Individual and Contextual Determinants of Domestic Violence in North India

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Introduction

Over the past decade, the issue of violence against women in developing countries has emerged as a central concern among the growing community of policy makers, donors, and researchers concerned with women's health and empowerment. While women in developing countries are vulnerable to many forms of violence, domestic violence represents the most pervasive form of violence. (1) The World Health Organization has defined domestic violence as: " … the range of sexually, psychologically and physically coercive acts used against adult and adolescent women by current or former male intimate partners." (2) In a recent review of population-based studies, between 10 to 69 percent of women surveyed indicated that they had ever experienced physical violence from a male partner. (3) Within the field of public health, there is growing recognition of the possible linkages between domestic violence and a range of adverse physical, mental, and reproductive health outcomes. (1,3-5)

While much has been learned over the past decades about the prevalence of domestic violence in developing countries, our understanding of the underlying precipitating factors for such violence remains limited. One important limitation of previous research has been a predominant focus upon the perspective of female respondents, despite evidence that the principal perpetrators of domestic violence in almost all developing country settings are men. A second limitation has been an almost exclusive focus upon individual- and household-level factors, and the failure to consider the roles of broader community and contextual factors in precipitating or protecting against violence. In the present study, we analyze data from a large, representative sample of married husbands in four districts in Uttar Pradesh, North India, and assess the respective contributions of individual and contextual factors in conditioning the likelihood of reported male-to-female domestic violence in this setting.

BACKGROUND

Risk Factors for Domestic Violence in Developing Countries

Studies over the past decade have identified a number of individual and household-level risk factors for domestic violence. Higher socioeconomic status or female education have generally been found to be protective for women against the risk of domestic violence. (6-9) Demographic factors such as age, number of living male children, and extended family residence have been found in a

number of studies to be inversely associated with the risk of domestic violence. (10-12) Studies from India have also found lower dowry levels to be associated with a significantly higher subsequent risk of violence. (7,10) The possible link between women's status/empowerment and domestic violence has also received considerable attention, with several studies reporting increased status—as reflected by control over resources or membership in group-based savings and credit programs—was associated with significantly lower rates of domestic violence (7,12). Other studies, however, have found that increased women's empowerment may actually exacerbate the risks of violence, at least in the short run. (11,13) One of the most systematic findings to have emerged from previous studies has been the intergenerational transmission of violence, with witnessing violence between parents as a child a consistent predictor of subsequent domestic violence, both in the United States (14-17) as well as in developing countries. (18-20) Finally, the prominent role of alcohol has also been highlighted in several studies, with alcohol consumption a significant precipitating role for violence in several studies. (10, 21-24)

The potential role of contextual and community-level factors in shaping risks of domestic violence has received increased attention in recent years.(25) Although strong anthropological evidence exists that community-level cultural and contextual variables are important in determining the levels of intimate partner violence across cultures, (26,27) there has until recently been little quantitative evidence on the role of broader community and contextual factors in shaping the risk of domestic violence. Two studies from the U.S. report significant associations between contextual variables reflecting neighborhood poverty and the risk of domestic violence. (28,29) Other recently published studies from developing countries also highlight the importance of contextual-level factors in precipitating male-to-female violence. Studies from rural Bangladesh and Colombia reported significant associations between domestic violence and community-level measures of women's status and overall domestic violence levels, respectively. (11,30)

SETTING AND DATA

Our study is situated in the North Indian state of Uttar Pradesh, a setting characterized by high levels of domestic violence, low status of women, and low levels of overall socioeconomic development. (7,31) Uttar Pradesh ranks near the bottom of Indian states in terms of social and economic development levels, with 80 percent of its population residing in rural areas, and more than two-thirds of females and one-third of males aged 6 and above non-literate. The total fertility rate in

1990-92 was 4.8 children per woman, a figure roughly 40 percent higher than the national average. Marriage is almost universal and frequently at a very early age, with 40 percent of females aged 15-19 years already married. In one-third of villages in Uttar Pradesh, there was no educational facility within the village; in three-fourths of villages, the nearest health facility was five or more kilometers away. (32)

