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INTIMATE PARTNER VIOLENCE AMONG COUPLES IN 10 DHS COUNTRIES: PREDICTORS AND HEALTH OUTCOMES

DHS ANALYTICAL STUDIES 18



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MEASURE DHS assists countries worldwide in the collection and use of data to monitor and evaluate population, health, and nutrition programs. Additional information about the MEASURE DHS project can be obtained by contacting Macro International Inc., Demographic and Health Research Division, 11785 Beltsville Drive, Suite 300, Calverton, MD 20705 (telephone: 301-572-0200; fax: 301-572-0999; e-mail: reports@macrointernational.com; internet: www.measuredhs.com).

The main objectives of the MEASURE DHS project are:

- to provide decisionmakers in survey countries with information useful for informed policy choices;
- to expand the international population and health database;
- to advance survey methodology; and
- to develop in participating countries the skills and resources necessary to conduct high-quality demographic and health surveys.

DHS Analytical Studies No. 18

Intimate Partner Violence among Couples in 10 DHS Countries: Predictors and Health Outcomes

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Preface

One of the most significant contributions of the MEASURE DHS program is the creation of an internationally comparable body of data on the demographic and health characteristics of populations in developing countries.

The *DHS Comparative Reports* series examines these data across countries in a comparative framework. The *DHS Analytical Studies* series focuses on analysis of specific topics. The principal objectives of both series are to provide information for policy formulation at the international level and to examine individual country results in an international context.

While *Comparative Reports* are primarily descriptive, *Analytical Studies* comprise in-depth, focused studies on a variety of substantive topics. The studies are based on a variable number of data sets, depending on the topic being examined. A range of methodologies is used in these studies including multivariate statistical techniques.

The topics covered in *Analytical Studies* are selected by MEASURE DHS staff in conjunction with the U.S. Agency for International Development.

It is anticipated that the *DHS Analytical Studies* will enhance the understanding of analysts and policymakers regarding significant issues in the fields of international population and health.

Ann Way
Project Director

Executive Summary

The goals of this study are threefold:

- 1) To report the prevalence of intimate partner violence (IPV) among currently married or cohabiting women in 10 developing countries
- 2) To identify key characteristics in each country, including couple characteristics, associated with experiencing physical or sexual IPV
- 3) To describe the association between women's experience of IPV and selected reproductive, nutritional, and child health outcomes.

This report analyzes data from 10 recent Demographic and Health Surveys (DHS): Bangladesh (2004), Bolivia (2003/2004), the Dominican Republic (2002), Haiti (2005), Kenya (2003), Malawi (2004), Moldova (2005), Rwanda (2005), Zambia (2001/2002), and Zimbabwe (2005/2006). The first part of this report provides prevalence estimates of violence experienced by women within couples who were in marital or cohabiting partnerships at the time of the DHS survey. Next, this report uses characteristics of both women and their husbands/cohabiting partners and characteristics of their relationship, household, and community to evaluate which currently partnered women are most at risk. The final part of the report looks at health outcomes potentially related to women's experience of IPV. The report focuses on currently married or cohabiting women age 20-44. In addition, the correlates of violence analysis is restricted to couples in which both partners were interviewed; this restriction does not, however, apply to the section on the analysis of health outcomes.

While much of the work to date on IPV has focused on individual-level characteristics, there is increasing recognition of the need to consider the roles of couple-level characteristics and of factors related to reproductive health more broadly. This interest is due in part to the movement towards male involvement in reproductive health that emerged following the International Conference on Population and Development (ICPD) in Cairo in 1994, as well as to research evidence suggesting that men and women within relationships sometimes give discordant answers concerning reproductive health outcomes, reproductive decisionmaking and intentions, and household decisionmaking more broadly. This report goes beyond simply including men's characteristics in the analysis by analyzing the prevalence of and factors associated with violence within couples. Use of couples' characteristics also enables examination of the effect of differences within couples' backgrounds, decisionmaking, and attitudes about wife beating.

Prevalence of Violence

There is wide variation across countries in the prevalence of physical or sexual violence experienced by women and perpetrated by their current husband/partner—from 75 percent in Bangladesh to 16 percent in the Dominican Republic. The highest reported rates of physical violence were in Bangladesh (71 percent), Bolivia (52 percent), and Zambia (45 percent). The lowest reported rates were in Haiti (12 percent) and the Dominican Republic (15 percent). The highest rates of sexual violence were reported in Bangladesh (26 percent), Kenya (15 percent), and Bolivia (14 percent), whereas the lowest rates were reported in Moldova (3 percent), the Dominican Republic (5 percent), and Zambia (6 percent). Bangladesh, where men rather than

women, were asked about (perpetrating) IPV stands out as having the highest rates of both physical and sexual violence.

As was expected, violence in the 12 months preceding the survey was noticeably lower than violence ever experienced in the current relationship. In Bangladesh, one-third of women experienced physical or sexual violence in the past 12 months, followed closely by Kenya (31 percent), Zimbabwe (30 percent), and Zambia (28 percent). Whereas lifetime experience of physical or sexual violence in the current relationship was substantially higher in Bangladesh than in any other country (75 percent), violence in the 12 months prior to the survey in Bangladesh, while remaining among the highest, is closer to levels in some other countries. Also of note is that women in Haiti were equally likely to report sexual violence and physical violence (both 11 percent) in the past year, and these rates do not substantially differ from lifetime reports of violence in the current relationship.

Factors Associated with Married/Cohabiting Women’s Experience of Physical or Sexual Violence

Of the woman’s characteristics, current age is associated with ever experiencing violence in Bangladesh, Bolivia, Haiti, Malawi, Moldova, and Rwanda. However, it is only in Rwanda that the effect of age remains significant once the characteristics of the husband/partner, the couple, and the community are introduced. Women’s education is a protective factor in Bangladesh, Bolivia, Kenya, and Zimbabwe; and this effect is evident for Bolivia and Zimbabwe in other models tested. Notably, however, controlling for husbands’/partners’ characteristics women’s education increases the risk of IPV in Haiti.

Not working (compared with working in a nonagricultural job) is protective for women in Bolivia, the Dominican Republic, and Zimbabwe. Working in agriculture is protective for Bangladeshi women, but a risk factor for women in Malawi. Younger age at marriage is a significant risk factor in Bangladesh, Bolivia, the Dominican Republic, Kenya, Rwanda, and Zimbabwe, even after all other controls are introduced; and in Rwanda and Zimbabwe living in a cohabiting union, rather than marriage, is a risk factor for violence.

In 5 of the 10 countries studied (Bolivia, the Dominican Republic, Malawi, Zambia, and Zimbabwe), women who believe that wife beating is justified in at least one of five circumstances were more likely to report experiencing physical or sexual violence. Women’s recall of violence between their parents was a significant predictor in all six countries where this variable was measured. That is, women who reported that their fathers beat their mothers were significantly more likely themselves to have experienced violence by their husbands/partners than women who did not recall such violence. The adjusted odds ratios range from 1.48 in Zimbabwe to 2.95 in the Dominican Republic.

Husband/partner characteristics were not consistently associated with women’s experience of violence. Still, men in Bangladesh and Malawi who worked in agriculture were less likely to be violent than men who were unemployed. In contrast, in Kenya and Zimbabwe, husbands’/partners’ working in agriculture was related to a higher risk of violence. Men who agreed that wife beating is justified in one or more circumstances in Bangladesh, Bolivia,

Malawi, Rwanda, and Zimbabwe were more likely to be violent. In Rwanda, however, women's likelihood of experiencing violence is no longer significantly affected by men's attitudes towards wife beating once men's consumption of alcohol is introduced into the model.

Men's alcohol use was statistically significant for all eight countries in which this variable was measured. The odds of physical or sexual violence for women reporting alcohol use by their husbands/partners ranges from 1.64 in Bolivia and 1.67 in Zambia to 3.63 in both Kenya and Haiti.

Few of the couple differences were statistically significant in multivariate models. After controlling for women's age, however, women in Zambia were less likely to report violence if their husbands/partners were older than they. This was also true in Moldova, but only marginally, in most models. In Haiti, women with less education than their husbands/partners were at increased risk for violence, while, in the Dominican Republic, Malawi, and Rwanda, women with less education than their husbands/partners were at decreased risk.

Women who make decisions about their own health care jointly with their husband/partner or someone else were significantly less likely to report experiencing violence in Bolivia, Haiti, and Malawi, compared with women who make these decisions on their own. In these three countries, women reporting that their husbands/partners alone or someone else alone has the final say about women's own health care also were less likely to report violence than women who reported that they themselves make such decisions alone. The patterns are similar for decisionmaking about large household purchases. In Bolivia, Haiti, and Kenya, women were less likely to report experiencing violence when decisions are made jointly with their husbands/partners. In addition, in Bolivia, Haiti, and Kenya, women were less likely to report violence when the husband/partner or someone else decided alone about large purchases.

Community factors were associated with violence in only a few of the countries. In Bangladesh, women who lived in communities where men had more education were less likely to experience violence. In Bolivia and Kenya, women in communities where women have more education were more likely to experience violence. In Bangladesh and Malawi, women who lived in communities where most men agreed with one or more rationales for wife beating were more likely to experience violence. Women's attitudes towards wife beating in the community did not have a significant association with women's risk of experiencing IPV.

Health Outcomes Associated with Women's Experience of Physical or Sexual Violence

The health outcomes that were examined include (1) modern contraceptive use, (2) unintended pregnancy and pregnancy termination, (3) antenatal care (ANC) and delivery care, (4) children's vaccinations and nutritional status, and (5) women's nutritional status.

Modern contraception: Ever use of a modern contraceptive method was associated with IPV in 7 of the 10 countries studied. In Bangladesh, Bolivia, the Dominican Republic, Haiti, Kenya, Malawi, and Zimbabwe, the odds of ever having used a modern contraceptive method were significantly higher among women who reported physical or sexual violence than among those

who did not. While the consistency of the results is striking, the interpretation is complex: modern method use could have occurred before the current relationship and before or after the exposure to violence. *Current* modern contraceptive use was generally not associated with partner violence. In both Bolivia and Zimbabwe, however, women who reported experiencing physical or sexual violence were more likely to report current modern contraceptive use.

Unintended pregnancy: In 8 of the 10 countries studied, there is a statistically significant association between partner violence and unintended pregnancy, and the direction of this association is consistent across all eight countries. In Bangladesh, Bolivia, the Dominican Republic, Kenya, Malawi, Moldova, Rwanda, and Zimbabwe, women who reported physical or sexual violence were more likely to have had an unintended pregnancy than women who did not experience violence. In Haiti and Zambia, the association is in the same direction but not statistically significant.

Pregnancy termination: In Bangladesh, Bolivia, the Dominican Republic, Malawi, Moldova, and Zimbabwe, women with a history of violence were more likely to report ever having had an abortion, miscarriage, or stillbirth than those without such a history. In Moldova, this difference is particularly striking with 71 percent of women with a history of violence reporting a pregnancy loss or termination, compared with 59 percent of women without such a history. Multivariable adjustment has little influence on the association between partner violence and pregnancy termination. In Bangladesh, Bolivia, Haiti, Malawi, Moldova, and Zimbabwe, the odds of a terminated pregnancy are significantly higher for women reporting husband/partner violence than for women not reporting violence. The adjusted odds ratios range from a low of 1.48 in Bangladesh to a high of 1.75 in the Dominican Republic.

Antenatal care (ANC): Women in Bangladesh, the Dominican Republic, and Zambia who experienced violence by their current husbands/partners were significantly less likely to seek ANC within the first three months of pregnancy than women who did not experience violence. After multivariate adjustment this association is still significant for the Dominican Republic and Zambia (OR=0.62 and 0.68, respectively).

Facility-based delivery: With respect to delivery care, women in Bangladesh, Kenya, Rwanda, and Zimbabwe were less likely to deliver at a health facility if they experienced violence by their husbands/partners than if they did not. After multivariable adjustment the relationship holds only in Rwanda (OR=0.71), however.

Child vaccinations: Women in the Dominican Republic and Kenya were less likely to vaccinate their children fully if they had a history of physical or sexual violence than if they do not.

Child nutritional status: Children of mothers who experienced violence were more likely to be stunted in Bangladesh, Bolivia, Haiti, and Kenya than children of mothers who did not experience violence. After multivariate adjustment, this relationship remains statistically significant for Haiti (OR=1.50) and Kenya (OR=1.41). Also in Haiti and Kenya, mothers who experience violence were more likely to have underweight children than mothers who did not experience violence (OR=1.53 and OR=1.24). However, when significant, the relationship of IPV and child wasting is contrary to expectations. In the Dominican Republic and Zimbabwe,

children whose mothers experienced violence were less likely to experience wasting (OR=0.28 and OR=0.64).

Women's Body Mass Index (BMI): Women in Zambia who experienced physical or sexual violence were less likely than women who did not experience violence to have Chronic Energy Deficiency (CED), defined as having a BMI of less than 18.5. In Bangladesh, Kenya, and Rwanda, women who experienced physical or sexual violence were less likely to be overweight or obese ($BMI \geq 25$) than women who did not experience violence. After adjustment, this relationship remained significant in Rwanda, disappeared in Bangladesh and Kenya, and became marginally significant in Bolivia.

It is hoped that this report will be used, not just as a resource for comparing prevalence, correlates, and potential health consequences of intimate partner violence across countries, but also as a starting point for future analyses that address the potential pathways and mechanisms for the adverse effects of IPV on women's and children's lives.

Intimate Partner Violence in the DHS: Background and Measurement

1.1 Background

Violence against women is increasingly recognized as a health issue in nearly every country in the world, and attention is turning to the measurement of its health consequences for women and their families (Ellsberg et al., 2008). In 2005, the World Health Organization (WHO) released a report documenting levels of intimate partner violence (IPV) and exploring outcomes of violence in terms of mental health, sexual health, and reproductive health in 10 countries (Garcia-Moreno et al., 2005). Key findings from this report have also been published (Garcia-Moreno et al., 2006). With the exception of Bangladesh, none of the countries covered in this report overlap with the countries in the WHO study. The WHO report shows that there is a wide range in the reporting of physical or sexual violence across countries, and that women who experience violence are also likely to experience physical and mental health problems (Garcia-Moreno et al., 2005). In fact, it is suggested that injury due to violence is less common than other physical and psychological effects of experiencing violence (Ellsberg et al., 2008).

The Demographic and Health Surveys (DHS) began collecting information on intimate partner violence in 1990 with the Colombia DHS survey. By about 2000, the DHS program had developed a standard module and methodology for the collection of data on domestic violence. The module helped to increase the validity and comparability of violence data and to ensure that data collection procedures followed the ethical guidelines for the collection of such sensitive information. As of late 2007 there were 26 countries that had collected or were in the process of collecting data on domestic violence against women as part of the DHS.

A previous report, *Profiling Domestic Violence: A Multi-Country Study*, considered DHS data on domestic violence from nine countries, namely Cambodia, Colombia, the Dominican Republic, Egypt, Haiti, India, Nicaragua, Peru, and Zambia (Kishor and Johnson, 2004). This report analyzed data for ever-married women age 15-49 and included bivariate analyses of several health outcomes.

The current report explores the correlates and consequences of intimate partner violence for currently married or cohabiting women. A particular focus of this report, in contrast to the 2004 report, is to determine the extent to which the husband's/partner's characteristics influence a woman's risk of experiencing violence independent of her own characteristics. Accordingly, the report is based on only currently married/cohabiting women and includes data from the subset of 10 countries where the DHS collected data on intimate partner violence and also implemented a men's questionnaire—Bangladesh (2004), Bolivia (2003/2004), the Dominican Republic (2002), Haiti (2005), Kenya (2003), Malawi (2004), Moldova (2005), Rwanda (2005), Zambia (2001/2002), and Zimbabwe (2005/2006). Linking the data files for currently married/cohabiting women and men permits an analysis of couples. Further, unlike the previous report, this report

goes beyond presenting bivariate results by exploring the independent associations between intimate partner violence and several demographic and health outcomes for women and their children. Finally, this report is restricted to women who were 20-44 years of age and, for the couples' analysis, to the further subsample of women whose husbands/partners met the age eligibility criteria for the men's interview in the country and were successfully interviewed. The 20-44 age range for women was considered optimal because a) for older women it maximizes the likelihood that their husbands/partners would be age-eligible for interview. Since men are typically older than their wives, a significant proportion of the husbands/partners of women age 45-49 would be older than the age cut off for the men's interview, which is often 54. Thus, the sample of couples where the wife is 45-49 years of age would be biased to include mostly those with a smaller age difference from their husbands; b) including currently married women who are currently only 15-19 years can bias the analysis since these women would have had to be married at very young ages and would tend to be exceptionally disadvantaged due to this one factor alone; and c) for the analyses presented in the current report, this more delimited age group of women is the group for whom the health outcomes of interest (e.g., contraceptive use) are most relevant.

The current report reconsiders three of the same countries as the 2004 report—the Dominican Republic, Haiti, and Zambia. Notably, however, because of the differences in age and other criteria, the prevalence rates of intimate partner violence and other results for these countries differ between the two reports.

This chapter provides the background for the current report and an overview of the data collected and samples used in each country. Chapter 2 describes the prevalence of physical or sexual violence by the current husband/cohabiting partner, both ever in the relationship and in the 12 months prior to the survey, across all countries. Chapter 3 focuses on the correlates of IPV, with particular attention to the relative importance of the woman's characteristics, husband/partner characteristics, and couple-level characteristics, in addition to household-level and community-level factors. The specific factors that are explored include socio-demographic factors, indicators of women's status, household decisionmaking, attitudes about wife beating, and status differences within couples, as well as measures of intergenerational violence (witnessing violence as a child) and husbands'/partners' alcohol use. Finally, Chapter 4 examines the associations between IPV and a wide range of reproductive, nutritional, and health outcomes for women and children.

In particular, Chapters 2 and 3 of this report focus on describing the prevalence of IPV and associated couple characteristics potentially related to violence among women in heterosexual partnerships at the time of the DHS survey. While much of the work on IPV has focused on individual-level characteristics, there is increasing recognition of the need to consider couple-level factors that may influence intimate partner violence (Luke et al., 2007) or reproductive health more broadly (Becker, 1996). This interest is due in part to the movement towards male involvement in reproductive health that emerged following the ICPD conference in Cairo in 1994 (UNICEF, 2004), as well as to research suggesting that men and women within relationships give discordant answers to survey questions concerning reproductive health outcomes (Becker et al., 2006b), reproductive decisionmaking and intentions (Williams and Sobieszcyk, 2003; Oyediran, 2006), and household decisionmaking more broadly (Becker et al.,

2006a). This report goes beyond simply including men's characteristics in the analysis of prevalence by also analyzing factors associated with violence within couples, such as differences in their backgrounds, decisionmaking within the household, and attitudes towards wife beating. Although from a research standpoint it would be ideal to ask for both men's and women's reports of perpetration and victimization related to IPV, for confidentiality and the safety of respondents and the research staff, WHO guidelines recommend asking just one person in the household about violence (World Health Organization 2001).

1.2 DHS Sampling for Measuring Intimate Partner Violence

Table 1.1 provides information about the countries included in this report with respect to the dates of fieldwork; sample sizes for the household and women's surveys and for the subsamples (currently married/cohabiting women age 20-44 who received the domestic violence module, as well as those whose husbands/partners were also interviewed) on which the analyses in this report are based. In addition, the table lists the criteria for respondent eligibility for the questions on violence by the current or the most recent husband/cohabiting partner. DHS surveys are nationally representative population-based surveys of typically 5,000 to 30,000 households. The sample sizes for DHS surveys included in the current report range from over 7,000 women in Moldova and Zambia to over 23,000 women in the Dominican Republic.

There are three core questionnaires in DHS surveys: the household questionnaire, the women's questionnaire, and the men's questionnaire. The household questionnaire is used to identify all usual household members and visitors in the selected households and to determine the eligibility of all household members for the individual women's and men's surveys. The household survey also collects some basic information on the characteristics of each person in the household and on household assets and amenities. In most countries, all women age 15-49 in the selected household were eligible for the interview. In Bangladesh, however, only ever-married women age 10-49 were eligible for the woman's interview.

In this report the sample of all currently married/cohabiting women age 20-44 is referred to as the "all women sample." All the countries included in this report also implemented the men's questionnaire. The men's survey is usually shorter and the sample is often smaller than the sample for the women's survey. For example, many countries interview all eligible women in the selected households, but they may survey all eligible men only in every second or third household. The couple file for a country includes respondents to the women's and men's surveys who were identified as husband and wife or cohabiting partners through the linking process used by the DHS.

