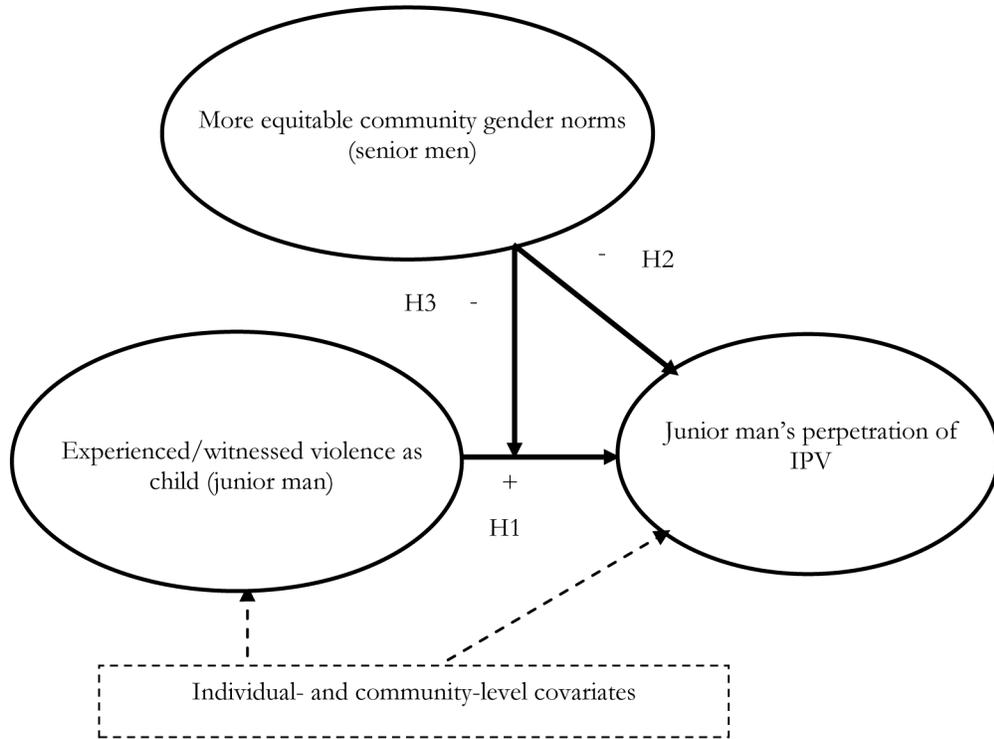


Figure 1. Expected Influences of Community Gender Norms and Childhood Exposure to Violence on Men’s Perpetration of IPV
Note. Bolded arrows denote relationships of interest. Dashed arrows denote relationships for which we control.