Our primary data set for analysis is the Male Reproductive Health Survey (MRHS), a component of the larger PERFORM Survey, a stratified, multi-stage cluster sample survey, carried out in 1995 in 28 districts of Uttar Pradesh, India to provide benchmark indicators for a large-scale intervention project to improve family planning services in Uttar Pradesh. For the PERFORM Survey, two districts were chosen from each of 14 administrative divisions in Uttar Pradesh, with selection probability proportionate to size, and within each district, a sample size of 1500 households was set. Separate sampling strategies were followed for urban and rural areas, with rural villages and urban blocks serving as primary sampling units. (33,34) All currently married women between the ages of 13 and 49 years residing in sampled households were considered eligible. A total of 45,277 eligible women were successfully interviewed, representing a completion rate of over 94 percent.

The MRHS was a companion study undertaken in five of these 28 districts to obtain detailed information on husbands' knowledge and behavior related to their wives' and their own reproductive health. (6,35) The sampling frame for the MRHS was all husbands in households identified in the first stage sample in five of the original twenty-eight sampled districts, representing all five regions of Uttar Pradesh. Eligibility criteria for men included being currently married, between 15-59 years of age, and currently residing with their wife. The enumeration led to the identification of 8296 eligible men through the household listing. Of these, 6,727 men (83.2%) were successfully contacted and interviewed during the period November, 1995 to April, 1996. Exclusion of an additional 121 married men who had not yet actually begun formal residing with their wife were resulted in an overall available sample size of 6606 husbands. For the present analysis, exclusion of PSUs with fewer than 10 respondents, and respondents in one district for which crime data could not be obtained (see subsequent section) results in a final analysis sample of 4,520 husbands, residing in 92 PSUs in four districts.

The questionnaire was administered by trained male interviewers, outside the home or in a private area, and was roughly 20 minutes in duration. The survey covered a wide range of issues pertaining to household socioeconomic and demographic status, contraceptive knowledge, use, and intentions, health expenditures, pre- and extra-marital sexual contact, and sexually transmitted infections. The survey also included a series of detailed questions on husbands' exposure to, and perpetration of physical violence and sexual violence, the basis for the present study. Husbands were asked whether they had ever physically hit, slapped, kicked, or tried to hurt their wife, the initial and most recent timing of such incidents, and the total number of times such violence had occurred. Husbands were also asked whether they ever had sex with their wife when she was unwilling, and if so, whether they ever physically forced their wife to have sexual relations, as well as the timing of the most recent occurrence of forced sex.

METHODS

Outcome Variables

Three principal domestic violence outcome variables are considered in our analysis, following conventional definitions:

- Physical violence: whether the husband physically assaulted his wife during the year preceding the survey, based upon responses to the questions above;
- Sexual violence: whether the husband physically forced his wife to have sex during the year preceding the survey;
- Physical/sexual violence: whether the husband physically assaulted or forced his wife to have sex during the year preceding the survey;

As Table 1 shows, a significant proportion of husbands report having committed one or more episodes of physical or sexual violence against their wives during the preceding year, ranging from 26.7% reporting physical violence to 31.0% reporting sexual violence, to 45.5% reporting the occurrence of either or both forms of violence.

Individual-level variables

The Male PERFORM survey collected a number of individual-level variables which have been theoretically or empirically linked to domestic violence (Table 1). Socioeconomic variables included in our models include both husband's and wife's education, an index of household assets, and urban vs. rural residence. Borrowed money in the past year to pay for medical expenses was included as an

indicator of household economic pressure. Demographic variables included are duration of marriage and whether the couple was childless. Male extra-marital sex was included to capture both marital harmony as well as the husband's propensity for high risk sexual behavior. Lastly, whether the husband witnessed his father beating his mother as a child is included to capture the possible effects of intergenerational transmission of violence.