Table 1.1 Description of the Demographic and Health Surveys (DHS) included in this report and associated domestic violence modules

Country	Dates of fieldwork	Implementing organization	Number of households interviewed	Number of women interviewed ¹	Eligibility of women for interview	Number of currently married/cohabiting women age 20-44 interviewed with the DV module:		Eligibility criterion for questions on violence by current or most recent husband/partner	Explicit instruction to discontinue interview if privacy not possible
						Total (DV women subsample) ¹	And whose husbands/partners were also interviewed (couple subsample) ¹		
Bangladesh	January-May 2004	Mitra and Associates	10,500	11,440	Ever-married women age 10-49	2,393 (men)	2,393	All currently married men	No
Bolivia	July 2003-January 2004	National Statistical Institute (INE)	19,207	17,654	All women age 15-49	8,997	2,445	All eligible ever-married women age 15-49	Yes
Dominican Republic	June-December 2002	Centro de Estudios Sociales y Demográficos (CESDEM)	27,135	23,384	All women age 15-49	5,026	854	The ever-married among the one woman age 15-49 randomly selected per household for the DV module	Yes
Haiti	October 2005-May 2006	Institut Haïtien de l'enfance (IHE)	9,998	10,757	All women age 15-49	1,945	1,109	The ever-married among the one woman age 15-49 randomly selected per household for the DV module	Yes
Kenya	April-September 2003	Central Bureau of Statistics (CBS)	8,561	8,195	All women age 15-49	3,433	1,041	The ever-married among the one woman age 15-49 randomly selected per household for the DV module	Yes
Malawi	October 2004-January 2005	The National Statistical Office	13,664	11,698	All women age 15-49	6,300	1,476	The ever-married among the one woman age 15-49 randomly selected per household for the DV module	Yes
Moldova	June-August 2005	National Scientific and Applied Center for Preventive Medicine (NCPM)/ Ministry of Health and Social Protection (MOHSP)	11,095	7,440	All women age 15-49	3,223	712	The ever-married among the one woman age 15-49 randomly selected per household for the DV module	Yes

Table 1.1 Continued

Country	Dates of fieldwork	Implementing organization	Number of households interviewed	Number of women interviewed ¹	Eligibility of women for interview	Number of currently married/cohabiting women age 20-44 interviewed with the DV module:		Eligibility criterion for questions on violence by current or most recent husband/partner	Explicit instruction to discontinue interview if privacy not possible
						Total (DV women subsample) ¹	And whose husbands/partners were also interviewed (couple subsample) ¹		
Rwanda	February 2005-July 2005	Institut National de la Statistique/ Ministère des Finances et de la Planification Economique	10,272	11,321	All women age 15-49	2,121	1,727	The ever-married among the one woman age 15-49 randomly selected per household for the DV module	Yes
Zambia	November 2001-June 2002	Central Statistical Office	7,126	7,658	All women age 15-49	2,957	757	The ever-married among the one woman age 15-49 randomly selected per household for the DV module	Yes
Zimbabwe	August 2005-February 2006	Central Statistical Office	9,285	8,907	All women age 15-49	3,517	1,885	The ever-married among the one woman age 15-49 randomly selected per household for the DV module	Yes

DV = domestic violence

¹ Unweighted

For most countries that implemented the domestic violence module, only one randomly selected woman per household was eligible to participate. As noted, the purpose of this sampling scheme is to maintain confidentiality and ensure women's security when answering the question on the experience and perpetration of domestic violence. The exceptions to this rule in the group of countries in this report are Bangladesh and Bolivia. In Bangladesh, the domestic violence module was implemented only for men, who were asked about their perpetration of violence against their wives. In Bolivia, all eligible women within a household were administered the domestic violence module. In all countries except Bangladesh, the interviewer was required to discontinue the interview if privacy could not be maintained. Notably, although one randomly selected woman age 15-49 (ever-married or never married, unless survey eligibility precludes the never married) per household is selected for the domestic violence module, only women who are ever-married or have ever cohabited are eligible for the questions in the module related to spousal violence.

In this report, there are two subsamples derived from the all women sample that are used in the analyses:

- 1) **Couple subsample:** This sample is a subset of the couple's file and includes only currently married or cohabiting women age 20-44 who were administered the domestic violence module and completed the questions related to spousal violence and whose husbands/partners were interviewed with the men's questionnaire. This subsample is used for analyses in which couples are the relevant unit of analysis and that involve the questions on IPV. The couple subsample ranges from 757 couples in Zambia to 2,445 couples in Bolivia.
- 2) **DV women subsample:** This sample includes currently married or cohabiting women age 20-44 who were administered the domestic violence module and who completed the questions related to spousal violence. This subsample is used for analyses in which the larger sample of women is the relevant unit of analysis and that involve the questions on IPV. The DV women subsample ranges from 1,945 women in Haiti to 8,997 women in Bolivia. For Bangladesh this subsample is the same as the couple subsample and for Bolivia it is the same as the all women sample.

Throughout this report we use the terms intimate partner violence (IPV), domestic violence (DV), and spousal violence interchangeably to describe violence perpetrated against a woman by her current husband or cohabiting partner.

1.3 Measurement of Intimate Partner Violence

In consultation with experts on measurement of domestic violence and survey research, the DHS program developed a standard domestic violence module that was used in the majority of countries examined in this report. The development of this module was guided by the available research on valid and reliable measurement of domestic violence and by guidelines set out by the World Health Organization (2001) on the ethical collection of such sensitive information. The part of the module specific to spousal (husband or cohabiting partner) violence uses a modified version of the Conflict Tactics Scales (CTS) (Straus, 1990; Straus, 1979), which includes questions that ask women whether their current or most recent (if divorced, separated, or

widowed) husband/partner ever perpetrated any of a series of behaviorally specific acts of physical or sexual violence. Women who say yes to a particular item are then asked about the frequency of perpetration in the 12 months preceding the interview. For the current report women who reported at least one of these acts were classified as having experienced intimate partner violence, while those who reported none of these acts were classified in the no violence group. Six different variables were constructed describing physical violence, sexual violence, and physical or sexual violence experienced during the relationship and during the 12 months prior to the survey.

All of the countries included in this report, except Zambia, implemented the standard DHS domestic violence module, either as-is or with minor variations. Seven of these countries (the Dominican Republic, Haiti, Kenya, Malawi, Moldova, Rwanda, and Zimbabwe) used roughly the same set of questions, which asked about the same types of abusive behaviors. Bangladesh also followed the modified CTS template, with most (although not all) of the same questions; however, as noted, these questions were included in the men's questionnaire rather than the women's questionnaire. Specifically, men were asked to report their perpetration of different acts of violence against their wives. Men who reported perpetrating a specific act of violence were then asked about the frequency of perpetration in the past year. Bolivia also generally followed the modified CTS approach, although the module contained fewer questions, and those that were asked tended to cover fewer types of aggressive or violent behaviors. Also, in Bolivia, the DHS measured violence ever experienced during the relationship but did not determine whether any violence had occurred in the past 12 months.

Zambia did not use the modified CTS approach to measuring intimate partner violence. Rather, the survey used the single-question threshold approach. Physical abuse was assessed with one question asking women whether their husbands/partners had ever "slapped you, hit you, kicked you, thrown things at you, or done anything else to physically hurt you." Women who said yes to this question were then asked about the frequency of the violence in the past year. Although only one question was used to assess physical violence, the question used specifies some of the same acts of violence that were measured in the other countries. Despite the large proportion of women responding positively to this question in Zambia, it is possible that more women would have been identified as having experienced violence if the CTS approach had been used which provides more opportunities for disclosure and covers a broader and more specific range of violent behaviors. The measurement of sexual violence against women in Zambia also differed from that in the other countries. The survey included two questions asking women whether they had ever been forced to have sex and whether they were ever made to have sex with someone else. Those who responded positively to either of these questions were then asked to identify the perpetrator(s) of the assault and to report the frequency of perpetration in the past year. Women were classified as having experienced intimate partner sexual violence if they identified their husbands or cohabiting partners as the perpetrators in their answers to either of these questions.

1.4 Comparison of the “All Women Sample” and the “Couple Subsample”

Table 1.2 describes the characteristics of all currently married/cohabiting women age 20-44 who were interviewed in the individual women’s survey (i.e., the all women sample) and of the currently married/cohabiting women age 20-44 who were part of the couples file that received the domestic violence module (i.e. the couple subsample). These samples were compared to determine whether there were any systematic differences between women in the couple subsample, which is used for the second chapter of this report, and those in the all women’s subsample. Chi-square tests were conducted to determine whether there were any significant differences in the characteristics of these samples, and the associated p-values are presented. This analysis takes into account the complex survey design of the DHS by incorporating women’s sampling weights. Thus, population-based estimates take into account the differential probability of selection into the survey. The analysis also adjusts the standard errors for the cluster sampling of primary sampling units using Stata’s svy commands.

The table shows that, although there were several statistically significant differences between the two samples for many of the countries, most of these differences were relatively small. The large sample sizes for the surveys increased the power to detect small differences between the samples which may or may not be substantively meaningful. Very few differences between the files were found for Bolivia, Kenya, Moldova, and Zambia. Bolivian women in the couple subsample were more likely than women in the all women sample to be working in agricultural occupations, less likely to be working in nonagricultural occupations, and more likely to come from poorer households and rural areas. In Kenya, women in the couple subsample tended to be younger on average, more likely to be married, and more likely to have an agricultural occupation than women in the all women sample. In Moldova, women in the couple subsample were more likely to be working and to live in rural areas than women in the all women sample. Finally, the only difference observed in Zambia was that women in the couple subsample were slightly more likely to be married than those in the all women sample.

In Bangladesh, the Dominican Republic, Malawi, Rwanda, and Zimbabwe, a few, more significant differences were found between the samples, although the magnitude of these differences is still relatively small. Compared with Bangladeshi women in the all women sample, those in the couple subsample tended to be younger, to have been under age 20 when they first married, to have lower levels of education, to currently be working, and to be from poorer households. In the Dominican Republic, women in the couple subsample were less likely to be literate and more likely to come from poor households. In Malawi, women in the couple subsample were more likely to be younger, have been married before the age of 20, to have no education, to be illiterate, to belong to the middle wealth quintile, and to live in rural areas. In Rwanda, women in the couple subsample were more likely to be in the 30-34 age group, married, be not working, and live in a rural area and less likely to belong to the highest wealth quintile. Finally, women in Zimbabwe in the couple subsample were more likely to be married, to have been under 20 when they first married, to be working, and to belong to the fourth wealth quintile.

Table 1.2 Percent distribution of all currently married/cohabiting women age 20-44 (all women sample) and the subsample of women who received the domestic violence module and whose husbands/partners were also interviewed (couple subsample) by selected characteristics, DHS surveys 2002-2006

	Bangladesh		Bolivia		Dominican Republic		Haiti		Kenya	
	All women	Couples	All women	Couples	All women	Couples	All women	Couples	All women	Couples
Age of woman	***	***					***	***	*	*
20-24	26.4	27.8	18.1	19.0	18.9	15.7	20.9	14.8	23.0	24.3
25-29	24.1	29.4	21.8	20.5	21.8	23.0	25.8	22.8	25.2	25.0
30-34	21.0	21.7	22.7	22.7	22.3	23.4	19.6	21.6	20.8	24.0
35-39	16.3	13.8	20.3	21.3	21.0	24.4	19.5	21.6	16.5	14.8
40-44	12.2	7.3	17.1	16.5	16.0	13.5	14.2	19.1	14.6	11.9
Marital status							***	***	*	*
Married	100.0	100.0	68.7	69.2	28.9	29.4	76.8	99.4	91.2	93.0
Living together	na	na	31.3	30.8	71.1	70.6	23.2	0.6	8.8	7.0
Age at first marriage	**	**					***	***		
Under 20 years	93.0	94.4	53.8	53.6	66.7	67.2	58.0	56.3	59.6	61.0
20 years and over	7.0	5.6	46.2	46.4	33.3	32.8	42.0	43.7	40.4	39.0
Education	***	***					***	***		
No education	42.4	45.1	7.4	7.3	4.5	5.6	29.8	39.1	13.7	13.0
Primary	29.1	29.4	55.9	58.3	49.5	53.1	37.3	36.6	58.3	60.5
Secondary	22.4	20.8	26	24.4	29.9	27.6	29.6	22.4	22.2	22.1
Higher	6.1	4.8	10.7	10.0	16.1	13.7	3.4	1.8	5.8	4.4
Literacy					*	*	***	***		
Cannot read at all	na	na	11.0	11.5	11.0	14.5	42	52.8	23.3	24.7
Able to read parts of a sentence	na	na	3.1	3.1	5.8	5.2	9.8	8.2	8.2	7.9
Able to read whole sentence	na	na	85.9	85.4	83.1	80.3	48.2	39.0	68.5	67.4
Occupation	†	†	**				***	***		
Not working	77.5	75.7	29.9	29.6	50.4	47.5	34.8	27.8	30.6	30.3
Agricultural occupation	7.9	8.8	19.3	22.2	0.8	0.7	9.3	13.5	38.2	41.4
Nonagricultural occupation	14.6	15.5	50.8	48.2	48.8	51.7	55.9	58.6	31.2	28.3
Wealth quintile	***	***	*	*	*	*	***	***		
Lowest	19.6	23.2	17.8	19.3	16.2	21.6	17.4	20.6	19.2	20.4
Second	19.4	22.1	18.7	20.5	21.0	22.2	17.4	22.7	19.2	18.4
Middle	19.2	19.2	21.9	21.5	21.4	17.5	18.7	18.9	18.5	20.1
Fourth	20.3	17.2	22.9	21.7	21.0	20.1	24.1	20.0	19.3	19.5
Highest	21.6	18.4	18.7	17.1	20.4	18.6	22.4	17.9	23.8	21.4
Place of residence			***	***			**	**	†	†
Urban	23.4	23.8	65.3	62.2	65.7	64.4	43.2	36.8	22.6	20.6
Rural	76.6	76.2	34.7	37.8	34.3	35.6	56.8	63.2	77.4	79.4
Number (unweighted)	8,049	2,393	8,997	2,445	11,788	854	5,169	1,109	4,172	1,041

(continued)

Table 1.2 Continued

	Malawi		Moldova		Rwanda		Zambia		Zimbabwe	
	All women	Couples	All women	Couples	All women	Couples	All women	Couples	All women	Couples
Age of woman	†	†	†	†	†	†				
20-24	32.7	33.2	16.4	13.4	20.0	20.4	27.6	26.3	27.9	29.6
25-29	26.0	25.7	20.6	20.3	25.6	24.7	26.8	27.6	26.2	25.9
30-34	17.6	19.5	21.1	21.5	22.7	25.2	19.2	20.3	21.7	21.0
35-39	12.9	13.0	19.4	19.2	16.5	14.7	15.0	14.2	12.9	13.0
40-44	10.8	8.6	22.6	25.6	15.1	15.0	11.4	11.6	11.3	10.4
Marital status					*	*	**	**	*	*
Married	94.2	93.2	92.1	93.6	57.0	59.4	98.8	99.8	97.5	98.4
Living together	5.8	6.8	7.9	6.4	43.0	40.6	1.2	0.2	2.5	1.6
Age at first marriage	*	*							†	†
Under 20 years	77.8	80.2	50.6	52.5	47.6	46.0	77.0	77.3	65.5	68.1
20 years and over	22.2	19.8	49.4	47.5	52.4	54.0	23.0	22.7	34.5	31.9
Education	*	*								
No education	25.9	28.1	0.2	0.1	27.6	26.2	13.4	11.7	4.2	3.2
Primary	62.0	62.5	0.7	0.9	63.2	65.4	61.1	62.4	34.0	36.7
Secondary	11.6	9.1	78.1	77.6	8.7	8.0	22.8	23.2	58.1	56.4
Higher	0.5	0.3	21.0	21.4	0.6	0.4	2.7	2.7	3.7	3.7
Literacy	**	**								
Cannot read at all	40.9	44.7	0.1	0.1	31.3	31.1	40.9	41.3	8.5	7.4
Able to read parts of a sentence	9.4	10.1	0.2	0.2	11.8	11.0	9.5	7.6	11.7	12.5
Able to read whole sentence	49.7	45.2	99.7	99.7	56.9	57.9	49.6	51.0	79.8	80.2
Occupation			†	†	***	***			**	**
Not working	38.3	38.8	37.5	33.0	19.3	23.1	37.1	37.7	54.5	51.0
Agricultural occupation	45.0	46.0	12.3	13.6	72.2	70.0	37.4	35.7	17.9	21.2
Nonagricultural occupation	16.7	15.2	50.2	53.4	8.5	6.9	25.4	26.7	27.6	27.8
Wealth quintile	***	***			**	**			†	†
Lowest	14.3	11.7	16.4	18.0	20.6	20.0	19.3	17.5	19.5	19.5
Second	21.5	22.8	16.4	17.2	20.2	21.4	18.8	19.0	18.5	18.7
Middle	22.5	26.7	20.8	20.2	20.3	21.0	21.5	20.6	16.6	15.1
Fourth	21.2	22.0	22.2	24.1	20.3	22.4	20.0	20.1	24.0	27.6
Highest	20.6	16.8	24.1	20.5	18.6	15.3	20.4	22.7	21.4	19.2
Place of residence	†	†	**	**	*	*				
Urban	16.6	14.1	42.2	37.5	13.9	12.6	36.2	36.7	35.9	34.6
Rural	83.4	85.9	57.8	62.5	86.1	87.4	63.8	63.3	64.1	65.4
Number (unweighted)	6,993	1,476	3,813	712	4,843	1,727	3,953	757	4,292	1,885

na = not available; item not measured

† p<0.10, * p<0.05, ** p<0.01, *** p<0.001

The largest differences between the files were observed for Haiti. In Haiti, compared with women in the all women sample, those in the couple subsample were older on average, more likely to be married rather than living together (1 percent vs. 23 percent), and more likely to have no education (39 percent vs. 30 percent), to be illiterate (53 percent vs. 42 percent), to be working (72 percent vs. 65 percent), to come from poorer households, and to be living in rural areas.

Overall, there were relatively small differences between the all women sample and the couple subsample for most of the countries that were examined. These results suggest that one can be reasonably confident that analyses conducted using the couple subsample will not be significantly biased and can therefore be generalized to the national population. However, the results for Haiti did show larger differences for more of the variables that were compared. These differences in the samples might significantly influence the estimate of the prevalence in Haiti of intimate partner violence to the extent that these factors influence women's risk of violence. In addition, the couple data for Haiti may not be nationally representative given these differences.

The next chapter describes the prevalence of IPV for all of the countries and compares estimates obtained from the DV women subsample and the couple subsample.

Prevalence of Intimate Partner Violence

In all countries included in this report except Zambia, a modified version of the CTS was used to measure violence perpetrated by the current husband/partner. The list of acts asked about in each country makes possible separate measurement of physical violence and sexual violence. The acts measuring “physical violence” are similar but not always identical across countries. In the majority of countries they include the following: pushing, shaking, slapping, throwing things at the respondent, arm twisting, punching with the fist or something else that can hurt, kicking, dragging, strangling, burning, and threatening and/or attacking with a knife, gun, or other type of weapon. Women who report that their husbands/partners have ever perpetrated at least one of these acts are considered to have experienced physical violence. Similarly, women who have experienced one or both of the following acts by their husbands/partners are considered to have experienced sexual violence: physically forcing sexual intercourse even when the respondent did not want it and forcing the respondent to perform other sexual acts that she did not want to.

Table 2.1 shows the percentage of currently married or cohabiting women age 20-44 who have ever experienced each specific type of violent act by their husbands/partners. The table shows estimates for both the DV women subsample for all countries except Bangladesh and Bolivia and for the couple subsample. In Bangladesh, although the questions assessing intimate partner violence were included in the men’s questionnaire, the men’s file did not contain information on the wife’s age. Hence, for Bangladesh, the estimates were obtained from the couples file in order to restrict the analysis to married women age 20-44. For Bolivia, where all women were administered the domestic violence module, the DV women subsample is the same as the all women sample.

The data are weighted to produce national estimates for all countries. Except for Bangladesh and Bolivia, the analysis uses the domestic violence weight, which adjusts for the probability of selection into the domestic violence module and for nonresponse. For Bangladesh men’s sampling weights are used and for Bolivia women’s sampling weights are used.

2.1 Prevalence of Specific Acts of Physical Violence

As shown in Table 2.1, the most commonly experienced acts of physical aggression in most countries include being slapped, having arms twisted, or hair pulled. Bolivia and the Dominican Republic are the only countries where being pushed, shaken, or having something thrown at them was somewhat more common.

Table 2.1 Percentage of currently married or cohabiting women age 20-44 who received the domestic violence (DV) module (DV women subsample) and the subsample of women whose husbands/partners were also interviewed (couple subsample) who have ever experienced specific acts of violence by their husbands/cohabiting partners, DHS surveys 2002-2006

	Bangladesh		Bolivia		Dominican Republic		Haiti		Kenya	
	DV women	Couples	DV women	Couples	DV women	Couples	DV women	Couples	DV women	Couples
Physical Violence										
Push you ¹ , shake you, throw something at you ²	na	42.7	47.2	47.9	12.3	13.0	8.4	9.5	21.3	20.1
Slap you ³ or twist your arm (or pull your hair) ⁴	na	64.2	na	na	9.3	10.8	10	10.2	32.3	31.8
Slap you, hit you, kick you, throw things at you, or done anything else to physically hurt you ⁵	na	na	41.1	42.7	na	na	na	na	na	na
Punch you with a fist or something else that could hurt ^{6,7}	na	15.6	10.0	9.9	7.3	9.0	5.8	6.4	15.6	14.2
Kick you, drag you (beat you up) ⁸	na	11.6	na	na	2.7	4.0	3.0	2.6	9.2	9.3
Try to choke (strangle) or burn you on purpose ⁹	na	2.0	7.0	8.4**	2.7	2.9	1.8	2.3	3.4	3.8
Threaten you with a knife or gun or any other weapon	na	na	na	na	3.0	3.5	2.0	2.5	4.9	5.6
Attack you with a knife or gun or any other weapon	na	na	na	na	1.7	3.8***	na	na	2.3	2.4
Sexual Violence										
Forced you to have sexual intercourse when you did not want to	na	26.1	13.9	13.6	5.0	4.4	9.5	10.1	14.1	13.6
Forced you to perform any sexual acts you did not want to	na	na	na	na	2.2	3.0	5.8	5.4	3.3	3.7
Forced to have sex/made to have sex with another person	na	na	na	na	na	na	na	na	na	na

(continued)

Table 2.1 Continued

	Malawi		Moldova		Rwanda		Zambia		Zimbabwe	
	DV women	Couples	DV women	Couples	DV women	Couples	DV women	Couples	DV women	Couples
Physical Violence										
Push you ¹ , shake you, throw something at you ²	6.4	6.6	15.1	14.3	13.8	13.9	na	na	10.3	11.9**
Slap you ³ or twist your arm (or pull your hair) ⁴	15.4	13.9	16.3	15.4	24.6	25.0	na	na	24.3	26.4*
Slap you, hit you, kick you, throw things at you, or done anything else to physically hurt you ⁵	na	na	na	na	na	na	45.1	49.0*	na	na
Punch you with a fist or something else that could hurt ^{6,7}	7.5	6.1*	7.7	7.3	11.7	11.5	na	na	10.9	12.6**
Kick you, drag you (beat you up) ⁸	5.0	5.4	3.7	2.6	6.8	6.2	na	na	na	na
Try to choke (strangle) or burn you on purpose ⁹	1.7	1.7	1.7	1.3	1.4	1.3	na	na	6.4	7.4*
Threaten you with a knife or gun or any other weapon	0.9	0.5	1.5	1.7	1.1	1.0	na	na	2.1	1.9
Attack you with a knife or gun or any other weapon	0.5	0.3	na	na	0.6	0.4	na	na	1.9	1.8
Sexual Violence										
Forced you to have sexual intercourse when you did not want to	12.8	12.8	2.8	2.4	11.2	10.9	na	na	9.7	11.2*
Forced you to perform any sexual acts you did not want to	3.7	4.2	0.9	0.6	5.1	5.0	na	na	9.8	10.8*
Forced to have sex/made to have sex with another person	na	na	na	na	na	na	5.8	6.3	na	na

na = not available; item not measured

¹ In Bolivia women were asked if their husband pushed them.