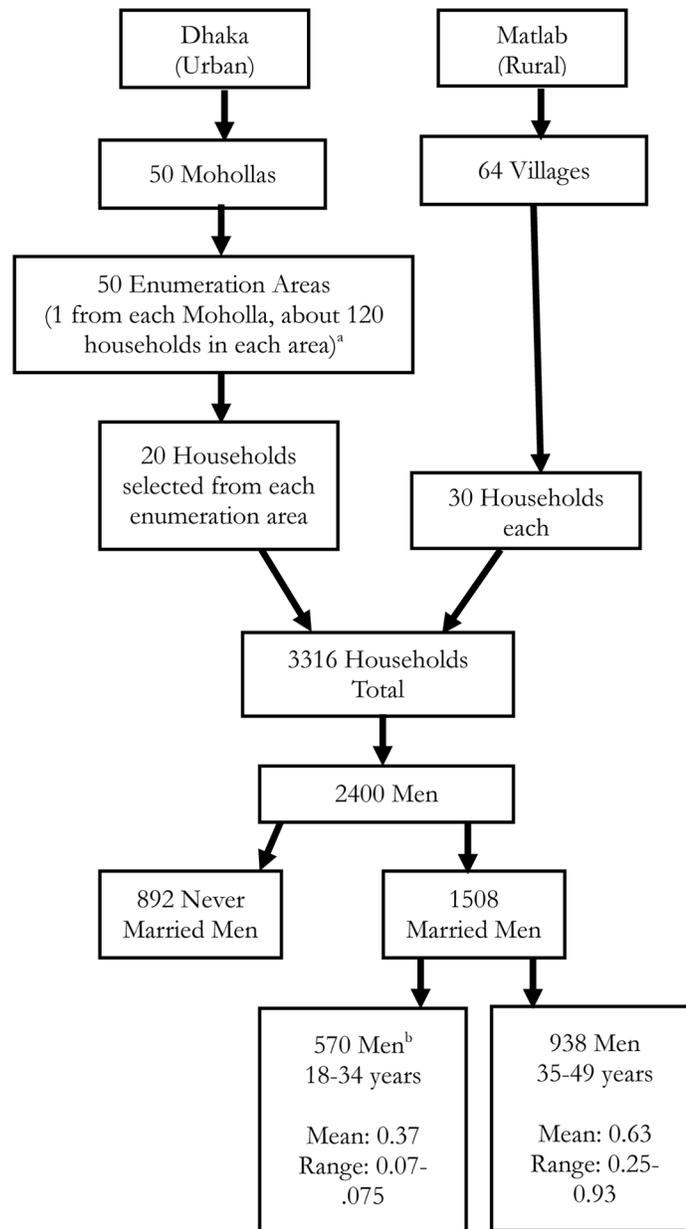


Figure 2. Sampling Frame for the Bangladesh Component of the UN Multi-Country Study of Men and Violence, Dhaka and Matlab.

^aThe exact number of households in each enumeration area was not reported by the study authors, and numbers of households in each enumeration area varied slightly.

^bTwo communities were dropped from the analysis because no junior men in the sample were living in them.

	Married Men (ages 18–49 years)			Sr. Married Men (ages 35–49 years)			Jr. Married Men (ages 18–34 years)			Cohen's d	
	Mean	SD	Range	Mean	SD	Range	Mean	SD	Range		
Was touched/someone made you touch buttocks/genitals	0.26	0.44	0–1	0.24	0.43	0–1	0.30	0.46	0–1	5.94*	0.13
Beaten at home by belt/stick/hard object	0.14	0.34	0–1	0.13	0.34	0–1	0.15	0.35	0–1	0.67	0.04
Beaten at home so hard left mark or bruise	0.03	0.18	0–1	0.03	0.17	0–1	0.04	0.18	0–1	0.20	0.02
No violence exposure in childhood	0.26	0.44	0–1	0.26	0.44	0–1	0.26	0.44	0–1	0.21	0.02
Witnessed or experienced violence in childhood	0.74	0.44	0–1	0.73	0.44	0–1	0.74	0.44	0–1	0.21	0.02
Witnessed and experienced violence in childhood	0.28	0.45	0–1	0.27	0.44	0–1	0.32	0.47	0–1	4.42*	0.11
Gender Norms (1 to 4, higher=more egalitarian)											
Women's most important role take care of/cook for family	1.89	0.57	1–4	1.89	0.56	1–4	1.90	0.59	1–4	0.51	0.04
Men need sex more than women do	2.10	0.62	1–4	2.10	0.58	1–4	2.09	0.68	1–4	0.11	0.02
Women's responsibility to avoid pregnancy	2.49	0.67	1–4	2.47	0.67	1–4	2.51	0.66	1–4	1.15	0.06
You think a woman should obey her husband	1.82	0.53	1–4	1.83	0.53	1–4	1.82	0.53	1–4	0.08	0.01
You think a man should have final say in all family matters	2.18	0.68	1–4	2.15	0.66	1–4	2.22	0.71	1–4	2.93†	0.09
Times when woman deserves to be beaten	2.36	0.61	1–4	2.38	0.60	1–4	2.32	0.63	1–4	3.05†	0.09
A woman should tolerate violence to keep family together	2.36	0.66	1–4	2.34	0.65	1–4	2.39	0.67	1–4	1.60	0.07
If someone insults you, you will defend your reputation, with force if you have to	2.21	0.68	1–4	2.22	0.67	1–4	2.20	0.70	1–4	0.25	0.03

^aSample size for all married men ranges from 1481 – 1508 due to listwise deletion on individual variables. Sample size for senior married men ranges from 917–938 due to missing data on individual variables. Sample size for younger married men ranges from 558 to 570 due to missing data on individual variables.

^b†p < 0.10. *p < 0.05. **p < 0.01. ***p < .001 for mean tests between senior and junior men.