Contextual-level variables

Five community-level variables have also been included in our analysis. An index of community economic development is a cumulative index based on the presence of seven establishments in the PSU (industry, medical stores, pan shops, cooperatives, voluntary organizations, fair trade shops and general merchant stores) and measures the level of community economic development. The remaining community-level variables were obtained by aggregating individual-level survey responses at the primary sampling unit (PSU) level. Based upon the sampling design from the original survey, a total of 142 PSUs were represented in the cluster sampling strategy. Twenty-one villages containing fewer than 10 respondents were excluded. Two aggregated indicators of community socioeconomic development considered are the proportion of households in the community which have electricity, and the mean number of years of schooling among wives of male respondents. Two other community-level norm measures are of particular interest. The first is a variable measuring community gender norms, created through factor analysis of responses to three individual-level attitudinal variables on gender roles and norms for women,[1] and aggregated to the PSU level. The second is a variable measuring community-level norms toward domestic violence, also created through the factor analysis of responses to three individual-level attitudinal variables on the acceptability of violence.[2] Responses to both sets of questions were structured on Likert scales, ranging from strongly agree to strongly disagree. Higher scores reflect, respectively, more conservative norms regarding gender roles and norms more tolerant of domestic violence.

The final contextual variable included in our models is an indicator of the district-level rate of violent crime, specifically the murder rate. This was obtained by visits to all police precincts in the sample districts to obtain the numbers of registered murder cases for the calendar years 1992-1995. The choice of district-level murder case rate data as our primary indicator of violent crime in Uttar Pradesh is informed by previous work in India which concluded that murder data were much more likely to be reliably reported than other types of violent crime.[3] (37-39) These murder case data were

converted into rates using the 1991 census data to estimate annual mid-year denominator populations (40), with unweighted rates averaged over the four-year period to smooth out year-to-year fluctuations. Reliable data on murder rates could be obtained from four of the five districts in our survey; the exclusion of respondents from the fifth district (Nainital District) resulted in a final analysis sample of 4,520 husbands residing in 92 PSUs.

Multivariate models for the determinants of domestic violence

Three binary outcomes are modeled: the reporting of physical violence in the year prior to the survey, the reporting of sexual violence in the year prior to the survey, and the reporting of either physical or sexual violence in the year prior to the survey. A multi-level modeling strategy is employed in order to account for the hierarchical structure of the data. Ordinary regression models assume that all observations are independent. The PERFORM data have a hierarchical structure, with men clustered within households, which are in turn clustered within communities. Hence, the odds of women experiencing the outcome of interest are not independent, as women share common exposure to household and community characteristics. A multi-level modeling strategy accommodates the hierarchical nature of the data and corrects the estimated standard errors to allow for the clustering of observations with units. (41)

Separate multilevel logistic models are fitted for each of the three outcomes. The models take the form of two-level models with men (level 1) nested within PSUs (level 2). The models are written:

$$\log it(p_{ij}) = x_{ij}\beta + u_j$$

Where p_{ij} is the probability of experiencing the outcome for *i*th respondent in the *j*th PSU, x_{ij} is a vector of covariates corresponding to the *i*th respondent in the *j*th PSU, β is a vector of unknown parameters and u_k is the random effect at the PSU level. The distribution of the random effects is assumed to be normal, with mean zero and variance s_u^2. When s_u=0, the model reduces to the ordinary logistic model, indicating that there is no significant correlation in the risk of the outcome between PSUs. The testing of the null hypothesis s_u=0 against the alternative hypothesis s_u>0 is used to assess the significance of random effects terms, using a modified likelihood ratio test. The data were analyzed using the STATA software package (42).