² In Zimbabwe the question also included the following acts "twist your arm or pull your hair."

³ In Zimbabwe women were asked if their husband/partner slapped them.

⁴ In Haiti and Moldova women were asked if their husband/partner "pulled your hair."

⁵ In Bolivia women were asked if their husband/partner hit them with his hand or foot.

⁶ In Zimbabwe this question also included the following acts "kicked you, dragged you, or beat you up."

⁷ In Bolivia women were asked if their husbands/partners hit them with something harmful.

⁸ For this question only women in Moldova were asked "beat you up."

⁹ In Bangladesh men were asked if they had tried to strangle their wives, or kill them by burning them.

* p<0.05, ** p<0.01, *** p<0.001; The level of significance indicates whether estimates based on the couples subsample are significantly different from the those based on the all women subsample.

The more severe acts of violence, such as being punched, kicked, strangled, choked, or burned, were less common. Sixteen percent of women in Bangladesh in the couple subsample were punched, compared with 14 percent in Kenya, 13 percent in Zimbabwe, and 12 percent in Rwanda. In most other countries where this question was asked, 10 percent or fewer women reported being punched. Twelve percent of women in couples in Bangladesh and 9 percent in Kenya were kicked, dragged, or beaten up. Eight percent of women in couples in Bolivia and 7 percent in Zimbabwe reported being choked, strangled, or purposely burned. Threatened or actual weapon use was relatively low across all countries. The prevalence of being threatened with a weapon ranged from less than 1 percent in Malawi to 6 percent in Kenya. Actual weapon use by a husband/partner was reported by about 1 to 2 percent of women in most countries, with the exception of the Dominican Republic, where 4 percent reported this.

A comparison between the DV women subsample and the couple subsample shows significant differences in a few countries, but the size of these differences remains small. Where there are statistically significant differences, women in the couple subsample more often reported specific acts of violence. These discrepancies are most common in Zimbabwe, where, for six of the eight types of violence measured, women in the couple subsample reported higher levels of violence.

2.2 Prevalence of Specific Acts of Sexual Violence

In 9 of the 10 countries, women's experience of forced sexual intercourse was included in the DHS surveys. Based on women's reports, in the couple subsample between 2 percent of women in Moldova and 14 percent of women in Bolivia and Kenya indicated that their husbands/partners forced them to have sexual intercourse when they did not want to at some point in their relationship. In Bangladesh, over one-quarter of men (26 percent) reported forcing their wife to have sexual intercourse when she did not want to.

The percentage of women who reported that they were forced to perform sexual acts that they did not want to ranges from about 1 percent in Moldova to 11 percent in Zimbabwe in the couple subsample. In Zimbabwe, nearly identical proportions of women reported that they were forced to have sex and that they were forced to perform a sexual act that they did not want to. In the Dominican Republic, Haiti, and Rwanda, about half as many women reported being asked to perform a sexual act as reported being forced to have sexual intercourse. Six percent of women in Zambia in the couple subsample report some form of sexual abuse. Women in Zimbabwe in the couple subsample were significantly more likely to report acts of sexual violence than women in the DV women subsample.

2.3 Prevalence of Physical or Sexual Violence—Summary Measure

Based on the items shown in Table 2.1, two sets of dichotomous indicators describe women's experience of IPV in their current relationship. One set reflects women ever experiencing physical and/or sexual violence by their current husbands/partners. The other set reflects women's experience of physical or sexual violence by their current husbands/partners in the past 12 months. Comparisons of these measures between the DV women subsample and the couple sample in Table 2.2 gauge the extent to which the couple subsample is representative of all currently married/cohabiting women age 20-44.

Figure 2.1 shows the percentage of women age 20-44 in marital or cohabiting partnerships in the DV women subsample who report ever experiencing physical violence and/or sexual violence. In 9 of the 10 countries, women were much more likely to experience physical violence than sexual violence. The highest rates of physical violence occurred in Bangladesh (71 percent), Bolivia (52 percent), and Zambia (45 percent), while the lowest rates occurred in Haiti (12 percent) and the Dominican Republic (15 percent). Despite the lower rate of physical violence in Haiti, women were equally likely to have ever experienced physical violence and sexual violence. Bangladesh stands out as having the highest rate of physical or sexual violence (as reported by the husband/partner), at 75 percent. In Bolivia and Zambia, about half of women had experienced physical or sexual violence in their current partnerships.

Figure 2.2 shows the percentage of women in marital or cohabiting partnerships who experienced physical or sexual violence by their husbands or partners in the 12 months prior to the survey. The Y axis is the same as in Figure 2.1 so that the levels can be more easily compared across figures.

As expected, the overall prevalence of violence in the past 12 months was substantially lower than women's lifetime experience of violence (Figure 2.1). Also, the patterns were somewhat different. In Bangladesh, one-third of all women experienced physical or sexual violence in the past 12 months, followed closely by Kenya (31 percent), Zimbabwe (30 percent), and Zambia (28 percent). Whereas in Bangladesh, lifetime experience of violence was substantially higher than in any other country (75 percent), violence in the 12 months prior to the survey (although among the highest), does not stand out to the same degree. Women in Haiti are equally likely to report sexual violence (11 percent) and physical violence (11 percent) in the past 12 months, and these numbers do not substantially differ from reports that such violence ever occurred in the current relationship. Also of note is the much smaller variation across countries in the prevalence of violence in the past 12 months than in the prevalence of lifetime violence by the current husband/partner.

The data show that in most countries some but not all women experience both types of violence, since the rates of physical or sexual violence in the past 12 months are not the sum of the two separate rates and also are not identical to one another. For example, 25 percent of women in Zimbabwe reported physical violence, while 12 percent reported sexual violence. Thirty percent reported experiencing at least one of these two outcomes (not 37 percent, which would have meant mutually exclusive experiences).

Figure 2.1 Percentage of Currently Married/Cohabiting Women Age 20-44 Who Have Ever Experienced Physical or Sexual Violence by Their Current Husbands/Partners

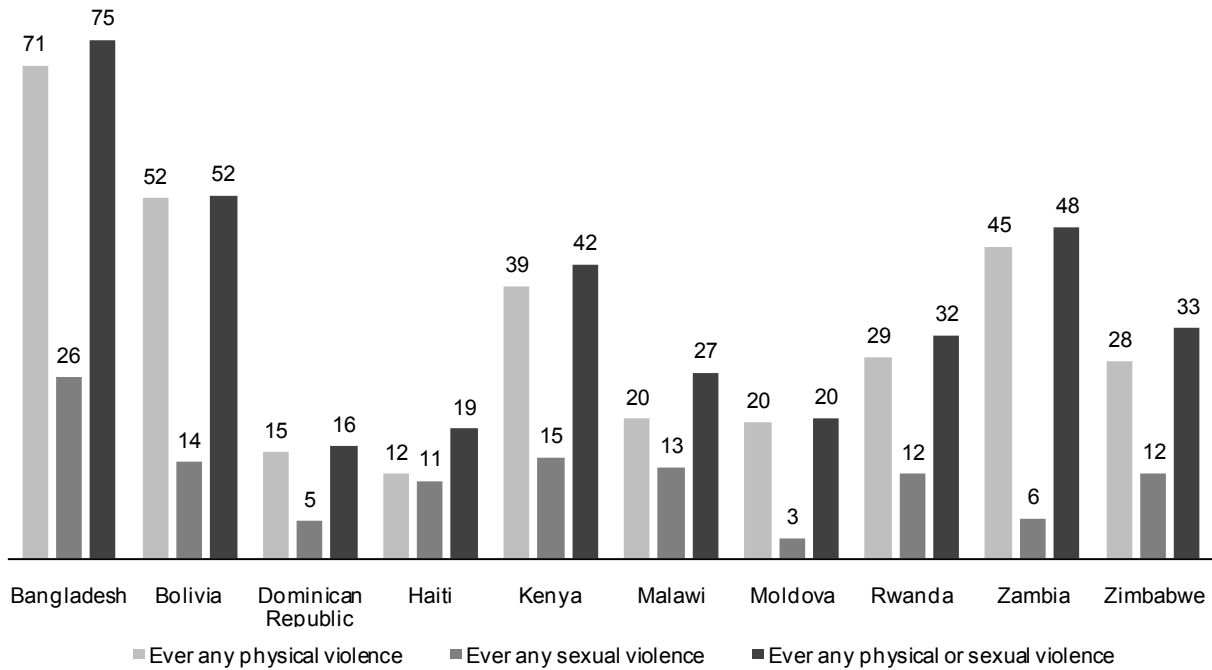
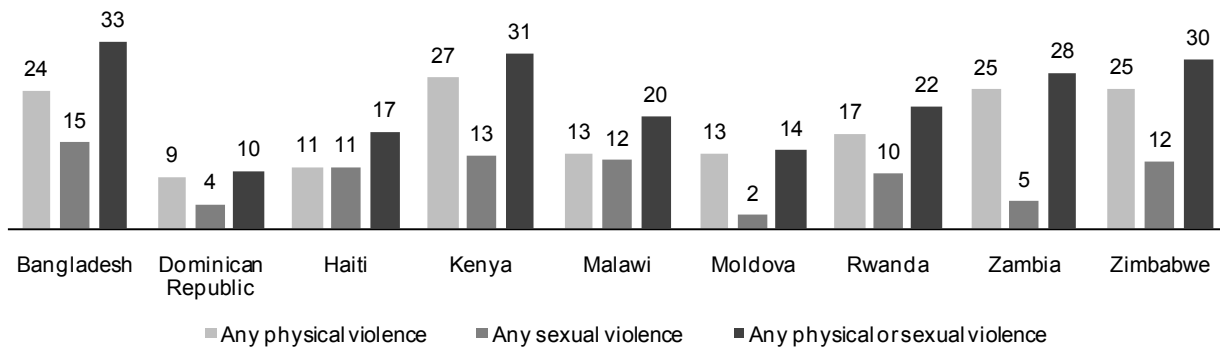


Figure 2.2 Percentage of Currently Married/Cohabiting Women Age 20-44 Who Have Experienced Physical or Sexual Violence by Their Current Husbands/Partners in the Past 12 Months



2.4 Prevalence of Intimate Partner Violence: Comparing the DV Women and Couple Subsamples

Table 2.2 shows the percentage of currently married/cohabiting women age 20-44 who reported physical or sexual violence by their current husbands/partners ever during the relationship and in the past 12 months. The table also compares the estimates obtained from the women's DV sample and the couple subsample using chi-square tests that adjust the standard errors for the clustered survey design.

For 7 of the 10 countries, including Haiti, no significant differences were found between the DV women subsample and the couple subsample for any of the IPV variable estimates. For Rwanda, Zambia, and Zimbabwe, however, significant differences were found for some of the variables, with a higher prevalence of violence reported in the couple subsample. The differences between the estimates from the two subsamples are most consistent in Zimbabwe, perhaps owing to the differences between these samples described in Chapter 1. Zimbabwean women in the couple subsample were more likely to be married, to have been under 20 when they first married, to be currently working, to be working in agricultural occupations, and to not belong to the highest wealth quintile.

Table 2.2 Percentage of currently married or cohabiting women age 20-44 who received the domestic violence (DV) module (DV women subsample) and the subsample of women whose husbands/partners were also interviewed (couple subsample) who have experienced physical or sexual violence by their husbands/cohabiting partners ever or in the past 12 months, DHS surveys 2002-2006

Type of violence and time period	Bangladesh		Bolivia		Dominican Republic		Haiti		Kenya	
	DV women	Couples	DV women	Couples	DV women	Couples	DV women	Couples	DV women	Couples
Ever any physical violence	na	71.1	51.5	52.6	15.4	16.4	12.2	12.4	39.2	38.2
Ever any sexual violence	na	26.1	13.9	13.6	5.3	4.9	11.2	11.6	14.7	14.1
Ever any physical or sexual violence	na	74.9	52.4	53.7	16.2	17.0	18.7	19.3	42.4	41.6
Physical violence in the past 12 months	na	24.3	na	na	9.1	9.8	10.8	10.4	26.6	26.1
Sexual violence in the past 12 months	na	15.2	na	na	4.3	3.7	10.8	11.6	12.9	12.8
Physical or sexual violence in the past 12 months	na	33.0	na	na	10.2	10.6	17.1	17.4	30.9	30.3
Number (unweighted)	na	2,393	8,988	2,442	5,018	853	1,944	1,108	3,430	1,040

(continued)

20

Table 2.2 Continued

Type of violence and time period	Malawi		Moldova		Rwanda		Zambia		Zimbabwe	
	DV women	Couples	DV women	Couples	DV women	Couples	DV women	Couples	DV women	Couples
Ever any physical violence	20.1	18.5	19.6	17.9	28.5	29.2	45.1	49.0 *	28.4	31.6 ***
Ever any sexual violence	13.2	13.0	3.0	2.5	12.1	12.0	5.8	6.3	12.4	14.0 **
Ever any physical or sexual violence	26.8	25.8	20.2	18.9	32.2	33.2 †	47.8	51.9 *	33.2	36.7 ***
Physical violence in the past 12 months	13.2	12.0	13.3	12.6	16.7	17.8 **	24.6	26.6	24.7	27.7 ***
Sexual violence in the past 12 months	11.5	11.3	2.3	2.2	9.7	9.7	4.8	5.5	11.8	13.6 **
Physical or sexual violence in the past 12 months	19.8	19.2	13.8	13.6	21.5	22.7 *	27.6	30.4 †	29.8	33.1 ***
Number (unweighted)	6,299	1,475	3,222	712	2,114	1,723	2,955	757	3,511	1,882

na = not available; item not measured

† p<0.10, * p<0.05, ** p<0.01, *** p<0.001; The level of significance indicates whether estimates based on the „couples" subsample are significantly different from those based on the „all women" subsample.

3

Factors Associated with Women’s Experience of Intimate Partner Violence

Although a large and growing literature exists on the correlates of women’s experience of intimate partner violence (IPV), a complete picture of the risk factors for violence has yet to emerge. In part this is because understanding the phenomenon of intimate partner violence requires an analysis that goes well beyond an examination of the characteristics of the “victim” alone. What is also required is an understanding of the characteristics of the perpetrator, the life experiences and beliefs of both victim and perpetrator, the nature of the relationship that the couple has, and the household and community contexts within which violence occurs. Data are not always available on many of these dimensions, and, even when they are available, they are not always able to adequately capture the various dimensions.

This chapter attempts to fill in some of these gaps using DHS data for couples. A brief review of the existing literature precedes the analysis of the intimate partner violence data. The literature review focuses on developing nations because the findings from this literature are most likely to be salient for the countries described in this report. In addition, the review focuses on population-based samples because they are most generalizable.

3.1 Literature Review

3.1.1 Individual and Household Characteristics

Education: Most of the studies on factors associated with IPV control for individual factors such as women’s education and, sometimes, husbands’/partners’ education. The relationship between IPV and educational status is mixed, however. In Jordan, neither men’s nor women’s education was associated with men’s perpetration of physical or sexual violence (Clark et al., 2008). In South Africa, men with fewer years of education were more likely to report perpetrating physical violence in the past 10 years (Abrahams et al., 2006). A recent study from India found that, in comparison with women having some college education, women with fewer years of education had a higher risk of lifetime and recent (past 12 months) experience of IPV. Women were also at higher risk of IPV if their husbands had less than college education (Ackerson et al., 2008). In Peru, based on the Peruvian DHS, women who had post-secondary education were significantly less likely to report experiencing physical abuse by their partners (Flake, 2005). In the report *Profiling Domestic Violence*, women’s education was significantly associated, after multivariate adjustment, with lifetime spousal violence only in Cambodia, Egypt, and India (Kishor and Johnson, 2004).

Wealth: A recent study in India explored the risk and protective factors for women experiencing IPV and found that greater wealth and social support were protective against violence (Jeyaseelan et al., 2007). Higher household economic status was associated with less physical violence in marriage in Vietnam (Luke et al., 2007) and Cambodia (Yount & Carrera, 2006). In

Mexico, household socioeconomic status was not consistently associated with women's reports of physical violence by partners in the 12 months prior to the survey (Castro et al., 2008). The relationship between household wealth or economic status and IPV appears to vary by context and method of measurement (Kishor and Johnson, 2004; Kishor and Johnson, 2006).

3.1.2 Couple Characteristics/Couple Differences

Partner/couple characteristics: Using data from India, Ackerson et al. (2008) found that men's and women's education were independently inversely associated with both lifetime experience of IPV as well as recent IPV (in the past 12 month) by the husband (as described above). The same study also showed that women with more education than their spouses were more likely to report ever and recent violence. Similarly in Peru, when women had more education than their partners, they were more likely to report physical violence (Flake 2005). A meta-analysis of studies on IPV in China found that low educational status or low socioeconomic status of either partner was related to a higher level of IPV, as was longer duration of the relationship (Tang & Lai, 2008). Analysis of the 2003 Kenya DHS (Lawoko et al., 2007) showed that women with less education were more likely to report IPV, and women who were less than 10 years younger than their partners were more likely to report sexual violence. Also, women with the same level of education as their partners were more likely to report physical violence (Lawoko et al., 2007). In a study of couple characteristics and physical violence within marriage in Vietnam, Luke and colleagues (2007) found that women married to men who were one to three years older than them were more likely to report violence than couples in which the husband was four or more years older. In Mexico, after controlling for women's own education and age, educational and age differences between partners were not consistently associated with experiencing IPV (Castro et al., 2008).

Decisionmaking autonomy: Findings on the relationship between women's decisionmaking autonomy and their experience of IPV have been mixed. Hindin and Adair (2002) used data from the Cebu Longitudinal Health and Nutrition Survey to look at the associations between women's reports of physical violence and household decisionmaking. They found that male-dominated or female-dominated decisionmaking was associated with more reports of physical violence, while joint decisionmaking was protective. Similarly in Haiti, women who had the final say alone on major household purchases were more likely to report emotional, physical, or sexual violence than women who reported that decisions on major household purchases were made jointly (Gage, 2005). In Peru, women were more likely to report experiencing physical violence when decisions were dominated by women or when they were divided between partners than when decisionmaking was "egalitarian" (Flake, 2005). Based on the 2003 Kenya DHS, Lawoko and colleagues (2007) found that women who reported that they had at least some say on decisions about their own health care were significantly less likely to report physical, emotional, or sexual IPV in the past year. Using the 2003 National Survey on the Dynamics of Household Relationships from Mexico, Castro et al. (2008) explored the relationship between women's experience of physical IPV and reproductive decisionmaking (on number of children and contraceptive use), freedom of movement, women's own employment, and decisions about whether to have sexual intercourse. For women in all three of the age groups in the sample (15-24, 30-34, and 45-49), more control over reproductive decisions was associated with more reports of physical IPV. Freedom of movement was only significantly associated with violence in the youngest age group (15-24), for which more freedom was associated with more reports of

violence. For the age groups 15-24 and 30-34, greater control over decisions about working was inversely associated with violence; and, for all age groups, having the power to decide on the timing of sexual intercourse was associated with fewer reports of IPV.

3.1.3 Other Key Characteristics

Attitudes towards wife beating: Based on data from the 2000 Haiti DHS, sexual violence was associated with women's approval of wife beating (Gage, 2005). Among men in Cape Town, South Africa, perceiving wife beating to be acceptable was associated with perpetrating violence against a partner in the past 10 years (Abrahams et al., 2006). Data from men and women in refugee camps in Jordan show that both men who have perpetrated IPV and women who have experienced spousal IPV were significantly more likely to approve of wife beating than those who had not (Khawaja et al., 2008). Using data from the 2000-2001 Zambia DHS, Lawoko found that women who reported a history of IPV were significantly more likely to approve of wife beating in one or more circumstances than women who reported no history of IPV (Lawoko 2006). It is difficult to sort out the causal ordering of attitudes and experiences of violence, particularly in cross-sectional surveys such as the DHS.

Witnessing parental violence: Nearly all studies that have included a variable on witnessing interparental violence have found this experience to be a risk factor for women experiencing violence (Kishor and Johnson, 2004). Jeyaseelan et al.'s study in India found that exposure to parental violence (father hitting mother) was a risk factor for a woman's experiencing physical violence (Jeyaseelan et al., 2007). Adult women in the Philippines who witnessed violence between their parents were significantly more likely to report perpetrating IPV, being a victim of IPV, or being in a reciprocally violent relationship (Ansara and Hindin, 2008). Using data from the children in the same study in the Philippines, Fehringer and Hindin (2008) found that witnessing violence between parents was associated with victimization and reciprocal violence in partnerships in young adulthood. Individual and community data from Uttar Pradesh in North India showed that women's experience of physical or sexual violence was related to husbands' reports of witnessing domestic violence between parents as a child (Koenig et al., 2006). These findings are consistent with those of Martin et al. (2002) that married men in India who witnessed violence between their parents were more than three times as likely to physically abuse their wives (OR=3.82) and more than four times as likely to sexually abuse their wives with physical force (OR=4.33) as men who had not witnessed parental violence. Women in Haiti who had witnessed their fathers hitting their mothers were more likely to report experiencing physical or sexual violence (Gage, 2005). Based on the 2005 Cambodia DHS, women who reported experiencing any physical or psychological violence in the past year were more than twice as likely as women who had not experienced violence to report that their fathers beat their mothers (Yount and Carrera, 2006). Men in South Africa who reported witnessing violence between their parents were significantly more likely to report perpetrating physical violence in the past 10 years, although the effect of witnessing violence on violence in the past year was no longer significant after multivariate adjustment (Abrahams et al., 2006). In Mexico, a woman's witnessing of violence between her parents was significantly associated with her reports of experiencing violence. By comparison, a woman's reports of whether her partner had witnessed violence were less significantly associated with her own experience of IPV (Castro et al., 2008).