Characteristics of Sampled Communities (N=112), Urban Dhaka and Rural Matlab, Bangladesh, 2011

Table 2

	Mean(SD)	Range	1	2	3	4	5	6
1. mean proportion of sr. men across communities	.63 (.15)	.25 to .93	1.00					
2. mean proportion of sr. men ever perpetrating physical IPV	.51 (.18)	.09 to .93	-.12	1.00				
3. mean proportion of sr. men perpetrating physical IPV in prior 12 mos.	.12 (.11)	.00 to .42	-.16	.41*	1.00			
4. mean proportion of sr. men owning a home	.52 (.33)	0 to 1	.39*	-.05	.01	1.00		
5. mean factor score for community gender norms among sr. men	.002 (.45)	-.98 to 1.36	-.04	-.31*	-.11	-.54*	1.00	
6. mean factor score for exposure to violence in childhood among jr. men	-.02 (.50)	-.85 to 1.44	-.23*	.12	-.12	-.21*	-.03	1.00

Note: Senior men are married and age 35–49 years.

† p < 0.10.

* p < 0.05.

** p < 0.01.

*** p < .001

Comparison of Junior Men (Married, 18–34 Years) Across More and Less Gender Equitable Communities, Urban Dhaka and Rural Matlab, Bangladesh, 2011

Table 3

	More Gender Equitable Communities (146 jr. men in 28 communities)		Less Gender Equitable Communities (424 jr. men in 84 communities)		Cohen's d			
	Mean	SD	Range	Mean		SD	Range	F _p ^a
<u>Demographic Characteristics</u>								
Grades of schooling, mean	9.67	5.26	0–18	5.97	4.33	0–22	58.73 ***	0.81
Religion Islam (ref: other)	.92	.26	0–1	.89	.31	0–1	1.77	0.12
Steady Work throughout year (ref: no)	.97	.18	0–1	.87	.34	0–1	19.95 ***	0.32
Own home (ref: no)	.23	.42	0–1	.42	.49	0–1	18.38 ***	0.38
Own TV (ref: no)	.70	.46	0–1	.56	.50	0–1	8.96 **	0.28
Marriage involved dowry (ref: no)	.13	.34	0–1	.26	.44	0–1	13.54 ***	0.31
Number of living children, mean	1.04	.87	0–4	1.20	.98	0–5	3.20 †	0.16
Age in years, mean	28.78	3.35	18–34	28.58	3.74	18–34	0.36	0.05
Age of current wife/partner in years, mean	23.56	3.47	16–31	22.73	3.66	15–33	6.08 *	0.23
Alcohol consumption ever (ref: never)	.12	.32	0–1	.05	.22	0–1	5.45 *	0.27
<u>Physical IPV Perpetration</u>								
Ever perpetrated physical IPV	.41	.49	0–1	.54	.50	0–1	6.86 **	0.25
Slapped or thrown something at partner	.36	.48	0–1	.50	.50	0–1	9.52 **	0.29
Pushed or shoved partner	.27	.44	0–1	.38	.49	0–1	7.21 **	0.25
Hit with fist or other	.06	.24	0–1	.19	.39	0–1	20.53 ***	0.35
Kicked, dragged, beaten, choked, burned partner	.02	.14	0–1	.09	.29	0–1	15.98 ***	0.28
Threatened or used gun or knife	.00	.00	0–0	.02	.15	0–1	10.22 **	0.18
Count of types of physical IPV ever perpetrated	.71	1.00	0–4	1.19	1.38	0–5	20.63 ***	0.37
Perpetrated physical IPV in the prior 12 months	.09	.29	0–1	.20	.40	0–1	13.23 ***	0.30
<u>Childhood Exposure to Violence</u>								
Insulted or humiliated by family in front of others	0.39	0.49	0–1	0.42	0.49	0–1	0.45	0.06
Told lazy/weak/stupid by family as child	0.38	0.49	0–1	0.40	0.49	0–1	0.07	0.03
One or both parents were too drunk to care for you	0.32	0.47	0–1	0.39	0.49	0–1	2.09	0.14
Saw/heard mother being beaten	0.29	0.45	0–1	0.33	0.47	0–1	0.83	0.09