RESULTS

Tables 2 through 4 show the results of multi-level logistic models of domestic violence in the preceding year. In all tables, Model 1 shows the effects of individual-level variables only, with community-level (Model 2) and district-level variables (Model 3) sequentially added. A number of individual-level socio-demographic factors emerge as significant predictors of recent physical violence (Model 1 of Table 2). Relative to the reference group, no education, the likelihood of recent physical violence is significantly lower among men with seven or more years of schooling (coefficient = -0.444, SE= 0.096) or when their wives have 7+ years of schooling (coefficient = -0.470, SE= 0.218). Neither primary schooling by the husband nor the wife are significantly protective against the risk of recent physical violence. The risks of recent physical violence are significantly lower among the households of highest socioeconomic status, as measured by the number of assets owned (5-6 assets coefficient = -0.438, SE= 0.151). Also emerging in our model is the role of economic pressure, with households which needed to borrow money the previous year to pay for medical expenses characterized by markedly high risks of recent physical violence (borrowed money past year coefficient = 0.384, SE= 0.082). In contrast to findings from several previous studies, longer marriage duration is associated with a significantly higher risk of physical violence. Childlessness is also associated to a somewhat higher risk of physical violence to the wife (childlessness coefficient = 0.181, SE= 0.092). Also of interest is the finding of significantly higher risks of recent physical violence toward the wife among the small group of husbands who reported having had extramarital relationships (extra-marital relationship coefficient = 0.826, SE= 0.164). Lastly, husbands who as a child witnessed their father beating their mother were markedly more likely to report having recently physically beaten their wives relative to those who did not (intergenerational violence coefficient = 1.554, SE= 0.078); in terms of relative risks, such husbands were 4.7 times more likely to have committed recent physical abuse. Only urban-rural residence fails to attain statistical significance as a predictor of recent violence.

When contextual variables are added to the models (Models 2 and 3 in Table 2), the previously discussed individual-level effects are maintained. With regard to community-level effects, none of the three community socioeconomic development indicators emerge as statistically significant determinants of recent physical violence. Similarly, more egalitarian community gender norms are not significantly associated with the risk of such violence. Community norms toward wife beating are,

however, strongly predictive of recent violence, with significantly higher risks of physical beating of the wife among couples residing in communities where norms tend to condone wife beating (community norms toward wife beating norms coefficient = 0.402, SE= 0.129). Also of interest is our finding with regard to district-level murder rates (Model 3 in Table 3). Women who reside in districts characterized by higher average recent murder rates are at significantly higher risk of recent physical violence from their husbands (district murder rate coefficient = 0.054, SE= 0.023).

Tables 3 and 4 show the models of individual and contextual variables for two additional domestic violence outcome variables—sexual violence during the preceding year (Table 3) and the composite outcome of sexual or physical violence during the preceding year (Table 4). With regard to recent sexual coercion (Model 3 in Table 3, many of the previous socio-demographic effects found for recent physical violence fail to remain statistically significant. Of interest is the finding that higher levels of husband's education (7+ years) is actually *positively* associated with the risk of recent sexual coercion (coefficient= 0.159, SE= 0.081). Longer marriage durations (15+ years), in contrast, are significantly negatively associated to the risk of recent sexual coercion (coefficient= -0.213, SE= 0.106). In contrast, other individual-level factors—childlessness, husband's extramarital relation, economic pressure, and witnessing domestic violence as a child— all remain positively and significantly related to the likelihood of recent sexual coercion by the husband. It is interesting to note that with respect to sexual coercion, no community level effects emerge as significant predictors. Once again, however, residence in districts with higher murder rates is again strongly associated with a higher likelihood of recent sexual coercion.

When we consider the joint outcome variable of recent physical or sexual violence variable (Model 3 in Table 4), almost all of the previously discussed individual-level effects are maintained in terms of both significance and direction of effect. Neither male nor female educational levels are associated with this outcome, likely the result of the divergent relationship between education and physical versus sexual violence toward the wife. Community-level variables also fail to emerge as significant predictors of overall domestic violence risks. District-level murder rate remains a significant determinant of overall physical or sexual violence, with significantly higher risks among individuals residing in districts with higher crime levels.

DISCUSSION

Two potential limitations of our study merit discussion. The first concerns the cross-sectional nature of our study, and the resulting problem of temporal ordering between several of the covariates considered and domestic violence. To address this, we have restricted our analysis to only those determinants for which temporal ordering and non-reciprocal causality with violence can be firmly established, and our violence outcome variable to sexual and physical violence in the one year preceding the survey. A second potential limitation concerns our reliance upon husbands' reports of domestic violence. As the principal aggressors in such violence, the possibility exists that men might underreport or intentionally misreport violent behavior, especially in contexts where such violence is not socially condoned, a finding in several U.S. studies (43-45). Developing country studies which collected data on domestic violence from both male and female respondents, however, reported comparable or higher estimates of male-to-female physical threats and/or abuse based upon men's reports (9,46,47). A current study from Rakai, Uganda finds comparable prevalence estimates in men's and women's reports of recent male-to-female physical violence, but markedly lower rates of reporting of coercive sex by men compared to women (48). Thus, while we cannot rule out the underreporting of domestic violence by husbands, and possible resultant measurement error, we believe that this unlikely to be of sufficient magnitude to compromise the validity of our findings.