Alcohol consumption: Many studies in both the United States and developing nations find an association between alcohol consumption and domestic violence (Kishor and Johnson, 2004). Based on data from Rakai, Uganda, men who consumed alcohol sometimes or frequently were significantly more likely to physically abuse their wives, and women who reported ever use of alcohol were more likely to report experiencing physical violence in the 12 months prior to the survey (Koenig et al., 2003). Data from South African men show that when either partner was using alcohol, men were more likely to report perpetrating physical violence in the past 10 years (Abrahams et al., 2006). Based on the Kenyan DHS, alcohol use by the male partner was associated with women's ever experiencing either physical or sexual abuse (Kimuna and Djamba, 2008). In addition, research using data from the Peruvian DHS shows a significant association between male partners' alcohol use and women's reports of physical violence (Flake, 2005). Using nationally representative data from China, Paris and colleagues (2004) found that women's alcohol consumption was significantly related to male-to-female and female-to-male physical violence, while men's alcohol consumption was significantly related only to male perpetration of violence.

Community effects on IPV: Ackerson et al. (2008) investigated the role of community literacy levels on women's reports of IPV in India. They found that neighborhood literacy levels of males and of females were independently associated with reporting IPV. Using the Colombian DHS, Pallitto and O'Campo (2005) found that community-level gender inequality (operationalized as women's autonomy, women's status, male patriarchal control, and intimate partner violence) was associated with women's own experience of IPV and unintended pregnancy. They found that living in areas with high levels of male patriarchal control was significantly associated with unintended pregnancy and at the same time weakened the association between intimate partner violence and unintended pregnancy. In addition, women living in a municipality with higher levels of intimate partner violence had almost three times the odds of having an unintended pregnancy as women in municipalities with lower levels of intimate partner violence (Pallitto & O'Campo, 2005). Using data from Uttar Pradesh, India, Koenig and colleagues (2006) showed that a higher level of crime in the community was associated with women's experience of physical or sexual violence, while attitudes towards domestic violence at the community level were associated with experiencing physical violence only. In Haiti, medium to high levels of neighborhood poverty and male unemployment were associated with more women reporting sexual violence (Gage, 2005).

3.2 Overview of Analysis

This chapter describes the factors associated with women's experience of physical or sexual violence during the current relationship. The factors considered include the woman's characteristics, household characteristics, characteristics of the current husband/partner, differences within couples in various demographic and social characteristics, as well as community-level factors. The analysis uses the couple subsample since information from both members of the couple was required for the analysis. The couple subsample contains married or cohabiting couples in which the woman is age 20-44 years and had completed the domestic violence module. For all of the countries except Bangladesh and Bolivia, the analyses are weighted using the domestic violence weights to adjust for the probability of selection into the domestic violence module. For Bangladesh, men's sampling weights were used since all men

who were surveyed were asked the domestic violence questions. For Bolivia, women's sampling weights were used since all women who were surveyed were administered the domestic violence module.

The analysis first examines the bivariate associations between women's lifetime experience of physical or sexual violence by current husbands/partners and the characteristics of interest (Table 3.1). For categorical variables chi-square tests were conducted, and the data in the table represent the percentages of women within each category who reported any physical or sexual violence. For continuous variables, t-tests were conducted, and the data represent the mean values of the variable for women reporting intimate partner physical or sexual violence and for those not reporting such violence.

The chapter then examines the independent associations between physical or sexual violence and the covariates. We use a block modeling technique and add sets of characteristics to successive models. First, we begin with a model that includes just the woman's characteristics and the characteristics of her household (Table 3.2). Next, we add the husband's/partner's characteristics (Table 3.3), followed by differences within couples on various demographic and social characteristics (Table 3.4). In the next model (Table 3.5), we include community-level variables assessing the average level of education for women and men in the community as well as community norms about the acceptability of wife beating. These variables were constructed by aggregating responses of all other survey participants within the same community (i.e., within the same primary sampling unit or sample cluster) as the couple. Thus, for each respondent these variables exclude his or her own response and average the responses of all other respondents in the same community. The average level of education is represented by the mean number of years of schooling within the community. Community norms about wife beating were measured by calculating the proportion of men and women in the community who believed that wife beating was justified in at least one of five circumstances. These variables were constructed using the full women's and men's samples, as opposed to the subset of respondents in the couple sample, since the sample size in the former case is larger.

This analysis also independently examines the associations between women's experience of IPV, on the one hand, and partners' alcohol use (Table 3.6) and women's witnessing of violence between parents, on the other (Table 3.7), after controlling for some key socio-demographic characteristics. All analyses take into account the complex DHS survey design by adjusting the standard errors for cluster sampling using Stata's svy commands.

3.3 Bivariate Analysis

3.3.1 Woman's Characteristics

The characteristics of women that were examined include their age at the time of the survey (20-24, 25-34, 35-44), education (number of years of schooling), current occupation or occupation in the past 12 months if they were not currently working (not working in the past 12 months, working in an agricultural occupation, working in a nonagricultural occupation), union status (married vs. living together), age at first marriage (under 20 years vs. 20 years and over), number of living children (0, 1, 2, 3, 4+), number of children who have died (0 vs. 1+), and attitudes about wife beating (agrees that wife beating is justified in at least one of the specified situations

vs. disagrees with all specified situations). Owing to the small sample size in some of the countries, results that are marginally significant ($p < 0.10$) will be discussed as well as results that are significant at a conventional level of significance ($p < 0.05$).

In only three countries does IPV vary significantly by women's age (Table 3.1). In Bangladesh, where men's reports of perpetrating violence are quite common, the youngest women (20-24 years) were least likely to have experienced violence (71 percent), while women ages 25-34 were most likely to have experienced violence (78 percent). In Malawi, the oldest women have lower rates of violence (20 percent) than younger women (27-28 percent) ($p < 0.10$). In Rwanda, the youngest women were the least likely (26 percent) and women in the oldest age group the most likely to have experienced violence (37 percent).

Women's education is associated with partner violence in the majority of countries, and the direction of this association is consistent. In Bangladesh, Bolivia, the Dominican Republic, Kenya, Moldova, Rwanda, and Zimbabwe, women reporting physical or sexual violence had fewer years of schooling on average than women who did not report any violence. There was no significant association observed between years of schooling and women's reports of violence in Haiti, Malawi, or Zambia.

For some countries women's occupational status is related to their experience of violence, although the direction of this association varies by setting. In Bolivia, women who were not working were significantly less likely to report violence (47 percent) than women in agricultural (56 percent) and nonagricultural (57 percent) occupations. In Kenya, Malawi, Moldova, and Zimbabwe, the pattern is somewhat different—women who were working in agricultural occupations were significantly more likely to report violence than women who were working in either nonagricultural occupations or who were not working.

In terms of union status, cohabiting rather than being married is associated with a higher likelihood of reporting physical or sexual violence in the Dominican Republic ($p < 0.10$), Kenya ($p < 0.10$), and Rwanda ($p < 0.05$).

A young age at first marriage/cohabitation is also related to women's experience of violence in several countries. In Bangladesh, Bolivia, the Dominican Republic, Kenya, Rwanda, and Zimbabwe, women who reported being less than 20 years of age when they first married or started living with their current husbands/partners were more likely to report physical or sexual violence than those who reported being 20 or older when they first married. Further analysis showed that the majority of women in these countries reported only one union; therefore, age at first marriage represents the relationship with the current partner for most women. Among women who were less than 20 years when they first married, the proportion reporting only one union is 95 percent in Bangladesh, 88 percent in Bolivia, 92 percent in Kenya, 83 percent in Rwanda, and 82 percent in Zimbabwe. In the Dominican Republic, however, a much smaller proportion of women who married when they were younger than 20 years reported only having been in one union (60 percent) (data not shown).

The number of living children that women had was associated with the risk of partner violence in Bangladesh, Bolivia, Haiti, Kenya, Moldova, Rwanda, and Zimbabwe. In general, women who

had more children were more likely to report partner violence than women who had fewer children, although there was evidence of nonlinearity in Bangladesh, Bolivia, Haiti, and Moldova. The prevalence of violence was higher for women in Bolivia, Kenya, Moldova, Rwanda, and Zimbabwe who had a child who had died than for women who did not have a child who had died.

The final women's characteristic that was considered is women's attitudes towards wife beating. The DHS questionnaire describes five scenarios to which respondents are asked to indicate whether they agree or disagree that wife-beating is justified. These scenarios (with some variations in wording across countries) are: (1) if she goes out without telling her husband, (2) if she neglects the children, (3) if she argues with her husband, (4) if she refuses to have sex with her husband, and (5) if she burns the food. A binary variable was constructed comparing women who agreed with at least one of these situations as justifying wife beating with those who disagreed with all situations. No data are provided for Bangladesh because the women's questionnaire did not include this set of questions.

In most of the countries studied, there is a significant association between experiencing violence and women's attitudes towards violence. In Bolivia, the Dominican Republic, Kenya, Malawi, Moldova, Zambia, and Zimbabwe, women who agreed that wife beating was justified in at least one of these situations were more likely to report ever experiencing physical or sexual violence by their husbands/partners than women who did not agree with a single reason. Notably, even in countries where the relationship is not significant, it is positive. However, the direction of this association is difficult to interpret because women's experience with violence may alter their perceptions of the acceptability of spousal violence. Alternatively, those with more accepting attitudes towards spousal violence may be more likely to report the experience.

Table 3.1 Percentages or mean values of currently married/cohabiting women age 20-44 in the couples subsample reporting physical or sexual violence by their current husbands/partners by selected individual, household, husband's/partner's, couple, and community characteristic, DHS surveys 2002-2006

	Bangladesh	Bolivia	Dominican Republic	Haiti	Kenya	Malawi	Moldova	Rwanda	Zambia	Zimbabwe
Woman's characteristics										
Age	*					†		**		
20-24	70.8	47.8	15.6	22.0	38.8	26.8	14.8	26.3	47.8	37.6
25-34	77.9	53.8	20.1	21.5	41.3	27.7	17.7	33.5	55.9	36.1
35-44	73.6	56.5	13.9	15.9	44.8	20.2	21.2	37.5	48.6	36.8
Years of schooling (mean)	***	**	*		***		**	*		***
Never experienced violence	4.6	7.3	7.9	3.6	7.4	4.0	11.8	4.0	5.5	8.2
Ever experienced violence	2.7	6.5	6.8	3.5	6.1	3.8	11.0	3.6	5.9	7.4
Occupation		**			**	**	**			***
Not working	74.2	46.9	14.8	20.9	37.2	21.0	22.1	33.9	55.6	32.4
Agricultural occupation	71.8	55.9	14.2	15.9	49.0	30.9	29.1	33.7	47.0	46.3
Nonagricultural occupation	80.0	56.9	19.0	19.3	35.6	22.2	14.3	26.0	52.8	36.8
Union status			†		†			*		
Married	74.9	52.2	11.5	19.3	40.9	25.9	19.0	30.8	52.0	36.5
Living together	na	56.9	19.3	na	51.4	24.4	17.7	36.6	na	51.1
Age at first marriage	***	*	**		***		***	***		***
Under 20 years	76.5	55.8	20.6	20.1	50.4	26.6	20.8	38.2	51.1	41.0
20 years or older	48.6	51.2	9.8	18.2	27.9	22.4	16.7	28.9	54.6	27.5
Number of living children	*	**		*	***		†	**		**
0	68.6	37.1	15.4	11.9	25.7	24.0	11.2	19.6	49.8	19.7
1	67.8	48.0	8.4	14.1	27.7	21.6	15.8	26.9	50.0	34.0
2	74.1	55.7	15.9	24.0	40.3	25.0	18.6	33.8	58.6	36.4
3	77.9	54.9	21.1	29.0	41.0	31.4	31.2	34.2	47.4	36.6
4 or more	78.0	57.0	18.2	15.9	49.7	25.2	21.9	37.3	51.8	42.8
Number of children who have died		**			***		*	*		*
0	74.3	51.4	16.2	19.5	37.0	25.2	18.2	30.6	53.0	35.5
1 or more	76.2	59.3	21.6	18.8	53.6	26.7	34.7	36.8	50.2	43.9
Attitudes towards wife beating		*	**		*	***	**	**	**	***
No/don't know to all items	na	52.2	15.6	17.7	34.9	22.5	15.9	32.0	37.9	30.8
Yes to one or more items	na	59.0	28.7	22.9	44.5	33.7	28.8	35.0	53.6	43.1
Household characteristics										
Household wealth	***	***	*		***		***	*	†	***
Poorest 40 percent	79.6	51.8	21.5	17.2	46.9	25.3	24.4	36.8	46.8	42.6
Middle 40 percent	76.4	59.4	15.8	20.5	43.9	27.5	20.1	31.6	52.2	36.8
Richest 20 percent	62.5	43.7	8.9	21.7	28.0	21.6	6.7	27.8	59.5	24.6
Place of residence		**		†	***		**		**	**
Urban	71.3	56.4	18.0	23.1	29.8	24.8	13.1	29.1	60.0	31.4
Rural	76.0	49.2	15.1	17.1	44.7	25.9	22.4	33.8	47.2	39.5
Nuclear household status	***			†			*	***	†	
Nonnuclear	68.8	50.6	16.6	15.4	38.5	25.2	11.8	19.2	56.8	36.0
Nuclear	78.2	54.4	17.1	21.8	42.3	25.9	21.0	34.8	49.0	37.1

(continued)

Table 3.1 Continued

	Bangladesh	Bolivia	Dominican Republic	Haiti	Kenya	Malawi	Moldova	Rwanda	Zambia	Zimbabwe
Husband's/partner's characteristics										
Current age				†		*				†
15-24	59.6	51.9	19.2	38.0	44.3	24.1	14.7	25.8	35.0	30.5
25-34	76.0	50.2	19.6	21.7	39.8	29.8	15.6	32.2	52.3	39.5
35-44	75.0	56.1	13.7	17.5	39.4	22.3	21.7	33.8	56.2	32.6
45 years and over	74.5	58.9	18.1	16.0	49.8	19.7	19.9	37.1	46.0	39.4
Years of schooling (mean)	***	**	***		***		***	***	*	***
Partner never experienced violence	6.0	8.9	8.4	4.6	8.7	5.2	11.6	4.5	7.2	8.9
Partner ever experienced violence	3.8	8.2	6.7	4.6	7.1	4.9	10.6	3.8	7.9	8.2
Occupation					***			†	*	***
Not working	69.1	49.2	29.1	20.3	41.6	15.2	22.9	35.1	59.6	32.6
Agricultural occupation	74.0	50.2	19.8	17.1	50.5	25.8	24.3	34.5	46.4	45.8
Nonagricultural occupation	75.6	55.4	16.3	21.6	34.7	27.6	16.0	27.5	58.3	32.3
Age at first marriage		*	*		***					†
Under 20 years	78.2	58.2	23.6	26.1	58.0	28.8	24.5	37.1	54.9	42.6
20 years and over	74.0	51.9	14.6	18.2	39.5	24.7	18.2	32.6	51.2	35.6
Attitudes towards wife beating	***	*			†	***	**	**		***
No/don't know to all items	63.0	51.0	16.1	na	36.9	23.8	16.6	31.0	49.3	33.0
Yes to one or more items	84.8	57.9	29.4	na	44.8	42.4	27.6	40.8	53.3	45.9
Differences within couples										
Age difference									†	
Partner 10+ years older	74.0	51.4	17.0	18.0	43.1	21.6	8.8	31.2	47.2	35.0
Partner 5-9 years older	77.0	57.5	15.1	17.5	44.0	25.0	19.6	33.2	48.7	36.6
Other	72.0	52.9	18.0	21.0	37.8	28.2	19.2	33.8	57.5	37.4
Difference in education between partners				†		*				
Both have same level	74.6	53.4	19.0	19.6	44.3	28.4	20.3	33.8	52.7	35.3
Woman has less education than husband/partner	76.8	52.8	10.7	22.5	37.3	21.2	10.8	29.7	52.4	38.7
Husband/partner has less education than wife	71.6	59.3	19.2	10.3	37.5	26.4	10.6	36.4	44.8	40.3
Decisionmaking										
Final say on own health care	*	*		***				†		
Woman alone	79.6	57.7	na	32.3	37.4	31.5	20.8	33.3	49.9	36.8
Woman and husband/partner/ someone else	70.4	49.7	na	15.7	39.4	19.3	16.7	30.0	46.7	35.3
Husband/partner alone/someone else alone	76.1	50.3	na	16.4	45.9	25.6	20.6	36.2	54.2	42.0
Final say on making large household purchases	*	**		***	**					**
Woman alone	80.2	67.1	na	34.9	60.7	23.1	23.9	38.6	57.9	44.2
Woman and husband/partner/ someone else	72.3	51.8	na	14.8	32.9	21.9	17.9	31.1	51.2	33.7
Husband/partner alone/someone else alone	77.2	55.2	na	16.6	43.0	26.5	23.1	33.9	51.1	44.1

(continued)

Table 3.1 Continued

	Bangladesh	Bolivia	Dominican Republic	Haiti	Kenya	Malawi	Moldova	Rwanda	Zambia	Zimbabwe
Community Characteristics										
Education										
Women's average number of years of education	***		*		†		**	*	**	***
Never experienced violence	3.8	7.2	8.2	4.4	7.0	4.5	11.3	3.6	5.5	7.9
Ever experienced violence	3.2	7.4	7.5	4.3	6.6	4.5	11.0	3.5	6.0	7.5
Men's average number of years of education	***		**		**		**		†	***
Never experienced violence	5.5	8.3	8.0	5.1	7.8	5.4	11.0	4.0	6.9	8.6
Ever experienced violence	4.6	8.5	7.0	5.2	7.2	5.3	10.7	3.9	7.3	8.2
Attitudes towards wife beating										
Proportion of women who say yes to 1+ item			*		***	†	*			***
Never experienced violence	na	23.4	9.3	33.9	68.9	29.6	21.0	49.9	87.2	47.5
Ever experienced violence	na	22.9	11.8	33.6	74.4	31.9	24.5	51.9	87.6	54.9
Proportion of men who say yes to 1+ item	***				*	***		*		***
Never experienced violence	49.5	39.8	9.3	na	68.9	14.5	24.0	30.6	69.3	37.3
Ever experienced violence	58.5	39.2	7.6	na	72.8	20.7	29.0	33.0	71.2	42.8
Women's exposure to violence during childhood										
Father ever beat mother			***	***		***	***	***		***
No/don't know	na	na	14.6	17.1	na	21.2	14.6	29.2	na	32.0
Yes	na	na	33.3	38.0	na	37.8	26.9	40.7	na	45.1
Husband's/partner's alcohol consumption										
Partner drinks alcohol			**	***	***	***	***	***		
No	na	na	9.7	14.4	32.0	21.4	8.5	23.8	na	na
Yes	na	na	20.3	38.4	59.2	33.9	21.7	37.2	na	na
Frequency of partner getting drunk			***	***	***	***	***	***		
Does not drink	na	na	9.7	14.4	32.0	21.4	8.5	23.8	na	na
Never	na	na	12.1	36.4	61.0	18.6	7.7	20.1	na	na
Sometimes	na	na	18.4	35.8	52.3	28.5	20.2	34.2	na	na
Often	na	na	55.7	46.5	77.2	50.7	59.4	68.6	na	na
Family/friends think you drink too much/problem at work due to drinking		***								
No/don't drink	na	49.5	na	na	na	na	na	na	na	na
Yes	na	62.9	na	na	na	na	na	na	na	na
Partner drank alcohol in past 3 months									***	
No/doesn't drink	na	na	na	na	na	na	na	na	43.7	na
Yes	na	na	na	na	na	na	na	na	59.0	na
Partner got drunk in the past 3 months									***	
Did not drink/get drunk in past 3 months/ doesn't drink	na	na	na	na	na	na	na	na	45.0	na
Yes	na	na	na	na	na	na	na	na	61.2	na
Number of couples (unweighted)	2,393	2,441	853	1,108	1,040	1,475	712	1,718	757	1,879

na = not available; item not measured
† p<0.10, * p<0.05, ** p<0.01, *** p<0.001

3.3.2 Household Characteristics

The household characteristics that were examined include the wealth status of the household, urban versus rural place of residence, and nuclear household status.

The wealth status of the household was determined using a wealth index constructed separately for each country. Specifically, the wealth index was constructed using household asset data, including ownership of a number of consumer items ranging from a television to a bicycle or car, as well as dwelling characteristics such as source of drinking water, sanitation facilities, and type of flooring material. Each asset was assigned a weight generated through principal components analysis. The resulting asset scores were standardized in relation to a normal distribution with a mean of zero and a standard deviation of one (Gwatkin et al., 2000). Each household was then assigned a score for each asset, and the scores were summed for each household. Individuals were ranked according to the score of the household in which they were interviewed. Within each country the sample was then divided into quintiles from one (lowest) to five (highest). This wealth index is consistent with expenditure and income measures and has been validated in a large number of countries (Rutstein et al., 2000; Rutstein and Johnson, 2004).

Nuclear household status was defined using information collected in the household survey about the usual residency status of household members and their relationship to the household head. A nuclear household is one in which the relationships of all usual members to the household head are spouse, children (biological, adopted, fostered), or unrelated. A nuclear household by this definition could be (1) a single person, (2) a single person living with unrelated individuals, (3) a couple with or without unrelated individuals, (4) a couple with children, with or without unrelated individuals, or (5) a single person with children with or without unrelated individuals.

The results of the analysis indicate that in 8 of the 10 countries, household wealth was associated with women's experience of physical or sexual violence. In Bangladesh, the Dominican Republic, Kenya, Moldova, Rwanda, and Zimbabwe, women from the poorest 40 percent of households were most likely to experience violence by their husbands/partners, whereas women in the richest 20 percent of households were least likely. In Bolivia, however, women in the middle wealth group were more likely to experience violence than women in the poorest 40 percent; nonetheless, as in most other countries, women in the richest 20 percent of households were least likely to experience IPV. In contrast to the other countries, in Zambia, women in the richest 20 percent of households were most likely to experience IPV, while women in the poorest 40 percent of households were least likely to do so.