	More Gender Equitable Communities (146 jr. men in 28 communities)				Less Gender Equitable Communities (424 jr. men in 84 communities)				Cohen's d
	Mean	SD	Range	Mean	SD	Range	Mean	SD	
Was touched/someone made you touch buttocks/genitals	0.27	0.45	0-1	0.30	0.46	0-1	0.49	0.07	
Beaten at home by belt/stick/hard object	0.10	0.30	0-1	0.16	0.37	0-1	3.76 †	0.17	
Beaten at home so hard left mark or bruise	0.01	0.12	0-1	0.04	0.20	0-1	4.39 *	0.16	
No violence exposure in childhood	0.26	0.44	0-1	0.26	0.44	0-1	0.01	0.01	
Witnessed or experienced violence in childhood	0.74	0.44	0-1	0.74	0.44	0-1	0.01	0.01	
Witnessed and experienced violence in childhood	0.29	0.45	0-1	0.33	0.47	0-1	0.83	0.09	
Women's most important role care/cook for family	2.00	.64	1-4	1.87	0.57	1-4	4.68 *	0.22	
Men need sex more than women do	2.26	.68	1-4	2.03	0.67	1-4	12.39 ***	0.34	
Women's responsibility to avoid pregnancy	2.67	.66	1-4	2.46	0.66	1-4	11.53 ***	0.33	
Woman should obey her husband	1.96	0.56	1-4	1.77	0.52	1-3	12.62 ***	0.36	
A man should have final say in all family matters	2.36	.69	1-4	2.17	.71	1-4	8.51 **	0.28	
Times when woman deserves to be beaten	2.49	.65	1-4	2.26	.61	1-4	14.28 ***	0.37	
Woman should tolerate violence to keep family together	2.56	.67	1-4	2.33	0.67	1-4	13.41 ***	0.35	
Defend reputation with force if necessary	2.27	0.69	1-4	2.18	0.70	1-4	2.03	0.14	

†p < 0.10. *p < 0.05. **p < 0.01. ***p < .001 for mean tests between junior men across more and less gender equitable communities, according to senior men.

Multilevel Poisson Models for the Log Rate of Physical IPV Perpetration, Married Men 18–34 Years (N = 570), Urban Dhaka and Rural Matlab, Bangladesh, 2011

Table 4

	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept ($\hat{\gamma}_{00}$)	$\hat{\gamma}(SE)$ -0.12 (0.07)	$\hat{\gamma}(SE)$ -0.10 (0.07)	$\hat{\gamma}(SE)$ -0.16 (0.07)*	$\hat{\gamma}(SE)$ -0.12 (0.06) [†]	$\hat{\gamma}(SE)$ 0.22 (0.07)**
<u>Community-Level Variables^d</u>					
More Equitable Gender Norms among Sr. Men ^{b,c} ($\hat{\gamma}_{01}$)		-0.61 (0.17)***		-0.56 (0.16)***	-0.44 (0.16)**
Proportion of Sr. Men Owning Own Home ^c ($\hat{\gamma}_{02}$)					-0.50 (0.22)*
Mean Exposure to Violence in Childhood among Jr. Men ^b ($\hat{\gamma}_{03}$)				0.22 (0.06)***	0.20 (0.06)***
<u>Individual-Level Variables (Junior Men)</u>					
Exposure to Violence in Childhood ^{d,e} ($\hat{\gamma}_{10}$)			0.31 (0.04)***	0.30 (0.04)***	0.28 (0.04)***
Grades of Schooling ^d ($\hat{\gamma}_{20}$)					-0.07 (0.01)**
<u>Cross-Level Interaction</u>					
Exposure to Violence in Childhood ^{d,e} X Gender Norms ^{b,c} ($\hat{\gamma}_{100}$)				-0.01 (0.12)	-0.03 (0.12)
<u>Random Effects</u>					
$\hat{\tau}$ (SE)	0.28 (0.07)	0.22 (-0.06)	0.27 (0.07)	0.15 (-0.05)	0.12 (-0.05)

Note: IPV = Intimate Partner Violence.

^a Married men 35–49 years.

^b Dichotomous variable capturing communities in the upper quartile of the mean factor score for gender equitable norms among senior men in the community.

^c Variable is grand-mean centered.

^d Variable is group-mean centered.

^e Variable is standardized.

[†] $p < 0.10$.

* $p < 0.05$.

** $p < 0.01$.

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