These limitations notwithstanding, our study builds on previous research on domestic violence using the PERFORM data set (19, 49-50), makes several new and important contributions to understanding the determinants of domestic violence from the key but neglected perspective of male partners. Our results further confirm the importance of higher socioeconomic status as being protective against the risk of physical violence to women. The significant relationship between the need to borrow money to pay for medical expenses and recent physical violence suggests that conflicts arising out of economic scarcity and pressure continue to be a primary motivating factor behind physical violence; the significant association with recent sexual coercion is, in contrast, much more difficult to explain and requires further investigation. The significant link between childlessness and physical and sexual violence is also noteworthy, presenting yet another negative consequence to women associated with perceived infertility (51). Our results further underscore the pivotal importance of intergenerational transmission of domestic violence. Even after controlling for the effects of other risk factors, men who witnessed their fathers beating their mothers as children were 4.7 times more times

to physically beat their own wives, and 3.0 times more likely to physically force their wives to have sexual relations.

Our study also adds to the growing body of evidence on the importance of contextual factors for understanding health outcomes and behavior (52,53). Two contextual effects stood out in our analysis. We find community norms surrounding the acceptability of wife beating to be strongly related to the likelihood of recent physical abuse by the husband, with violence risks to women significantly higher among husbands residing in communities where norms favor physical punishment for women. Also of central interest is our finding of a systematic association between district crime rates and risks of physical violence against the wife: Residence in an area characterized by higher levels of violent crime, as reflected by murder rates, is associated with a significantly higher likelihood that husbands will physically abuse their wives.

Our analysis also reveals both important similarities as well as differences between risk factors for recent sexual versus physical violence. Several individual and community risk factors—including extra-marital relationships, economic pressure, intergenerational transmission of violence, and district-level murder rates-- were found to be significant predictors of both outcomes. In contrast to recent physical violence, however, neither higher educational nor socioeconomic status emerges as significant predictors of recent coercive sex. This finding may possibly reflect a prevailing view across educational and socioeconomic boundaries in North India that it remains the husband's prerogative to physically compel sexual relations from his wife when desired (54,55). Similarly, the significant association between community norms toward domestic violence and physical violence but not sexual coercion may reflect that community norms governing domestic violence in this setting pertain largely to husbands' rights toward physical violence and abuse toward their wives, quite separate from more private (and perhaps implicit) views concerning the husbands' rights to compel sexual relations.

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Table 1. Distribution of Dependent and Independent Variables for Analysis: Uttar Pradesh, India, 1995

	Percentage/Mean
Dependent Variables:	
Reports physical violence towards wife in past 12 months: No	73.3
Yes	26.7
Reports sexual violence towards wife in past 12 months: No	69.0
Yes	31.0
Reports physical or sexual violence towards wife in past 12 months: No	54.5
Yes	45.5
Independent Variables: Individual	
Men's education	
None	32.1
1-6 years	17.2
7+ years	50.7
Wife's education:	
None	
1-6 years	71.2
7+ years	8.6
	19.7
Household asset index:	
None	15.9
1-2	37.7
3-4	27.3
5-6	18.9
Residence:	
urban	26.6
rural	73.4
Marital duration:	
<5 years	10.5
5-10 years	16.1
11-14 years	18.3
15+ years	55.2
Childlessness: No	9.5
Yes	91.5
Husband extramarital relationship: No	95.3
Yes	4.7
Borrowed money for medical expenses: No	67.1
Yes	32.9
Witnessed father beating mother as child: No	65.5
Yes	34.5
Independent Variables: Contextual	
Community gender norms (range= -2.29 – 3.10)	-1.16
Community norms on wife beating (range= -2.01 – 3.04)	-1.04
Community electricity (range= 0.04 – 1.00)	44.0
Community female education (range= 0.23 – 8.97)	2.73
Community economic index (range= 1.38 – 3.07)	2.20
Annual district- level murder rate: per 100,000 population (range: 3.31 – 8.23)	6.17