In a few countries place of residence was associated with the likelihood of reporting violence, although the direction of this association varied by setting. In Bolivia, Haiti, and Zambia, women living in urban areas were more likely to report partner violence than women living in rural areas. In Kenya, Moldova, and Zimbabwe, the reverse was true.

Finally, household composition was associated with women's risk of violence in five countries. In Bangladesh, Haiti, Moldova, and Rwanda, women living in nuclear households were more likely to have experienced partner violence than women living in nonnuclear households. In Zambia, the association was marginally significant and the direction of the association was

reversed: women living in nonnuclear households had a higher risk of violence than those living in nuclear households.

3.3.3 Husband's/Partner's Characteristics

The characteristics of husbands/partners that were considered parallel those considered for women and include age (15-24, 25-34, 35-44, 45 years and over), education (years of schooling), current occupation or occupation in the past 12 months if they were not currently working (not working in the past 12 months, working in an agricultural occupation, working in a nonagricultural occupation), age at first marriage (under 20 years vs. 20 years and over), and attitudes towards wife beating (agrees that wife beating is justified in at least one specified situation vs. disagrees with all specified situations).

In Haiti, Malawi, and Zimbabwe, husbands'/partners' age is associated with women's risk of violence. The relationship varies by country, however. In Haiti, the percentage of women who have experienced violence declines with the current age of husbands/partners. In Malawi, women whose husbands/partners were in the oldest age group (i.e., 45 years and over) were the least likely to have experienced violence. It was women whose husbands/partners were age 25-34 who were most likely to have experienced violence. Finally, in Zimbabwe, women with husbands/partners in the age groups 15-24 and 35-44 were least likely to experience violence and those whose partners were either 25-34 or 45 or older were most likely to do so.

In most countries, husbands'/partners' education is associated with women's experience of physical or sexual violence, and the direction of this association is consistent for all but one of these countries. In Bangladesh, Bolivia, the Dominican Republic, Kenya, Moldova, Rwanda, and Zimbabwe, the husband's/partner's years of education were lower on average for women reporting violence than for women not reporting violence. In Zambia, however, women who reported violence had more educated husbands/partners on average than those who did not report violence. This contrasts with the earlier finding that women's experience of violence in Zambia did not vary by their own level of education.

In four countries men's occupational status was either significantly or marginally associated with women's risk of violence, although the nature of this relationship varies by setting. In Kenya and Zimbabwe, women with husbands/partners in agricultural occupations were more likely to experience violence than women with husbands/partners in nonagricultural occupations or husbands/partners who were not working. In Zambia, women living with men in agricultural occupations were less likely to experience violence than those living with men in nonagricultural occupations or not employed. In Rwanda, women living with men who were either not working or were working in agricultural occupations were more likely to experience violence than women living with men in nonagricultural occupations. The small sample size for men who were not working in many of the countries studied may have limited the power to detect significant differences between this group and those in the two groups of working men.

In four countries husbands'/partners' age at first marriage is associated with women's experience of violence. In Bolivia, the Dominican Republic, Kenya, and Zimbabwe, women living with men who married at a younger age (i.e., under 20 years) were more likely to report partner violence than women living with men who married for the first time at age 20 or older. The majority of

men in these countries also report having been in only one union, although the proportions are smaller than those observed for women. Among men who first married when they were younger than 20 years, the proportion reporting only one union is 74 percent in Bolivia, 59 percent in Kenya, and 64 percent in Zimbabwe. In the Dominican Republic, however, only 45 percent of men who married when they were less than age 20 reported just one union. Notably, in all four of these countries, women's age at first marriage was also similarly related to experience of IPV.

Finally, husbands'/partners' attitudes towards wife beating are associated with women's risk of violence in several of the countries. In Bangladesh, Bolivia, Kenya, Malawi, Moldova, Rwanda, and Zimbabwe, women with husbands/partners who agreed that wife beating is justified in at least one circumstance were more likely to experience violence than women living with husbands/partners who do not agree with any of the circumstances. Notably, Rwanda is the only country where women's experience of violence varies with their husbands'/partners' attitudes towards wife beating but not their own attitudes and in the Dominican Republic and Zambia, the reverse is true. In the Dominican Republic, however, although the magnitude of the association between men's attitudes towards wife beating and violence appears to be quite large (16 percent vs. 29 percent), the small number of men who actually endorsed any of the rationales for wife beating likely resulted in low power to detect a statistically significant association ($p < 0.12$).

3.3.4 Differences within Couples

This section explores the relationship between women's exposure to physical or sexual violence and three measures of women's relative status within the relationship. We considered the age difference between the partners (husband/partner 10+ years older, husband/partner 5-9 years older, other), education difference (both have the same level, wife has less education, husband/partner has less education), and who has the final say in making decisions about women's health care and about large household purchases as reported by women.

In Zambia, there was a lower risk of violence for women whose husbands/partners are at least five years older than them than for women who are closer in age to their partners or who are older than their husbands/partners ($p < 0.10$). In no other country did women's experience of IPV vary significantly with the age difference between couples.

To examine differences in education between the partners, the highest levels of education attained (i.e., no schooling, primary, secondary, or higher) by husband and wife were compared, and three subgroups were identified according to whether the woman had more education, the same level of education, or less education than her husband/partner. In Haiti and Malawi, this variable was significantly associated with women's risk of violence, but in opposite directions. Women in Malawi with less education than their husbands/partners were less likely to report physical or sexual violence than those with the same level of education as their husbands/partners and those with more education than their husbands/partners. In contrast, in Haiti, women who had more education than their husbands/partners were least likely to report experiencing violence ($p < 0.10$).

This analysis considers two key domains for decisionmaking that were asked about in nearly all the surveys—decisions about women's own health care and decisions about making large household purchases. In all surveys these items were reported by women. In Bangladesh, Bolivia, Haiti, and Rwanda, joint decisionmaking (respondent jointly with husband/partner or

with someone else) is generally associated with a lower likelihood of reporting spousal violence. That is, women in households where decisions about their own health care are made jointly are least likely to experience physical or sexual violence. A similar pattern holds for decisions about large household purchases: joint decisionmaking is associated with lower reports of violence in Bangladesh, Bolivia, Haiti, Kenya, and Zimbabwe. In most countries, women who make either of the two decisions on their own report higher rates of violence.

3.3.5 Community Factors

The analysis of the relationship between IPV and the average level of women's education in the community shows that in Bangladesh, the Dominican Republic, Kenya, Moldova, Rwanda, and Zimbabwe the association is negative: women not reporting IPV live in communities where the average educational attainment is higher than women reporting IPV. Similarly, with the exception of Rwanda, women in these same countries not reporting IPV live in communities where men have more education than women reporting IPV. The only exception is Zambia, where the association of IPV with the average number of years of education of both women and men is positive: women reporting IPV lived in communities with higher educational attainment for women and men.

Attitudes in the community of both women and men towards wife beating are associated with IPV in several countries. In Kenya, Malawi, and Zimbabwe those reporting IPV live in communities where proportionally more women and men agree with one or more justifications for wife beating. In the Dominican Republic and Moldova, this association is significant only for the average level of women's agreement with wife beating and in Rwanda it is significant only for the average level of men's agreement with wife beating in the community. In Bangladesh, where information on women's attitudes was not available, women who experience IPV are more likely to live in communities where a greater proportion of men agree with wife beating.

3.3.6 Exposure to Violence during Childhood and Alcohol Consumption

The relationship between women's experience of intimate partner violence and exposure to violence during childhood (Figure 3.1) was analyzed, as was husband's/partner's alcohol use (Figure 3.2). The data for these figures are provided in Table 3.1.

Women in the Dominican Republic, Haiti, Moldova, Malawi, Rwanda, and Zimbabwe were asked if they recalled whether their fathers ever beat their mothers. In all six countries in which this question was asked, there was a statistically significant association between women's reports of physical or sexual violence by their husbands/partners and exposure to parental violence. That is, women reporting parental violence were significantly more likely to report violence by their husbands/partners than women not reporting such violence. In the Dominican Republic, Haiti, Moldova, and Malawi, the rates of intimate partner violence are approximately twice as high among women who reported that their fathers beat their mothers as among women who did not.

Husband's/partner's alcohol use also was strongly associated with women's reports of physical or sexual violence in all eight countries for which information on this variable was available. In all eight countries, women were significantly more likely to experience partner violence if their husbands/partners often got drunk than if they did not drink alcohol at all or never got drunk. In

Figure 3.1 Percentage of Currently Married/Cohabiting Women Age 20-44 in the Couples Subsample Who Have Experienced Physical or Sexual IPV by Whether Their Father Beat Their Mother

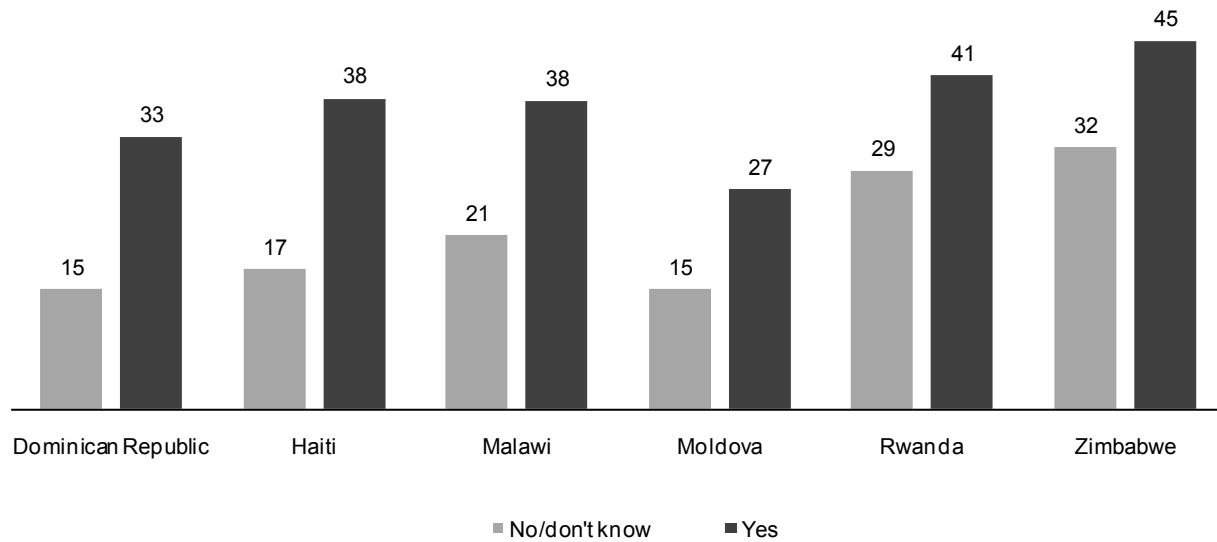
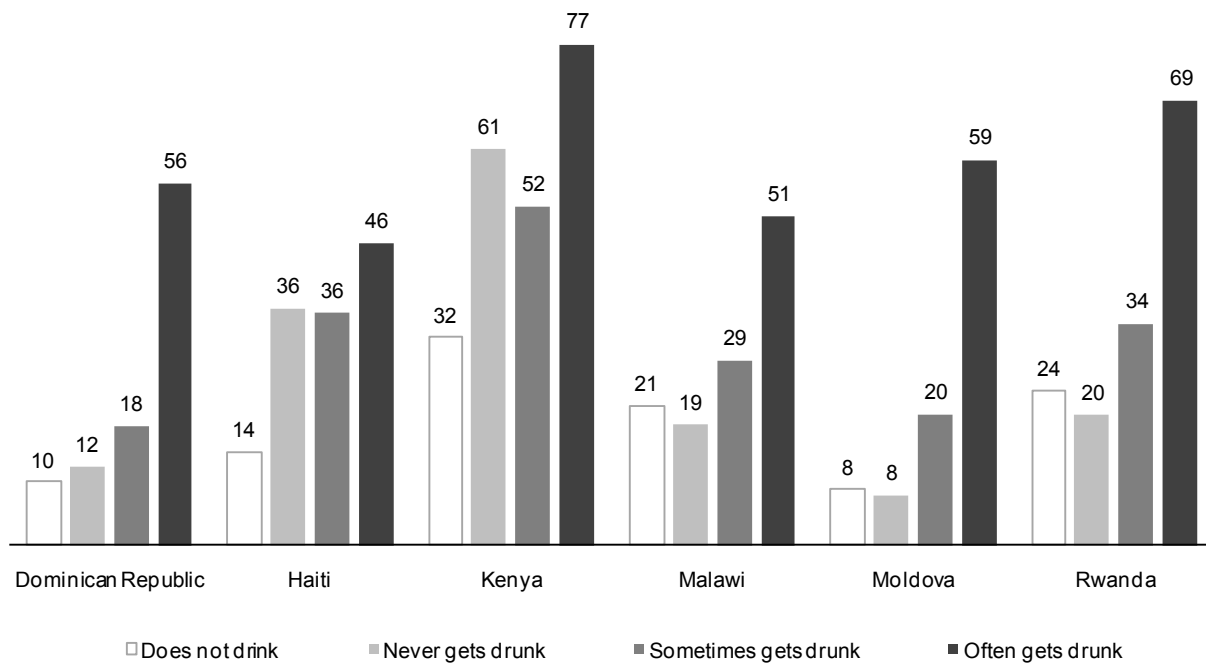


Figure 3.2 Percentage of Currently Married/Cohabiting Women Age 20-44 Who Have Experienced Physical or Sexual IPV by Frequency of Husband/Partner Getting Drunk



the Dominican Republic, 10 percent of women whose husbands/partners did not drink alcohol reported violence, compared with 56 percent for women whose husbands/partners got drunk often. In Kenya, where prevalence of violence is higher, 32 percent of women whose husbands/partners did not drink experienced violence, compared with 77 percent of women whose husbands/partners got drunk often. In Moldova, the rates of violence are lower for both groups of women, although the differential remains large—9 percent for women whose partners did not drink and 59 percent for women whose partners got drunk often. Similarly large differentials were also observed in Haiti, Malawi, and Rwanda.

In Bolivia and Zambia, different questions were asked about partners' alcohol use. In Bolivia, men were asked whether their family or friends thought that they drank too much or whether they had a problem at work due to drinking. Among women whose husbands/partners indicated at least one of these problems, 63 percent reported experiencing violence, compared with 50 percent of women whose husbands/partners did not report either of these problems. In Zambia, men were asked about the number of days they had drunk alcohol and how often they had gotten drunk in the past three months. Women whose husbands/partners drank alcohol in the past three months were significantly more likely to experience physical or sexual violence.

3.4 Multivariate Analysis

Multivariable logistic regression was used to assess the adjusted relationship between women's characteristics, household characteristics, partner characteristics, couple differences, and community-level factors and women's experience of physical or sexual violence in their current relationships. We used a block modeling approach, whereby each set of covariates was entered in stages, beginning with the characteristics of women and their households. This approach allows examination of the extent of confounding between the blocks of factors by observing the manner in which each subsequent set of factors affects the relationship between the variables entered in earlier blocks and women's risk of violence. The data presented for this analysis are odds ratios and their respective p-values. As with the discussion of the bivariate results, both marginally significant ($p < 0.10$) and statistically significant ($p < 0.05$) results are discussed.

3.4.1 Woman's and Household Characteristics

Beginning with Table 3.2, we examine the associations between physical or sexual violence within the current partnerships and women's individual and household characteristics. Compared with women in the oldest age group (40-44 years), women in the youngest age group (20-24) were less likely to report experiencing violence in Bolivia (OR=0.67), Moldova (OR=0.52), and Rwanda (OR=0.47). In Bangladesh and Malawi, women in the middle age group (25-34) were more likely to experience violence than women in the oldest age group. In Haiti, women in the oldest age group were the least likely to experience violence.

Although the bivariate results show significant variations in IPV by women's education in seven countries, after multivariable adjustment, the association is significant in only four countries. Women who have more years of schooling were less likely to experience violence in Bangladesh (OR=0.91), Bolivia (OR=0.97), Kenya (OR=0.94), and Zimbabwe (OR=0.93), after controlling for the other variables shown in the table.

Women's occupation is inconsistently associated with their experience of IPV. In Bangladesh, compared with women who work in a nonagricultural occupation, women working in agriculture were half as likely to experience violence, and women who were not working also experienced less violence (OR=0.72). In contrast, in Malawi, women who worked in an agricultural occupation were at a higher risk of experiencing violence (OR=1.58) than women who worked in a nonagricultural occupation. In Bolivia, the Dominican Republic, and Zimbabwe, women who were not working at all had a lower risk of experiencing violence than women working in nonagricultural occupations.

Union status is independently associated with partner violence only in Rwanda and Zimbabwe, where living in a cohabiting union rather than in marriage is associated with a greater likelihood of experiencing violence. In Zimbabwe, cohabiting women were nearly two and a half times more likely (OR=2.49) to report violence than were married women.

In six of the countries studied, first marriage below the age of 20 was associated with higher odds of experiencing physical or sexual violence—perhaps reflecting the vulnerability of younger women at the start of marriage—in Bangladesh (OR=2.21), Bolivia (OR=1.18), the Dominican Republic (OR=2.44), Kenya (OR=2.24), Rwanda (OR=1.56), and Zimbabwe (OR=1.66).

Women's attitudes reflecting acceptance of men's right to beat their wives were positively associated with experiencing physical or sexual violence in six of the countries studied. In Bolivia, the Dominican Republic, Haiti, Malawi, Zambia, and Zimbabwe, women who agreed that wife beating is justified in at least one situation were more likely to experience physical or sexual violence than those who did not agree with a single item.

After multivariable adjustment, household characteristics are less consistently associated with experiencing physical or sexual violence. For example, household wealth status which was significantly associated with IPV in 8 of the 10 countries in the bivariate analysis is, after controlling for women's characteristics, significant in only four countries. In Bangladesh, women from the middle levels of wealth were more likely to experience violence than women in the richest households. In Bolivia, compared with women in the wealthiest 20 percent of households, women in the poorest 40 percent of households as well as in the middle 40 percent of households were more likely to experience violence. A similar pattern is observed in Moldova and Zimbabwe. It is noteworthy that in Moldova, the odds of experiencing violence in the poorest and middle wealth households were over three times higher than in the wealthiest households.

Bolivia and the Dominican Republic were the only countries where place of residence was independently associated with women's risk of violence. Compared with women living in rural areas, those living in urban areas were 1.84 times more likely to experience violence in Bolivia and 1.57 times more likely to experience violence in the Dominican Republic. Finally, women living in nuclear households in Haiti, Moldova, and Rwanda were more likely to report experiencing physical or sexual violence than women living in nonnuclear households.

Table 3.2 Multivariate logistic regression of woman's and household characteristics on currently married/cohabiting women's experience of physical or sexual violence in their current partnership, couple subsample: Adjusted odds ratios

	Bangladesh	Bolivia	Dominican Republic	Haiti	Kenya	Malawi	Moldova	Rwanda	Zambia	Zimbabwe
Woman's characteristics										
Age										
20-24	1.12	0.67 *	0.68	1.62 †	0.76	1.25	0.52 †	0.47 ***	1.01	1.06
25-34	1.38 *	0.87	1.36	1.50 †	0.98	1.40 †	0.74	0.79	1.33	1.15
35-44 (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Education										
Years of schooling	0.91 ***	0.97 *	1.01	0.96	0.94 *	1.00	0.98	1.00	1.00	0.93 **
Occupation										
Not working	0.72 †	0.71 **	0.59 *	1.10	0.82	0.97	1.43	1.06	1.30	0.62 **
Agricultural occupation	0.48 **	1.18	0.40	0.84	1.29	1.58 *	1.70	1.02	1.08	1.11
Non-agricultural occupation (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Union status										
Married (ref.)	--	1.00	1.00	--	1.00	1.00	1.00	1.00	--	1.00
Living together	--	1.18	1.44	--	1.42	1.05	0.94	1.34 *	--	2.49 *
Age at first marriage										
Under 20 years	2.21 **	1.18 †	2.44 **	1.05	2.24 ***	1.10	1.15	1.56 ***	0.98	1.66 **
20 years and over (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Attitudes towards wife beating										
No/don't know to all items (ref.)	na	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Yes to one or more items	na	1.27 †	2.13 *	1.55 †	1.02	1.70 ***	1.51	1.07	1.90 *	1.39 **
Household characteristics										
Household wealth										
Poorest 40%	1.36	1.53 *	2.28	0.72	1.05	1.04	3.11 *	1.24	0.93	1.91 *
Middle 40%	1.40 †	1.76 **	1.08	0.77	1.17	1.16	3.28 **	1.06	0.92	1.70 *
Richest 20% (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Place of residence										
Urban	1.09	1.84 ***	1.57 †	1.57	0.83	1.14	1.19	0.98	1.52	1.22
Rural (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Nuclear household status										
Nonnuclear (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Nuclear	1.25	1.05	0.93	1.78 *	1.01	0.99	1.81 †	1.96 **	0.77	0.93
Number of couples (unweighted)	2,390	2,418	840	1,098	1,014	1,446	692	1,698	749	1,807

Note: Analysis is based on the couples subsample.

-- number of cases in one of the two categories too few for the variable to be included in the model

na = not available; item not measured

† p<.10, * p<.05, ** p<.01, *** p<.001

3.4.2 Woman's, Household, and Husband's/Partner's Characteristics

With the addition of partner's characteristics (Table 3.3), there is some attenuation of the effects for the woman's and household characteristics. For example, after adding the characteristics of the husband/partner, woman's age is no longer a significant predictor of violence in any of the countries it was significant for in the first model, except Rwanda. It is now marginally significant, at $p < 0.1$, for Kenya, however. Also, the number of years of schooling for women remains significant for Bangladesh and Zimbabwe but loses significance for Bolivia and Kenya once men's characteristics are considered.

In Haiti, there is an elevated risk of violence for women married to or cohabiting with men in the youngest age group (15-24) relative to women married to or cohabiting with men in the oldest age group (45 years and over). In the Dominican Republic and Moldova, men's education is inversely related to women's experience of physical or sexual violence after controlling for women's education (which is not itself related to women's experience of violence in these countries).

Men's occupational status is associated with women's risk of violence in Bangladesh, Kenya, Malawi, and Zimbabwe. Specifically, in Bangladesh, women with husbands/partners who were working in agriculture were less likely to experience violence than women with husbands/partners in nonagricultural occupations, after adjusting for women's occupation. In Malawi, not working or working in agriculture is protective. In Kenya and Zimbabwe, husbands'/partners' working in agriculture is related to more violence than their working in nonagricultural jobs. Of particular note is the finding for Malawi that women's own employment in agriculture is a risk factor for experiencing violence, but having a husband/partner who is employed in agriculture is protective against violence. Men's age at first marriage does not affect women's likelihood of experiencing IPV, although women's own early age at first marriage remains a risk factor

In Bangladesh, Bolivia, Malawi, Rwanda, and Zimbabwe, men's attitudes about spousal violence are associated with the likelihood that their wives experience violence. If men agreed that wife beating was justified in one or more circumstances, women were more likely to experience physical or sexual violence than if men did not agree that wife beating was justified in any circumstance. It is interesting to note that there is very little change in the associations between women's attitudes about spousal violence and their risk of violence after including men's attitudes in the model. This finding suggests that women's and men's attitudes operate independently related to women's risk of violence. In particular, in Bolivia, Malawi, and Zimbabwe, acceptance of wife beating by both men and by women independently increases the risk of women experiencing violence. In Rwanda, only men's attitudes affect women's risk of violence, whereas, in the Dominican Republic and Zambia, only women's own attitudes affect their risk. Notably, in Zambia, none of the husband/partner characteristics are significantly associated with women's experience of physical or sexual violence in their current relationship.

Table 3.3 Multivariate logistic regression of woman's, household, and husband's/partner's characteristics on currently married/cohabiting women's experience of physical or sexual violence in their current partnership, couple subsample: Adjusted odds ratios

	Bangladesh	Bolivia	Dominican Republic	Haiti	Kenya	Malawi	Moldova	Rwanda	Zambia	Zimbabwe
Woman's characteristics										
Age										
20-24	0.79	0.73	0.64	1.17	0.57 †	0.90	0.65	0.49 ***	0.96	0.93
25-34	1.24	1.00	1.31	1.32	0.89	1.12	0.82	0.78	1.14	1.03
35-44 (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Education										
Years of schooling	0.93 **	0.99	1.05	0.97	0.97	0.99	1.02	1.01	0.99	0.93 *
Occupation										
Not working	0.80	0.73 **	0.57 *	1.11	0.86	1.06	1.42	1.04	1.36	0.62 **
Agricultural occupation	0.48 **	1.24	0.43	0.89	1.25	1.67 *	1.67	1.00	1.17	1.03
Nonagricultural occupation (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Union status										
Married (ref.)	--	1.00	1.00	--	1.00	1.00	1.00	1.00	--	1.00
Living together	--	1.14	1.26	--	1.45	1.02	1.07	1.31 *	--	2.60 *
Age at first marriage										
Under 20 years	2.22 **	1.11	2.15 *	1.00	2.22 ***	1.11	1.13	1.53 **	0.98	1.65 **
20 years and over (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Attitudes towards wife beating										
No/don't know to all items (ref.)	na	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Yes to one or more items	na	1.26 †	1.97 *	1.49	0.95	1.71 **	1.44	1.06	1.75 *	1.37 **
Household characteristics										
Household wealth										
Poorest 40%	1.35	1.43	1.99	0.71	0.90	1.15	2.81 *	1.11	1.15	1.74 †
Middle 40%	1.36 †	1.66 **	1.04	0.71	1.08	1.32	3.02 **	0.97	1.05	1.64 †
Richest 20% (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Place of residence										
Urban	0.98	1.72 **	1.59 †	1.51	0.89	1.00	1.24	1.01	1.42	1.32
Rural (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Nuclear household status										
Nonnuclear (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Nuclear	1.27 †	1.07	0.98	1.89 *	0.99	0.97	1.80 †	1.86 *	0.78	0.94

(continued)

Table 3.3 Continued

	Bangladesh	Bolivia	Dominican Republic	Haiti	Kenya	Malawi	Moldova	Rwanda	Zambia	Zimbabwe
Husband's/partner's characteristics										
Age										
15-24	0.72	0.89	0.96	2.72 †	1.49	1.07	0.75	0.83	0.81	0.66
25-34	1.43	0.74	0.93	1.26	1.20	1.48	1.01	1.05	1.37	1.07
35-44	1.05	0.89	0.75	0.97	0.89	1.01	1.25	0.97	1.55	0.83
45 years and over (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Education										
Years of schooling	0.98	0.97	0.92 *	0.98	0.96	0.98	0.89 *	0.98	1.04	1.01
Occupation										
Not working	1.22	0.97	2.53	1.00	0.86	0.51 †	0.90	1.12	1.48	0.91
Agricultural occupation	0.62 **	0.83	0.94	0.80	1.38 †	0.68 *	0.93	1.08	0.80	1.30 †
Nonagricultural occupation (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Age at first marriage										
Under 20 years	1.08	1.21	1.23	1.41	1.34	1.16	1.08	1.09	1.18	1.05
20 years and over (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Attitudes towards wife beating										
No/don't know to all items (ref.)	1.00	1.00	1.00	na	1.00	1.00	1.00	1.00	1.00	1.00
Yes to one or more items	2.87 ***	1.24 †	1.74	na	1.03	2.14 ***	1.43	1.37 *	1.24	1.40 **
Number of couples (unweighted)	2,390	2,418	840	1,098	1,014	1,446	692	1,698	749	1,807

Note: Analysis is based on the couples subsample.

na = not available; item not measured

-- number of cases in one of the two categories too few for the variable to be included in the model

† p<.10, * p<.05, ** p<.01, *** p<.001

3.4.3 Woman's, Household, and Husband's/Partner's Characteristics and Couple Differences

Relatively few changes occur to the variables in the first two blocks when couple differences are added to the model, although there are a few notable exceptions (Table 3.4). For example, in Bangladesh, women's education is no longer a significant predictor of violence, whereas in Bolivia, it is significant (even if marginally) again. In Haiti, the effect of women's education becomes marginally significant, but the direction of relationship is positive and acceptance of violence by women is revealed as a marginally significant and positive risk factor for IPV. Women with more education have higher odds of experiencing violence. In Zimbabwe, only women in the middle wealth group have a higher risk of IPV whereas women in the poorest households no longer differ from women in the richest in terms of their risk of violence. In Moldova, nuclear household status now emerges as a significant predictor of partner violence, whereas it was only marginally significant in the previous models.

More changes occur with husband's/partner's education. In the Dominican Republic and Moldova, partner's years of schooling is no longer statistically significant. In Haiti, however, partner education emerges as statistically significant, indicating a higher risk of violence for women whose husbands/partners have fewer years of schooling. Also in Bolivia, having a partner who was married before age 20 emerges as a risk factor; whereas, in Zambia, having a very young partner (15-24 years of age) reduces the risk of violence ($p < 0.10$).

The age difference within the couple was significant only in Moldova and Zambia. In Moldova, women with husbands/partners at least 10 years older had lower odds of reporting physical or sexual violence, after controlling for the ages of both partners. In Zambia, women with husbands/partners at least five years older had lower odds. In Haiti, after controlling for years of schooling for both members of the couple, women with less education than their husbands/partners were at an increased risk of experiencing violence (OR=2.27), while women with more education than their partner were at a decreased risk (OR=0.30). In Malawi, women with less education than their partners were at a decreased risk of experiencing violence (OR=0.64).

Decisionmaking is related to women's experience of physical or sexual violence only in some countries. Compared with women who make decisions about their own health care on their own, women who make the decisions jointly with their husbands/partners or with someone else were less likely to report experiencing violence in Bolivia (OR=0.75), Haiti (OR=0.53), and Malawi (OR=0.44). In all three countries, women reporting that their partner alone or someone else alone has the final say about the woman's health care also have a lower likelihood of reporting violence than women reporting that they themselves make the decision alone. The patterns are similar for decisionmaking about large household purchases. In Bolivia, Haiti, and Kenya, when decisions are made jointly, women were less likely to report experiencing violence. In addition, in Bolivia, Haiti, and Kenya, when the husband/partner or someone else makes the decision, women were less likely to report violence, after controlling for all of the other factors in the model.

Table 3.4 Multivariate logistic regression of woman's, household, and husband's/partner's characteristics and couple differences on currently married/cohabiting women's experience of physical or sexual violence in their current partnership, couple subsample: Adjusted odds ratios

	Bangladesh	Bolivia	Dominican Republic	Haiti	Kenya	Malawi	Moldova	Rwanda	Zambia	Zimbabwe
Woman's characteristics										
Age of woman										
20-24	0.82	0.79	0.83	1.55	0.54	1.00	1.02	0.58 *	1.51	0.94
25- 34	1.28	1.06	1.49	1.41	0.89	1.22	1.08	0.89	1.51	1.06
35-44 (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Education										
Years of schooling	0.96	0.95 †	1.00	1.12 †	0.99	0.95	1.02	0.98	0.97	0.91 *
Occupation										
Not working	0.80	0.75 *	0.57 *	1.44	0.86	1.00	1.41	1.07	1.32	0.62 **
Agricultural occupation	0.48 **	1.27	0.44	1.02	1.27	1.63 *	1.49	1.03	1.23	1.05
Nonagricultural occupation (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Union status										
Married (ref.)	--	1.00	1.00	--	1.00	1.00	1.00	1.00	--	1.00
Living together	--	1.14	1.25	--	1.38	1.05	1.10	1.32 *	--	2.52 *
Age at first marriage										
Under 20 years	2.17 **	1.08	2.22 *	1.13	2.29 ***	1.09	1.08	1.53 **	1.03	1.69 **
20 years and over (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Attitudes towards wife beating										
No/don't know to all items (ref.)	na	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Yes to one or more items	na	1.28 †	1.91 *	1.55 †	0.91	1.66 **	1.31	1.03	1.72 *	1.36 *
Household characteristics										
Household wealth										
Poorest 40%	1.35	1.52 †	2.09	0.54	0.76	1.07	3.07 *	1.09	1.19	1.64
Middle 40%	1.37 †	1.78 **	1.13	0.64	0.92	1.23	3.23 **	0.94	1.08	1.60 †
Richest 20% (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Place of residence										
Urban	0.99	1.70 **	1.53	1.38	0.87	0.98	1.22	1.04	1.54	1.32
Rural (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Nuclear household status										
Nonnuclear (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Nuclear	1.26 †	1.12	0.95	2.03 **	1.10	0.98	1.88 *	1.96 **	0.80	0.98

(continued)

Table 3.4 Continued

	Bangladesh	Bolivia	Dominican Republic	Haiti	Kenya	Malawi	Moldova	Rwanda	Zambia	Zimbabwe
Husband's/partner's characteristics										
Age of partner										
15-24	0.79	0.81	0.51	2.38	1.80	0.96	0.42	0.59	0.30 †	0.62
25-34	1.41	0.70	0.56	1.17	1.25	1.34	0.66	0.79	0.74	1.04
35-44	1.06	0.84	0.56	1.03	0.89	0.98	1.05	0.84	1.12	0.81
45 years and over (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Education										
Years of schooling	0.97	1.01	0.97	0.86 **	0.95	1.02	0.91	1.00	1.06	1.04
Occupation										
Not working	1.15	0.97	2.49	0.94	0.94	0.53	0.92	1.12	1.46	0.92
Agricultural occupation	0.63 **	0.83	0.94	0.83	1.40 †	0.70 *	0.97	1.10	0.80	1.30 †
Nonagricultural occupation (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Age at first marriage										
Under 20 years	1.09	1.27 †	1.21	1.49	1.39	1.15	1.10	1.08	1.11	1.06
20 years and over (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Attitudes towards wife beating										
No/don't know to all items (ref.)	1.00	1.00	1.00	na	1.00	1.00	1.00	1.00	1.00	1.00
Yes to one or more items	2.86 ***	1.22 †	1.79	na	1.00	2.13 ***	1.44	1.36 *	1.22	1.38 **
Differences within couples										
Age difference										
Partner 10+ years older	1.07	0.79	0.63	0.81	1.07	0.88	0.31 †	0.71	0.50*	0.94
Partner 5-9 years older	1.20	1.22	0.77	0.81	1.34	0.91	0.78	0.85	0.60*	1.01
Other (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Difference in education										
Both have same level of education (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Wife has less education than husband	1.16	0.81	0.53	2.27 *	1.14	0.64 *	0.40	0.75	0.81	0.92
Husband has less education than wife	0.81	1.49	1.30	0.30 *	0.91	0.96	0.58	1.08	1.01	1.43
Decisionmaking										
Final say on own health care										
Respondent alone (ref.)	1.00	1.00	na	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Respondent and husband/partner/ someone else	0.77	0.75 *	na	0.53 †	1.29	0.44 *	0.77	0.90	1.03	1.11
Husband/partner alone/someone else alone	0.90	0.70 *	na	0.49 *	1.32	0.57 *	0.63	1.14	1.18	1.19
Final say on making large household purchases										
Respondent alone (ref.)	1.00	1.00	na	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Respondent and husband/partner/ someone else	0.74	0.57 **	na	0.43 **	0.32 **	1.57	0.75	0.77	0.77	0.75
Husband/partner alone/someone else alone	0.77	0.67 †	na	0.44 *	0.45 *	1.79	0.99	0.73	0.73	1.09
Number of couples (unweighted)	2,390	2,418	840	1,098	1,014	1,446	692	1,698	749	1,807

Note: Analysis is based on the couples subsample.

na = not available; item not measured

-- number of cases in one of the two categories too few for the variable to be included in the model

† p<0.10, * p<0.05, ** p<0.01, *** p<0.001

3.4.4 Woman's, Household, and Husband's/Partner's Characteristics, Couple Differences, and Community Factors

The community variables were rarely statistically significant (Table 3.5). In Bangladesh, women who lived in communities where men had more education were less likely to experience violence, controlling for women's, household, and husbands'/partners' characteristics as well as couple differences. In contrast, in Bolivia and Kenya, women living in communities where women have more education were more likely to report experiencing physical or sexual violence. At the community level, women's attitudes about wife beating were not related to women's risk of violence in any of the countries studied. In Bangladesh and Malawi, however, women were more likely to have experienced physical or sexual violence in communities where men were more likely to agree with at least one rationale for wife beating.

Notably, however, the introduction of the community variables had some significant effects on some of the variables in the earlier blocks of variables. For one, controlling for community-level factors increases the significance of the effect of women's education on their risk of experiencing violence in Bolivia and Haiti, where the effect was only marginally significant in the earlier models. In the Dominican Republic and Haiti, the risk of violence which did not vary in earlier models by residence, is higher for women in urban areas. Finally, in Bangladesh, the risk of violence no longer varies significantly by wealth but husband's education emerges as a marginally significant protective factor.

Table 3.5 Multivariate logistic regression of woman's, household, and husband's/partner's characteristics, couple differences, and community variables on currently married/cohabiting women's experience of physical or sexual violence in their current partnership, couple subsample: Adjusted odds ratios

	Bangladesh	Bolivia	Dominican Republic	Haiti	Kenya	Malawi	Moldova	Rwanda	Zambia	Zimbabwe
Woman's characteristics										
Age										
20-24	0.78	0.80	0.74	1.45	0.58	1.01	1.04	0.58 *	1.52	0.95
25-34	1.28	1.07	1.37	1.40	0.98	1.21	1.09	0.89	1.49	1.07
35-44 (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Education										
Years of schooling	0.97	0.95 *	1.01	1.13 *	0.96	0.94	1.02	0.98	0.96	0.91 *
Occupation										
Not working	0.81	0.76 *	0.56 *	1.41	0.86	0.97	1.40	1.06	1.33	0.63 **
Agricultural occupation	0.49 **	1.33	0.40	0.95	1.16	1.63 *	1.52	1.05	1.22	1.06
Nonagricultural occupation (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Union status										
Married (ref.)	--	1.00	1.00	--	1.00	1.00	1.00	1.00	--	1.00
Living together	--	1.10	1.24	--	1.28	0.98	1.05	1.31 *	--	2.54 *
Age at first marriage										
Under 20 years	2.08 **	1.07	2.27 *	1.15	2.19 ***	1.07	1.08	1.51 **	1.02	1.70 **
20 years and over (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Attitudes towards wife beating										
No/don't know to all items (ref.)	na	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Yes to one or more items	na	1.30 *	1.90 *	1.50	0.90	1.57 **	1.26	0.99	1.77 †	1.31 *
Household characteristics										
Household wealth										
Poorest 40%	1.20	1.76 *	1.87	0.43	0.79	1.13	3.22 *	1.07	1.30	1.63
Middle 40%	1.24	1.93 ***	1.06	0.57	0.93	1.31	3.46 **	0.91	1.18	1.60 †
Richest 20% (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Place of residence										
Urban	1.13	1.46 *	1.58 †	1.72 †	0.86	0.95	1.30	1.14	1.44	1.30
Rural (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Nuclear household status										
Nonnuclear (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Nuclear	1.27 †	1.10	0.98	2.00 **	1.09	1.03	1.94 *	1.97 **	0.83	0.99
Husband's/partner's characteristics										
Age										
15-24	0.83	0.84	0.57	2.34	1.78	1.02	0.42	0.59	0.31 †	0.62
25-34	1.45	0.70	0.61	1.14	1.24	1.34	0.65	0.80	0.74	1.04
35-44	1.09	0.85	0.57	1.03	0.87	0.97	1.06	0.84	1.13	0.80
45 years and over (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Education										
Years of schooling	0.96 †	1.00	0.98	0.86 *	0.95	1.01	0.90	1.00	1.06	1.04

(continued)

Table 3.5 Continued

	Bangladesh	Bolivia	Dominican Republic	Haiti	Kenya	Malawi	Moldova	Rwanda	Zambia	Zimbabwe
Occupation										
Not working	1.12	0.95	2.48	0.98	1.04	0.54	0.93	1.12	1.48	0.90
Agricultural occupation	0.63 **	0.86	0.90	0.78	1.39 †	0.67 *	0.95	1.08	0.82	1.31 †
Nonagricultural occupation (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Age at first marriage										
Under 20 years	1.08	1.28 †	1.21	1.47	1.37	1.11	1.09	1.05	1.12	1.09
20 years and over (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Attitudes towards wife beating										
No/don't know to all items (ref.)	1.00	1.00	1.00	na	1.00	1.00	1.00	1.00	1.00	1.00
Yes to one or more items	2.59 ***	1.26 *	1.99	na	1.01	2.04 **	1.39	1.33 *	1.24	1.38 **
Differences within couples										
Age difference										
Husband/partner 10+ years older	1.12	0.78	0.63	0.82	1.08	0.91	0.30 †	0.72	0.51*	0.93
Husband/partner 5-9 years older	1.21	1.22	0.77	0.80	1.33	0.89	0.78	0.87	0.61*	1.01
Other (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Difference in education										
Both have same level of education (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Wife has less education than husband/partner	1.18	0.81	0.53	2.25 *	1.11	0.63 *	0.39	0.75	0.81	0.92
Husband/partner has less education than wife	0.81	1.47	1.23	0.29 *	0.94	0.93	0.56	1.08	1.00	1.43
Decisionmaking										
Final say on own health care										
Respondent alone (ref.)	1.00	1.00	na	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Respondent and husband/partner/ someone else	0.76	0.76 *	na	0.53 †	1.28	0.48 *	0.77	0.90	1.04	1.11
Husband/partner alone/someone else alone	0.90	0.70 *	na	0.46 **	1.33	0.59 *	0.67	1.12	1.19	1.19
Final say on making large household purchases										
Respondent alone (ref.)	1.00	1.00	na	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Respondent and husband/partner/ someone else	0.74	0.59 **	na	0.45 *	0.33 **	1.39	0.79	0.77	0.74	0.75
Husband/partner alone/someone else alone	0.75	0.69 †	na	0.45 *	0.46 *	1.62	1.04	0.73	0.74	1.09
Community factors										
Education										
Women's average number of years of education	1.06	1.07 †	1.00	0.89	1.18 *	1.06	1.11	0.94	1.11	1.10
Men's average number of years of education	0.89 *	1.00	0.96	0.99	0.94	0.96	0.99	1.03	0.95	0.95
Attitudes towards wife beating										
Proportion of women who say yes to 1+ item	na	0.80	1.99	1.10	2.37	0.89	1.89	1.37	0.66	1.39
Proportion of men who say yes to 1+ item	1.86 *	0.91	0.51	na	1.09	3.48 **	1.68	1.09	1.29	1.02
Number of couples (unweighted)	2,390	2,418	840	1,098	1,014	1,446	692	1,698	749	1,807

Note: Analysis is based on the couples subsample.

-- number of cases in one of the two categories too few for the variable to be included in the model

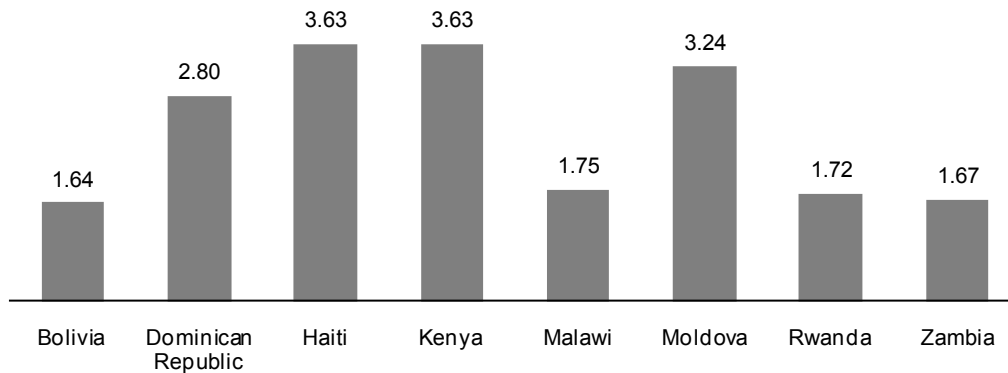
na = not available; item not measured

† p<0.10, * p<0.05, ** p<0.01, *** p<0.001

3.4.5 Adjusted Effects of Alcohol Consumption and Exposure to Parental Violence in Selected Countries

Multivariate association between men’s consumption of any alcohol and women’s reports of physical or sexual violence, adjusted for woman’s characteristics, household characteristics, husband’s/partner’s characteristics, couple differences, and community factors, are shown in Figure 3.3, and the data for the complete regression model are provided in Table 3.6. In the multivariate model men’s alcohol use remained statistically significant for all eight countries in which this variable was measured. The adjusted odds of physical or sexual violence for women reporting husbands’/partners’ alcohol use ranged from 1.64 in Bolivia and 1.67 in Zambia to 3.63 in Haiti and Kenya.