Table 2. Multilevel logistic model for reporting of physical violence towards wife in preceding year: Uttar Pradesh, India, 1995

	Model 1	Model 2	Model 3
Individual Variables			
Men's education (RC=None)			
1-6	-0.161 (0.109)	-0.162 (0.110)	-0.165 (0.110)
7+	-0.442 (0.095)***	-0.427 (0.096)***	-0.444 (0.096)***
Wife's education (RC=None)			
1-6	0.225 (0.172)	0.213 (0.173)	0.225 (0.173)
7+	-0.429 (0.218)**	-0.459 (0.218)**	-0.470 (0.218)**
Household asset index (RC=0)			
1-2	0.031 (0.101)	0.032 (0.101)	0.002 (0.102)
3-4	-0.208 (0.111)	-0.227 (0.111)**	-0.246 (0.112)**
5-6	-0.344 (0.148)**	-0.390 (0.149)***	-0.438 (0.151)***
Place of residence (RC=Urban)			
Rural	0.044 (0.108)	0.108 (0.220)	0.127 (0.221)
Marital duration (< 5 years)			
5-10	0.686 (0.155)***	0.699 (0.155)***	0.704 (0.156)***
11-14	0.964 (0.139)***	1.023 (0.139)***	1.022 (0.139)***
15+	1.008 (0.138)***	1.063 (0.138)***	1.063 (0.138)***
Childlessness (RC=No)	0.175 (0.092)*	0.184 (0.091)**	0.181 (0.092)**
Husband extramarital relationship (RC=No)	0.791 (0.164)***	0.815 (0.163)***	0.826 (0.164)***
Borrowed money for medical expenses (RC=No)	0.410 (0.081)***	0.405 (0.081)***	0.384 (0.082)***
Witnessed father beating mother as child (RC=No)	1.554 (0.078)***	1.546 (0.078)***	1.544 (0.078)***
Contextual Variables			
Community gender norms		0.195 (0.173)	0.204 (0.173)
Community norms on wife beating		0.404 (0.129)***	0.402 (0.129)***
Community electricity		0.376 (0.431)	0.375 (0.432)
Community female education		0.041 (0.041)	0.044 (0.042)
Community economic index		0.016 (0.110)	0.037 (0.111)
District murder rate			0.054 (0.023)**
Random intercept for PSU level	0.009 (0.042)	0.009 (0.041)	0.009 (0.036)

*** P<0.001, ** P<0.01, * P<0.05

Table 3. Multilevel logistic model for reporting of sexual violence towards wife in the preceding year: Uttar Pradesh, India, 1995

	Model 1	Model 2	Model 3
Individual Variables			
Men's education (RC=None)			
1-6	0.150 (0.103)	0.149 (0.103)	0.147 (0.103)
7+	0.182 (0.080)**	0.181 (0.081)**	0.159 (0.081)**
Wife's education (RC=None)			
1-6	-0.105 (0.154)	-0.108 (0.154)	0.101 (0.154)
7+	-0.146 (0.148)	-0.117 (0.149)	-0.107 (0.149)
Household asset index (RC=0)			
1-2	-0.068 (0.096)	-0.070 (0.096)	-0.104 (0.097)
3-4	-0.144 (0.103)	-0.157 (0.103)	-0.179 (0.103)
5-6	-0.129 (0.128)	-0.147 (0.129)	-0.203 (0.130)
Place of residence (RC=Urban)			
Rural	-0.011 (0.114)	-0.013 (0.257)	-0.033 (0.256)
Marital duration (< 5 years)			
5-10	0.023 (0.119)	0.032 (0.119)	0.040 (0.119)
11-14	-0.064 (0.106)	-0.040 (0.105)	-0.037 (0.106)
15+	-0.238 (0.107)**	-0.216 (0.106)**	-0.213 (0.106)**
Childlessness (RC=No)	0.220 (0.079)***	0.218 (0.079)***	0.219 (0.079)***
Husband extramarital relationship (RC=No)	1.167 (0.148)***	1.169 (0.148)***	1.189 (0.148)***
Borrowed money for medical expenses (RC=No)	0.205 (0.075)***	0.204 (0.075)**	0.180 (0.075)**
Witnessed father beating mother as child (RC=No)	1.101 (0.071)***	1.107 (0.071)***	1.107 (0.071)***
Contextual Variables			
Community gender norms		0.043 (0.203)	0.047 (0.202)
Community norms on wife beating		0.144 (0.153)	0.145 (0.152)
Community electricity		-0.191 (0.501)	-0.196 (0.498)
Community female education		0.058 (0.048)	0.061 (0.047)
Community economic index		-0.084 (0.132)	-0.056 (0.132)
District murder rate			0.063 (0.020)***
Random intercept for PSU level	0.283 (0.050)	0.279 (0.023)	0.276 (0.022)