Figure 3.3 Adjusted Odds of Experiencing Physical or Sexual Violence for Currently Married/Cohabiting Women Age 20-44 Whose Husbands/Partners Consume Alcohol Relative to Those Whose Husbands/Partners Do Not Consume Alcohol (Couples Subsample)

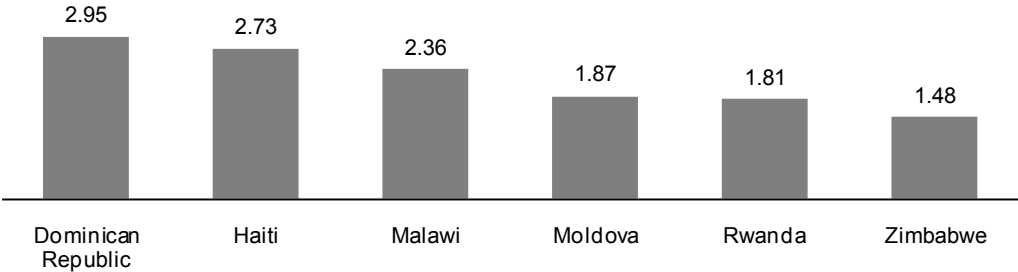


Note: Adjusted for woman's and household characteristics, husband's/partner's characteristics, couple differences, and community factors

Despite the very strong association of IPV with alcohol consumption, the introduction of this variable into the regression does not alter significantly the effects of most other variables. The only notable changes in this model over the previous one are: in Haiti, women who are not working have a significantly higher risk of violence (OR=1.65), compared with women who are in nonagricultural occupations and women in the richest wealth group have the highest risk of violence and in Rwanda, the risk IPV no longer varies significantly by husbands’/partners’ attitudes towards wife beating.

Multivariate analysis of the association between women’s recall of violence between her parents and her personal experience of IPV, adjusted for the same set of variables used for husband/partner alcohol use, are shown in Figure 3.4, and the data for the complete regression model are provided in Table 3.7.

Figure 3.4 Adjusted Odds of Experiencing Physical or Sexual Violence for Currently Married/Cohabiting Women Age 20-44 Who Report Violence Between Their Parents Relative to Those Who Do Not Report Such Violence (Couples Subsample)



Note: Adjusted for woman's and household characteristics, husband's/partner's characteristics, couple differences, and community factors

In all six countries in which this variable was measured, women who reported that their fathers beat their mothers were significantly more likely to personally experience violence by their husbands/partners than women who did not recall such violence, after adjusting for a range of individual, household, couple, and community-level factors. The adjusted odds ratios ranged from 1.48 in Zimbabwe to 2.95 in the Dominican Republic.

Table 3.6 Multivariate logistic regression of woman's, household, and husband's/partner's characteristics, couple differences, community variables, and the husband's/partner's alcohol use on currently married/cohabiting women's experience of physical or sexual violence in their current partnership, couple subsample: Adjusted odds ratios

	Bolivia	Dominican Republic	Haiti	Kenya	Malawi	Moldova	Rwanda	Zambia
Woman's characteristics								
Age								
20-24	0.83	0.76	1.59	0.57	1.01	0.96	0.63 †	1.66
25-34	1.12	1.45	1.40	0.99	1.20	0.98	0.92	1.50
35-44 (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Education								
Years of schooling	0.95 *	1.02	1.14 *	0.93 †	0.94	1.02	0.98	0.96
Occupation								
Not working	0.76 *	0.58 *	1.65 *	0.84	0.97	1.43	1.01	1.36
Agricultural occupation	1.37	0.52	0.99	1.21	1.64 *	1.42	0.99	1.25
Nonagricultural occupation (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Union status								
Married (ref.)	1.00	1.00	--	1.00	1.00	1.00	1.00	--
Living together	1.10	1.04	--	1.09	0.92	1.04	1.25 †	--
Age at first marriage								
Under 20 years	1.05	2.22 *	1.11	2.22 ***	1.08	1.04	1.53 **	0.99
20 years and over (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Attitudes towards wife beating								
No/don't know to all items (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Yes to one or more items	1.31 *	1.96 *	1.52	0.90	1.55 **	1.27	0.98	1.83 †
Household characteristics								
Household wealth								
Poorest 40%	1.71 *	2.01	0.30 *	0.76	1.05	3.00 †	1.06	1.27
Middle 40%	1.85 ***	1.17	0.52 †	0.93	1.26	3.48 **	0.90	1.24
Richest 20% (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Place of residence								
Urban	1.51 *	1.59 †	1.52	1.02	0.98	1.13	1.25	1.36
Rural (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Nuclear household status								
Nonnuclear (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Nuclear	1.11	1.06	1.87 *	1.11	1.01	1.96 *	1.91 *	0.82

(continued)

Table 3.6 Continued

	Bolivia	Dominican Republic	Haiti	Kenya	Malawi	Moldova	Rwanda	Zambia
Husband's/partner's characteristics								
Age								
15-24	0.76	0.47	2.30	2.30	1.17	0.52	0.60	0.30 †
25-34	0.66	0.54	1.09	1.41	1.45	0.78	0.80	0.74
35-44	0.81	0.55	1.07	0.92	1.05	1.17	0.83	1.13
45 years and over (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Education								
Years of schooling	1.00	0.97	0.86 *	0.98	1.01	0.90	1.00	1.06
Occupation								
Not working	0.97	2.51	0.93	1.31	0.56	0.98	1.07	1.73
Agricultural occupation	0.84	0.91	0.99	1.44 †	0.69 *	0.96	1.08	0.85
Nonagricultural occupation (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Age at first marriage								
Under 20 years	1.25 †	1.21	1.35	1.26	1.08	1.18	1.05	1.06
20 years and over (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Attitudes towards wife beating								
No/don't know to all items (ref.)	1.00	1.00	na	1.00	1.00	1.00	1.00	1.00
Yes to one or more items	1.21 †	1.76	na	0.86	2.02 **	1.40	1.26	1.14
Differences within couples								
Age difference								
Husband/partner 10+ years older	0.75	0.57	0.78	1.09	0.97	0.33	0.67	0.52 *
Husband/partner 5-9 years older	1.18	0.76	0.75	1.41	0.90	0.80	0.84	0.60 *
Other (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Difference in education								
Both have same level of education (ref.)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Wife has less education than husband	0.80	0.47 †	2.44 *	0.90	0.63 *	0.37	0.74 †	0.79
Husband/partner has less education than wife	1.48	1.07	0.30 *	1.00	0.88	0.49	1.09	1.03

(continued)

Table 3.6 Continued

	Bolivia	Dominican Republic	Haiti	Kenya	Malawi	Moldova	Rwanda	Zambia
Decisionmaking								
Final say on own health care								
Respondent alone (ref.)	1.00	na	1.00	1.00	1.00	1.00	1.00	1.00
Respondent and husband/partner/someone else	0.74 *	na	0.47 *	1.28	0.52 †	0.81	0.92	1.06
Husband/partner alone/someone else alone	0.70 *	na	0.46 **	1.45 †	0.61 *	0.68	1.15	1.16
Final say on making large household purchases								
Respondent alone (ref.)	1.00	na	1.00	1.00	1.00	1.00	1.00	1.00
Respondent and husband/partner/someone else	0.60 **	na	0.52 *	0.34 **	1.31	0.82	0.75	0.79
Husband/partner alone/someone else alone	0.70 †	na	0.49 *	0.52 †	1.60	1.28	0.74	0.76
Community factors								
Education								
Women's average number of years of education	1.06	0.98	0.93	1.18	1.05	1.18	0.92	1.11
Men's average number of years of education	1.00	0.96	0.96	0.93	0.96	0.99	1.03	0.95
Attitudes towards wife beating								
Proportion of women who say yes to 1+ item	0.82	1.74	1.14	2.50	0.79	1.55	1.53	0.65
Proportion of men who say yes to 1+ item	0.84	0.53	na	1.53	3.40 **	1.52	1.09	1.16
Husband's/partner's alcohol consumption								
Husband/partner drinks alcohol								
No (ref.)	na	1.00	1.00	1.00	1.00	1.00	1.00	na
Yes	na	2.80 **	3.63 ***	3.63 ***	1.75 ***	3.24 **	1.72 ***	na
Family/friends think you drink too much/problem at work due to drinking								
No/don't drink (ref.)	1.00	na	na	na	na	na	na	na
Yes	1.64 ***	na	na	na	na	na	na	na
Husband/partner drank alcohol in past 3 months								
No/doesn't drink (ref.)	na	na	na	na	na	na	na	1.00
Yes	na	na	na	na	na	na	na	1.67 **
Number of couples (unweighted)	2,414	840	1,098	1,013	1,446	692	1,696	748

Note: Analysis is based on the couples subsample.

-- number of cases in one of the two categories too few for the variable to be included in the model

na = not available; item not measured

† p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Table 3.7 Multivariate logistic regression of woman's, household, and husband's/partner's characteristics, couple differences, community variables, and women's exposure to interparental violence during childhood on currently married/cohabiting women's experience of physical or sexual violence in their current partnership, couple subsample: Adjusted odds ratios

	Dominican Republic	Haiti	Malawi	Moldova	Rwanda	Zimbabwe
Woman's characteristics						
Age						
20-24	0.60	1.56	0.94	0.90	0.55 *	0.97
25-34	1.44	1.41	1.13	1.01	0.84	1.10
35-44 (ref.)	1.00	1.00	1.00	1.00	1.00	1.00
Education						
Years of schooling	0.99	1.12 †	0.94	1.03	0.98	0.92 *
Occupation						
Not working	0.58 *	1.40	1.01	1.52	1.12	0.65 **
Agricultural occupation	0.37	0.97	1.62 *	1.45	1.12	1.04
Nonagricultural occupation (ref.)	1.00	1.00	1.00	1.00	1.00	1.00
Union status						
Married (ref.)	1.00	--	1.00	1.00	1.00	1.00
Living together	1.48	--	0.99	1.05	1.32 *	2.65 *
Age at first marriage						
Under 20 years	2.12 *	1.11	1.08	1.11	1.50 **	1.68 **
20 years and over (ref.)	1.00	1.00	1.00	1.00	1.00	1.00
Attitudes towards wife beating						
No/don't know to all items (ref.)	1.00	1.00	1.00	1.00	1.00	1.00
Yes to one or more items	2.01 *	1.45	1.49 *	1.25	1.01	1.29 †
Household characteristics						
Household wealth						
Poorest 40%	1.65	0.48	1.11	2.85 †	1.01	1.61
Middle 40%	1.00	0.65	1.31	3.37 **	0.85	1.55
Richest 20% (ref.)	1.00	1.00	1.00	1.00	1.00	1.00
Place of residence						
Urban	1.39	1.66 †	0.94	1.23	1.11	1.26
Rural (ref.)	1.00	1.00	1.00	1.00	1.00	1.00
Nuclear household status						
Nonnuclear (ref.)	1.00	1.00	1.00	1.00	1.00	1.00
Nuclear	0.98	1.89 *	1.02	1.85 †	1.99 **	0.98
Husband's/partner's characteristics						
Age						
15-24	0.65	2.12	1.13	0.43	0.58	0.57
25-34	0.52	1.08	1.50	0.69	0.79	1.01
35-44	0.57	0.98	1.03	1.06	0.81	0.76
45 years and over (ref.)	1.00	1.00	1.00	1.00	1.00	1.00
Education						
Years of schooling	1.00	0.87 *	1.00	0.91	1.00	1.04
Occupation						
Not working	2.81	0.77	0.53	0.92	1.13	0.96
Agricultural occupation	0.94	0.73	0.67 *	1.00	1.09	1.30 †
Nonagricultural occupation (ref.)	1.00	1.00	1.00	1.00	1.00	1.00
Age at first marriage						
Under 20 years	1.24	1.50	1.08	1.13	1.10	1.11
20 years and over (ref.)	1.00	1.00	1.00	1.00	1.00	1.00
Attitudes towards wife beating						
No/don't know to all items (ref.)	1.00	na	1.00	1.00	1.00	1.00
Yes to one or more items	1.04	na	2.10 ***	1.34	1.35 *	1.37 *

(continued)

Table 3.7 Continued

	Dominican Republic	Haiti	Malawi	Moldova	Rwanda	Zimbabwe
Differences within couples						
Age difference						
Husband/partner 10+ years older	0.56	0.74	0.94	0.30	0.70	0.92
Husband/partner 5-9 years older	0.71	0.80	0.93	0.78	0.85	1.03
Other (ref.)	1.00	1.00	1.00	1.00	1.00	1.00
Difference in education						
Both have same level of education (ref.)	1.00	1.00	1.00	1.00	1.00	1.00
Wife has less education than husband	0.52	2.00 *	0.64 *	0.38	0.77	0.92
Husband/partner has less education than wife	1.48	0.29 *	0.82	0.58	1.16	1.44
Decisionmaking						
Final say on own health care						
Respondent alone (ref.)	na	1.00	1.00	1.00	1.00	1.00
Respondent and husband/partner/ someone else	na	0.59	0.47	0.78	0.97	1.07
Husband alone/someone else alone	na	0.46 **	0.55	0.65	1.23	1.17
Final say on making large household purchases						
Respondent alone (ref.)	na	1.00	1.00	1.00	1.00	1.00
Respondent and husband/partner/ someone else	na	0.44 *	1.29	0.77	0.69 †	0.77
Husband/partner alone/someone else alone	na	0.48 *	1.61	1.07	0.67 †	1.05
Community factors						
Education						
Women's average number of years of education	1.01	0.90	1.06	1.09	0.95	1.11
Men's average number of years of education	0.95	1.00	0.97	0.99	1.04	0.95
Attitudes towards wife beating						
Proportion of women who say yes to 1+ item	1.57	1.02	0.94	1.72	1.25	1.38
Proportion of men who say yes to 1+ item	0.51	na	3.54 **	1.56	1.06	1.02
Women's exposure to violence during childhood						
Father ever beat mother						
No/don't know (ref.)	1.00	1.00	1.00	1.00	1.00	1.00
Yes	2.95 ***	2.73 **	2.36 ***	1.87 *	1.81 ***	1.48 **
Number of couples (unweighted)	836	1,098	1,446	692	1,687	1,803

Note: Analysis is based on the couples subsample.

-- number of cases in one of the two categories too few for the variable to be included in the model

na = not available; item not measured

† p<0.10, * p<0.05, ** p<0.01, *** p<0.001

3.5 Summary of Findings

In summary, there are substantial differences in the factors independently associated with women's experience of physical or sexual violence among the countries studied.

Woman's characteristics. Of the woman's characteristics, current age is associated with experiencing violence only in Rwanda, education is a protective factor in Bolivia, Kenya, and Zimbabwe but a risk factor in Haiti, and younger age at marriage is a risk factor in Bangladesh, the Dominican Republic, Kenya, Rwanda, and Zimbabwe. Not working (as compared with working in a nonagricultural job) is protective for women in Bolivia, the Dominican Republic, and Zimbabwe. Working in agriculture is protective for Bangladeshi women, but a risk factor in Malawi. In 5 (Bolivia, the Dominican Republic, Malawi, Zambia, and Zimbabwe) of the 9 countries where this variable was measured, women who believe wife beating is justified in at least one circumstance are more likely to report experiencing physical or sexual violence.

Husband/partner characteristics. Few of the husband/partner characteristics are significantly associated with women's experience of physical or sexual violence. Husband's/partner's age has a significant association with IPV only in Zambia and husband's/partner's age at first marriage has a significant association with IPV only in Bolivia. In Bangladesh and Haiti, women with husbands/partners who had more years of schooling were less likely to report violence. When their husbands/partners worked in agricultural jobs, women in Bangladesh and Malawi were less likely to experience violence and, in Kenya and Zimbabwe, they were more likely to do so. In Bangladesh, Bolivia, Malawi, and Zimbabwe, when their husbands/partners agreed to one or more rationales for wife beating, women were more likely to report experiencing violence. In Rwanda, this effect is explained away by husbands'/partners' alcohol consumption.

Household characteristics. In Bolivia, Moldova, and Zimbabwe, experience of physical or sexual violence was related to household wealth, with women living in richest households being less likely to report violence than women in poorer households. In Haiti alone, after controlling for husband's/partner's alcohol consumption, wealth is positively associated with IPV. In Bolivia and the Dominican Republic, women in urban households were more likely to report violence than women in rural households. Women from nuclear households in Bangladesh, Haiti, Moldova, and Rwanda were more likely to report experiencing violence than women in nonnuclear households.

Couple differences. Differences within couples are not consistently associated with women's experience of physical or sexual violence. In Zambia, women with older husbands/partners were less likely to report violence after controlling for other variables. In Haiti, women with less education than their husbands/partners were more likely to report violence, while in the Dominican Republic, Malawi, and Rwanda they were less likely to report violence in the model which also controls for alcohol consumption by husbands/partners. When partners decided together about women's health care, women in Bolivia, Haiti, and Malawi were less likely to report violence. When decisions about women's health care were made by the husband/partner or someone else in Bolivia, Haiti, and Malawi, women were less likely to report violence than when women make the decision alone. In Kenya however, the risk of violence was higher if women were not involved in making decisions about their own healthcare. Decisionmaking about large

purchases is protective when the decision is made jointly in Bolivia, Haiti, and Kenya, and it is also protective when made solely by the husband/partner or someone else in the same three countries.

Alcohol consumption of husband/partner and exposure to interparental violence: In all countries where it was measured, alcohol consumption was a significant predictor of women's reports of experiencing violence. Similarly, in all countries where it was measured, a woman's recall of violence between her parents was significantly associated with experiencing violence in her current relationship.

Community factors. Community-level factors are not consistently related to women's experience of violence. In Kenya, women living in communities where women have more education were more likely to report violence by their husbands/partners. In Bolivia, where this relationship was also observed, the effect is attenuated by the husband's/partner's alcohol consumption. In Bangladesh alone, higher levels of education for men in the community are associated with a lower risk of violence for women. In Bangladesh and Malawi, women living in communities with a higher proportion of men with accepting attitudes about spousal violence were more likely to experience violence. No such association is observed between the proportion of women in the community with accepting attitudes about spousal violence and women's experience of violence.

In conclusion, the analysis in this chapter clearly shows that there is little consistency across countries in the factors that affect women's risk of IPV. Of all the individual, husband/partner, couple, household, and community characteristics studied, the only ones that emerge as consistent risk factors for IPV are alcohol consumption by the husband/partner and exposure to interparental violence. Other factors that are significant in 5-6 of the 10 countries studied are women's occupation, women's age at first marriage, and women's attitudes towards wife beating.

Intimate Partner Violence and Health Outcomes

This chapter explores the associations between women's exposure to physical or sexual violence by current husbands/partners and health-related outcomes for women and children. The health outcomes that were examined include (1) modern contraceptive use, (2) unintended pregnancy and pregnancy termination, (3) antenatal care and delivery care, (4) children's vaccinations and nutritional status, and (5) women's nutritional status. For each of these outcomes, a brief literature review reflects current knowledge about the relationship between women's experience of intimate partner violence (IPV) and the specific health outcome. Then, bivariate associations in the survey data between IPV and the health outcomes are analyzed using chi-square tests. Finally, multivariate analyses of the associations among these variables, adjusting for socio-demographic and relevant reproductive characteristics, are presented.

The analyses in this chapter are based on the all women sample, that is, currently married or cohabiting women age 20-44 years at the time of the survey who were interviewed in the DHS woman's survey and who completed the domestic violence module. This differs from the sample used for the analysis in Chapter 3. The analysis in Chapter 3 was based on the couple file and consisted of the subset of women whose husbands/partners were also interviewed in the DHS men's survey, since the purpose of that analysis was to explore the factors within couples that were associated with women's exposure to violence. It is important to note that, in the case of Bangladesh, the current analysis could only be conducted using the couple file since the domestic violence data were collected from men in the men's survey, while the demographic and health-related outcomes were collected from women in the women's survey.

As before, for all of the countries except Bangladesh and Bolivia, the analyses are weighted using the domestic violence weights to adjust for the probability of selection into the domestic violence module. For Bangladesh, men's sampling weights were used since all men who were surveyed were asked the domestic violence questions. For Bolivia, women's sampling weights were used since all women who were surveyed were administered the domestic violence module. All analyses take into account the complex DHS survey design by adjusting the standard errors for cluster sampling using Stata's svy commands.

4.1 Modern Contraceptive Use

The literature regarding the relationship between IPV and contraceptive use presents a mixed picture. A recent study in Jordan examined women's reports of their husbands' perpetrating physical or sexual violence or displaying controlling behavior, on the one hand, and interference with using a method to avoid pregnancy, on the other (Clark et al., 2008). The authors found that physical and sexual violence, as well as controlling behavior by a husband, were associated with interference (by a husband or other family member) with a woman's attempts to limit or avoid pregnancy. In Bangladesh, Stephenson and colleagues (2006, 2008) explored the relationship

between IPV and subsequent contraceptive use and found that, when men reported perpetrating violence, the couple was significantly less likely to report subsequent adoption of modern contraception. A study using the 2003 Kenya DHS found that women who reported ever using any method of contraception (traditional, folkloric, or modern) were significantly more likely to report ever experiencing IPV (Emenike et al., 2008). Based on an analysis of the 1995 Egypt DHS survey, women who experienced three or more incidents of physical violence in the past year were about half as likely (OR=0.51) to report using female-controlled modern contraceptives at the time of the survey (Diop et al., 2006). The DHS report *Profiling Domestic Violence* found that, in the countries studied, women who experienced violence were more likely to have used contraception (Kishor and Johnson, 2004).