*** P<0.001, ** P<0.01, * P<0.05

Table 4. Multilevel logistic model for reporting physical or sexual violence towards wife in the preceding year: Uttar Pradesh, India, 1995

	Model 1	Model 2	Model 3
Individual Variables			
Men's education (RC= None)			
1-6	0.044 (0.097)	0.049 (0.097)	0.046 (0.097)
7+	-0.089 (0.088)	-0.080 (0.082)	-0.107 (0.083)
Wife's education (RC= None)			
1-6	-0.030 (0.143)	-0.028 (0.143)	-0.035 (0.143)
7+	-0.058 (0.155)	-0.045 (0.155)	-0.022 (0.155)
Household asset index (RC= 0)			
1-2	-0.022 (0.091)	-0.028 (0.091)	-0.071 (0.092)
3-4	-0.232 (0.097)**	-0.252 (0.097)***	-0.280 (0.098)***
5-6	-0.288 (0.121)**	-0.320 (0.121)***	-0.391 (0.123)***
Place of residence (RC= Urban)			
Rural	-0.003 (0.103)	-0.020 (0.225)	-0.045 (0.224)
Marital duration (RC= <5 years)			
5-10	0.206 (0.117)	0.219 (0.117)*	0.228 (0.117)*
11-14	0.289 (0.103)***	0.321 (0.103)***	0.325 (0.103)***
15+	0.202 (0.103)**	0.233 (0.103)**	0.238 (0.103)**
Childlessness (RC= No)	0.207 (0.077)***	0.204 (0.077)***	0.206 (0.077)***
Husband extramarital relationship (RC= No)	1.178 (0.161)***	1.177 (0.161)***	1.202 (0.161)***
Borrowed money for medical expenses (RC= No)	0.290 (0.071)***	0.290 (0.071)***	0.259 (0.071)***
Witnessed father beating mother as child (RC= No)	1.435 (0.069)***	1.436 (0.069)***	1.436 (0.069)***
Contextual Variables			
Community gender norms		0.108 (0.176)	0.114 (0.0176)
Community norms on wife beating		0.220 (0.133)	0.222 (0.132)
Community electricity		0.034 (0.436)	0.025 (0.434)
Community female education		0.041 (0.042)	0.045 (0.041)
Community economic index		-0.087 (0.114)	-0.052 (0.114)
District murder rate			0.078 (0.019)***
Random intercept for PSU level	0.225 (0.050)	0.209 (0.051)	0.205 (0.012)

*** P<0.001, ** P<0.01, * P<0.05

[1] The statements pertained to the husband's extent of agreement that the wife should always show respect to her husband, follow instructions, and be forced to listen to all instructions given by the husband.

[2] The three statements measure the acceptability of punishment for when a wife disobeys her husband's instructions, whether no harm should come to the wife for disobeying instructions, and whether verbal or physical punishment should be used against the wife in the event instructions are disobeyed.

[3] As one knowledgeable observer stated: "…While other crimes could be either suppressed or minimized (and admittedly are), it is… very difficult to do either with murder." (H. Pillai, personal communication)