Part of the reason for the mixed results may be timing, that is, when the violence occurred in relation to the contraceptive use. In addition, theoretically, there are several plausible pathways linking IPV and contraceptive use, and they suggest opposite findings. Women whose partners find out they are using a modern method of contraception may react negatively and become violent. This pathway would result in more contraceptive use among women who have experienced violence. A second mechanism for the positive association between violence and contraceptive use would be that women who have experienced IPV are concerned about the next generation and use contraception to avoid putting future children at risk. It is also possible that women who experience violence may not want to risk contraceptive use for fear of a violent response. This pathway would result in lower contraceptive use among women who experience violence. Ever use of a modern method may also be related to selective recall of IPV: Women who use a modern method may be more likely to report violence than women who do not use a method. The available evidence suggests that women who have experienced physical or sexual violence in their partnerships are more likely to report ever using modern contraception and less likely to report current modern contraceptive use than women who have not experienced violence.

This section explores the association between a woman's experience of IPV and her use of modern contraception. In the DHS interview, women who reported knowing about any method of family planning are asked about their use of contraception. In this analysis the first measure of contraceptive use describes whether women have ever used a modern method of contraception. In analyses of ever use, all married or cohabiting women age 20-44 were included. The second measure describes women's current use of modern contraception. This variable is limited to married or cohabiting women age 20-44 who were not pregnant at the time of the survey. Family planning methods are typically categorized into two groups. Modern methods of contraception include the pill, the IUD (intrauterine device), injectables, implants (Norplant), the male condom, the female condom, the diaphragm, vaginal methods (spermicides, foams and jellies), emergency contraception, the lactational amenorrhea method (LAM)¹, and male and female sterilization. In contrast, traditional methods include periodic abstinence (rhythm method), withdrawal, and folk methods such as herbs.

¹ In the 2001-2002 Zambia DHS, many women confused LAM with simple breastfeeding. Thus, in the Zambia data, LAM was classified as a traditional method (see the Zambia 2001-2002 DHS Report).

Ever use: Table 4.1 shows the bivariate and multivariate associations between modern contraceptive use and women's experience of physical or sexual violence by the husband/partner. The bivariate data in the table describe the prevalence of modern contraceptive use among women reporting IPV versus women not reporting IPV. In all 10 of the countries studied, women who report IPV by their current husbands/partners are more likely to report having ever used a modern contraceptive method than those who report no IPV; and in 7 of these countries—Bangladesh, Bolivia, the Dominican Republic, Haiti, Kenya, Malawi, and Zimbabwe—the differential is statistically significant. For example, in Malawi, 64 percent of women who reported violence by their husbands/partners have ever used a modern contraceptive method, compared with 57 percent of women who did not report such violence.

Table 4.1 also shows the results of the multivariable logistic regression analysis in which each health outcome of interest is considered the dependent variable and exposure to physical or sexual violence by the husband/partner is the key independent variable. As noted, the analysis for contraceptive use focuses on two outcomes—ever use of a modern contraceptive method and current use of a modern contraceptive method. Both models adjust for age of the woman (continuous variable), number of years of education of the woman (continuous variable), household wealth quintile, urban-rural residence, number of living children, and number of children who have died.

After multivariable adjustment the results for ever use of modern contraception are largely consistent with those observed in the bivariate analysis, with the same seven countries showing a significant association with partner violence. In Bangladesh, Bolivia, the Dominican Republic, Haiti, Kenya, Malawi, and Zimbabwe, the odds of ever having used a modern contraceptive method are significantly higher among women who reported physical or sexual violence than among those who do not. While the consistency of the results is striking, the interpretation is complex. Modern method use could have occurred before the current relationship and before or after the exposure to violence.

Table 4.1 Prevalence and adjusted odds ratios (OR) of modern contraceptive use by women's experience of physical or sexual violence perpetrated by their current husbands/partners among currently married or cohabiting women age 20-44 who were not pregnant at the time of the DHS survey (DV women subsample), DHS Surveys 2002-2006

Outcome	Bangladesh ¹	Bolivia	Dominican Republic	Haiti	Kenya	Malawi	Moldova	Rwanda	Zambia	Zimbabwe
Ever used a modern method	*	***	**	*	**	***				***
No violence (%)	82.4	54.6	88.1	57.5	54.8	56.8	82.2	22.7	55.9	86.8
Violence (%)	86.5	63.9	92.8	67.6	61.7	64.4	84.3	24.6	58.3	93.1
Adjusted odds ratio (OR)²	**	***	*	*	***	***				***
No violence	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Violence	1.73	1.61	1.55	1.51	1.79	1.33	1.3	1.17	0.98	2.08
Number (unweighted)	2,393	8,986	5,008	1,943	3,430	6,299	3,222	2,109	2,953	3,507
Currently using a modern method		***								†
No violence (%)	57.4	38.2	72.8	29.6	37.6	34.2	51.2	13.2	31.5	67.9
Violence (%)	61.7	43.1	74.3	34.2	36.2	36.4	48.3	11.4	32.0	72.2
Adjusted odds ratio (OR)²	†	***								†
No violence	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Violence	1.28	1.28	0.94	1.18	1.17	1.06	0.97	0.90	0.89	1.25
Number (unweighted)	2,251	8,272	4,644	1,725	3,010	5,297	3,086	1,760	2,483	3,157
Modern contraceptive use (%)		***	*		**	***		†		***
Never used, no violence	17.1	43.6	11.0	41.4	42.8	41.7	16.8	76.4	43.5	11.5
Never used, violence	13.2	34.8	6.8	33.3	37.4	34.5	15.7	74.2	41.0	5.7
Ever used, but not currently using, no violence	25.5	18.2	16.2	28.9	19.6	24.0	32.0	10.3	25.0	20.6
Ever used but not currently using, violence	25.1	22.1	18.8	32.5	26.4	29.2	36.0	14.4	27.0	22.1
Currently using, no violence	57.4	38.2	72.8	29.6	37.6	34.2	51.2	13.2	31.5	67.9
Currently using, violence	61.7	43.1	74.3	34.2	36.2	36.4	48.3	11.4	32.0	72.2
Number (unweighted)	2,251	8,272	4,644	1,725	3,010	5,297	3,086	1,760	2,483	3,157

¹ The data for Bangladesh are drawn from the couples file.

² Models adjusted for woman's age, number of years of education, area of residence, number of living children, and number children who died and household wealth quintile

† p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Current use: The temporal connection is more clearly defined for the association between current use of modern contraception and violence by a current partner, as both variables are clearly embedded within the current relationship. The results for this association are mixed, however. In the bivariate analysis, most countries show no association. In Bolivia, however, current use was more often reported by women who experienced physical or sexual violence than by those who have not (43 percent vs. 38 percent). Similarly in Zimbabwe, 72 percent of women who had experienced violence were currently using modern contraception, compared with 68 percent of women who reported no violence.

After multivariable adjustment most countries still show no association between current modern contraceptive use and partner violence. Again, the exceptions are Bolivia and Zimbabwe, as well as Bangladesh. In Bolivia, women who report experiencing physical or sexual violence were significantly more likely to report currently using modern contraception (OR = 1.28) after controlling for potential confounders. Similarly in Zimbabwe, women who experienced physical or sexual violence were more likely to report modern method use at the time of the DHS survey (OR=1.25), as also in Bangladesh (OR = 1.28). These results may reflect a difference in the type of women who report both modern contraceptive use and IPV or a woman's assessment of risk to herself and her children from a violent partner.

In summary, there is remarkable consistency in the relationship between ever use of a modern method of contraception and women's experience of physical or sexual violence in the current relationship. In 7 of 10 countries, this relationship remained significant after adjustment for potential confounders. There is also consistency regarding contraceptive discontinuation and violence (Table 4.1, last panel): in all countries except Bangladesh, the percentage of women who have ever used modern contraception, but are not currently using is always higher, although not always significantly so, for women who have ever experienced IPV than women who have not experienced IPV.

By comparison, the relationship between current use and experience of violence is weaker. For the countries in which significant associations are found (Bangladesh, Bolivia, and Zimbabwe) more consideration of the causal mechanism of the observed effect would be beneficial. Are women who have experienced IPV in their current relationship more likely to use modern contraception because they fear violence against the next generation? Do women who have ever used contraception stop using a method due to experience of or fear of violence? Alternatively, are women who use modern contraception more likely to report violence than women who do not?

4.2 Unintended Pregnancy and Pregnancy Termination

Unintended pregnancy appears to be associated with women's experience of violence in a number of settings. Pallitto and O'Campo (2004) using the 2000 DHS survey explored the relationship between reports of IPV and experiencing an unintended pregnancy in Colombia. They found that women who reported experiencing physical or sexual violence were significantly more likely to report that either their current pregnancies or pregnancies in the five years prior to the survey were unintended (mistimed or unwanted). Using the Bangladesh DHS survey from 2004, Silverman and colleagues (2007) found that women who experienced

domestic violence were significantly more likely to report experiencing pregnancy loss or unwanted pregnancy. Using data from a postpartum hospital-based sample in Lima, Peru, Cripe and colleagues (2008) found that women who reported physical or sexual abuse were more than three times as likely to report that their most recent pregnancy was unintended as were those who did not report violence. Kishor and Johnson (2006) explored the relationship between women's reports of spousal violence and having unwanted births in Cambodia, the Dominican Republic, and Haiti, and they found that, after multivariate adjustment, women in Cambodia and the Dominican Republic who reported ever experiencing spousal violence were also more likely to report an unwanted birth in the past five years. Using longitudinal data in India, Stephenson and colleagues (2008) found that women who experienced violence were significantly more likely to experience unwanted pregnancy. These findings suggest that women who report IPV in their current relationships will be more likely to report unintended births.

Evidence also suggests that there is a relationship between women's experience of violence and pregnancy termination. In the 2003 Kenya DHS survey, women who reported ever experiencing physical or emotional violence were more likely to report ever experiencing a terminated pregnancy (Emenike et al., 2008). Using DHS data from Bangladesh, Silverman and colleagues (2007) found that women who experienced physical or sexual violence were significantly more likely to also experience a pregnancy that ended in a nonlive birth. Analysis reported in *Profiling Domestic Violence* also found significant bivariate associations, suggesting higher rates of nonlive births to women who experienced violence than to women who did not experience violence (Kishor and Johnson, 2004). Using similar data, after multivariate adjustment, Kishor and Johnson (2006) found significant associations between IPV and nonlive births in the Dominican Republic, Haiti, and Cambodia. These findings suggest the hypothesis that women who have experienced IPV are more likely to have had a pregnancy that terminated in a nonlive birth.

The current analysis explores the relationship between women's experience of violence by their current husbands/partners and indicators of unintended pregnancy and pregnancy termination. Three outcome variables are examined, the first two relating to the wantedness of pregnancies and the third relating to pregnancy terminations. The results of these analyses are shown in Table 4.2.

In the DHS, for each birth in the past five years that ended in a live birth, as well as for the current pregnancy, women were asked whether they wanted that pregnancy then, later (mistimed), or not at all (unwanted). The first variable measures whether or not currently married or cohabiting women age 20-44 who had an unintended pregnancy in the past five years, including the current pregnancy. This variable collapses the two categories of mistimed and unwanted. The second variable differentiates among women reporting an unwanted pregnancy, women reporting a mistimed pregnancy, and women reporting wanting all pregnancies. Women who reported having both a mistimed and an unwanted pregnancy were coded in the unwanted pregnancy category. The data in Table 4.2 for this variable describe the proportion of women within the violence subgroups reporting no unwanted or mistimed pregnancies, one or more mistimed pregnancies, and one or more unwanted pregnancies. This set of variables is restricted to women who had a live birth in the past five years or were currently pregnant.

The final variable in this set of analyses is an indicator of whether or not women have ever had a terminated pregnancy, defined as an abortion, miscarriage, or stillbirth. This variable is restricted to married or cohabiting women age 20-44 who have ever been pregnant.

In 9 of the 10 countries studied, there is a statistically significant bivariate association between IPV and unintended pregnancy, and the direction of this association is consistent across all countries (Table 4.2). In Bangladesh, Bolivia, the Dominican Republic, Kenya, Malawi, Moldova, Rwanda, Zambia, and Zimbabwe, women who reported physical or sexual violence were more likely to have had unintended pregnancies than women who did not experience violence.

Table 4.2 also shows the results of multivariable logistic regression analysis for unintended pregnancy. The models adjust for age of the woman (continuous variable), number of years of education of the woman (continuous variable), household wealth quintile, urban-rural residence, number of living children, and number of children who have died. In general, the findings for the bivariate analysis hold up in the multivariable analysis for unintended (unwanted or mistimed) pregnancy. In Bangladesh, Bolivia, the Dominican Republic, Kenya, Malawi, Moldova, Rwanda, and Zimbabwe, the odds of a mistimed or unwanted pregnancy are higher for women with a history of violence in the current relationship than for those without such a history. The only countries where the adjustment makes an important difference are Moldova, where the strength of the association decreases substantially (p -value falls from $p < 0.01$ to $p < 0.10$), and Zambia, where even marginal significance is lost.

In 8 of the 10 countries analyzed, there is an overall statistically significant relationship between the second variable, which includes separate categories for mistimed and unwanted pregnancies, and exposure to violence (Table 4.2, middle panel). Two additional analyses were conducted to examine whether the overall statistically significant relationship was due to differences in unwanted pregnancies versus wanted pregnancies and/or differences in mistimed pregnancies versus wanted pregnancies. In seven of these countries (Bangladesh, Bolivia, the Dominican Republic, Kenya, Malawi, Moldova, and Rwanda), the likelihood of an unwanted pregnancy was higher if women reported physical or sexual violence than if they did not. In Zimbabwe, however, there was no significant difference in the likelihood of an unwanted pregnancy by exposure to violence. In the second analysis (mistimed versus wanted), the findings were less consistent. Although many of the countries show little to no difference in the likelihood of a mistimed pregnancy by exposure to violence (Bangladesh, Bolivia, the Dominican Republic, and Moldova), in Kenya, Malawi, Rwanda, and Zimbabwe, women with a history of violence were more likely to report a mistimed pregnancy in the past five years than those without such a history. In Haiti and Zambia, the percentages of women with mistimed or unwanted births do not vary significantly by whether women have experienced violence or not.

Table 4.2 Prevalence and adjusted odds ratios (OR) of unintended pregnancy for pregnancies in the five years prior to the survey, including current pregnancy and ever had a pregnancy termination, by experience of physical or sexual violence by their current husbands/partner among currently married or cohabiting women age 20-44 (DV women subsample), DHS surveys 2002-2006

Outcome	Bangladesh ¹	Bolivia	Dominican Republic	Haiti	Kenya	Malawi	Moldova	Rwanda	Zambia	Zimbabwe
Unintended pregnancy in the past five years²	**	***	***		***	***	**	***	†	***
No violence (%)	26.7	62.1	43.5	52.1	44.0	46.6	19.3	42.6	47.8	30.7
Violence (%)	36.9	71.1	60.4	57.6	59.6	56.9	31.3	54.6	51.5	39.6
Adjusted odds ratio (OR)³	*	**	**		***	***	†	***		**
No violence	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Violence	1.50	1.31	1.70	1.09	1.69	1.46	1.48	1.49	1.07	1.37
Wanted, mistimed, or unwanted pregnancy in the past five years (%)²	**	***	***		***	***	**	***		***
Wanted, no violence	73.3	37.9	56.5	47.9	56.0	53.4	80.7	57.4	52.2	69.3
Wanted, violence	63.1	28.9	39.6	42.4	40.4	43.1	68.7	45.4	48.5	60.4
Mistimed, no violence	13.1	22.3	28.9	22.5	25.0	23.4	11.7	28.5	25.2	19.0
Mistimed, violence	14.1	22.2	32.2	24.7	31.1	29.2	14.8	33.9	28.1	26.7
Unwanted, no violence	13.6	39.8	14.7	29.6	19.0	23.1	7.6	14.1	22.6	11.8
Unwanted, violence	22.8	48.9	28.1	32.9	28.6	27.7	16.5	20.7	23.4	13.0
Number (unweighted)	1,460	5,958	2,650	1,385	2,628	5,347	1,184	1,913	2,468	2,650
Ever had a terminated pregnancy⁴	**	***	***			***	***			***
No violence (%)	23.0	19.0	25.9	13.3	13.8	12.9	59.3	18.4	21.6	10.9
Violence (%)	29.8	27.0	37.8	12.4	15.9	18.1	71.0	21.7	23.6	17.1
Adjusted odds ratio (OR)³	**	***	***			***	***			***
No violence	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Violence	1.48	1.59	1.75	1.05	1.10	1.60	1.72	1.23	1.13	1.72
Number (unweighted)	2,334	8,970	4,850	1,826	3,348	6,185	3,006	2,058	2,881	3,411

¹ The data for Bangladesh are drawn from the couples file.

² Adjusted for woman's age, number of years of education, area of residence, number of living children and number of children who died and household wealth quintile

³ Restricted to women with a birth in past five years and women who were currently pregnant

⁴ Restricted to women who had ever been pregnant

† p<0.10, * p<0.05, ** p<0.01, *** p<0.001

In 6 of the 10 countries studied, there is a significant association between husband/partner violence and the likelihood of having a terminated pregnancy. In Bangladesh, Bolivia, the Dominican Republic, Malawi, Moldova, and Zimbabwe, women with a history of violence in their current relationship were more likely to report ever having had an abortion, miscarriage, or stillbirth than those without such a history. In Moldova, this difference is particularly striking, with 71 percent of women with a history of violence reporting a pregnancy loss or termination compared with 59 percent of women without such a history. Part of the explanation may be that, as in other nations that were part of the former Soviet Union, abortion may be used in place of a contraceptive method.

Multivariable adjustment has little influence on the association between partner violence and pregnancy termination. In Bangladesh, Bolivia, the Dominican Republic, Malawi, Moldova, and Zimbabwe, the odds of a terminated pregnancy are significantly higher for women reporting violence by current husbands/partners than for women not reporting violence. The adjusted odds ratios range from a low of 1.48 in Bangladesh to a high of 1.75 in the Dominican Republic.

In summary, reports of unintended pregnancy and pregnancies that terminate in a nonlive birth appear to be related to women's experience of IPV with their current partners in most countries studied. Further analysis should consider the potential selectivity issues with reporting a pregnancy as unintended (Gipson et al., 2008) and address the timing of pregnancy relative to violence. For pregnancy termination too there may be selectivity issues at play, since women who have terminated pregnancies through abortion may underreport this experience. In addition, women who had late stillbirths also may underreport. Future analyses could also consider the type of termination (abortion, miscarriage, or stillbirth). Further consideration of the causal pathways between pregnancy intention and violence and between pregnancy termination and violence is needed.

4.3 Antenatal Care and Delivery Care

The health care that women receive during pregnancy and delivery is important in preventing and managing serious complications of childbirth and in increasing the survival rate and well-being of women and children. The World Health Organization (2006) recommends that all women receive at least four antenatal care visits during pregnancy and that antenatal care should begin as soon as possible within the first trimester of pregnancy. This section examines whether a woman's exposure to partner violence is associated with receiving timely antenatal care (ANC) by a skilled provider as well as with delivery at a health facility.

Population-based studies that consider the association between ANC and intimate partner violence are rare. Most studies in this area are clinic-based, examining whether women who sought ANC have experienced violence. These kinds of studies may underestimate the association between ANC and violence, since women who experience significant violence and are prevented from seeking antenatal care are excluded from the sample. Studies with available data show mixed results. Ahmed and colleagues (2006) used data from Uttar Pradesh to evaluate the impact of physical violence during pregnancy on a range of child health outcomes. They found that women who experienced physical violence during pregnancy were significantly less likely to seek ANC. Data from the Egypt DHS survey showed a surprising relationship between violence and ANC. Women who had ever been beaten were significantly less likely to have

visited a skilled ANC provider; however, among those who did obtain ANC, women who were ever beaten were significantly *more* likely to have received antenatal care four or more times during their most recent pregnancy (Diop et al. 2006). The report *Profiling Domestic Violence* suggested that use of ANC does not vary substantially by experience of spousal violence (Kishor and Johnson, 2004). Based on these studies, it is difficult to predict the direction of the relationship between ANC and IPV for the countries studied or whether there will be an association at all.

As for delivery care, the report *Profiling Domestic Violence* (Kishor and Johnson, 2004) suggests that violence status does influence the likelihood of delivery care by a medical professional, with women who experience violence being less likely to have professional care in Cambodia, Egypt, and India, but more likely in Zambia. In general, the results were inconsistent, and this report did not conduct multivariate adjustment for these outcomes. Therefore, weak or no associations between IPV and delivery care can be expected in this study.

This section examines antenatal care and delivery care for women ages 20-44 who had at least one live birth in the past five years. The analysis was restricted to the most recent pregnancy in the past five years. Women who received ANC from a health professional within the first trimester were compared with those who received ANC from a health professional the first time after the first trimester, and those who received care from someone other than a health professional or did not received ANC at all. Skilled providers of ANC include a medical doctor, nurse or midwife, auxiliary midwife, and other country-specific health professional categories. Nonprofessionals include trained or traditional birth attendants, relatives, and other unqualified persons. Women who did not report either the timing of the ANC visit or the type of person they received care from were excluded from the analysis.

The results of the bivariate analysis indicate that women in Bangladesh, the Dominican Republic, and Zambia who experienced violence by their husbands/partners were significantly less likely to have received ANC from a health professional within the first three months of pregnancy than women who did not experience violence (Table 4.3). After covariate adjustment, there are even fewer statistically significant results. Women in the Dominican Republic and Zambia who experienced violence were less likely to seek ANC within the first trimester from a health professional than those who did not experience violence (OR=0.62 and 0.68, respectively). The covariate adjustment made a big difference for Bangladesh, where the significant associations observed in the bivariate analysis disappeared after the confounding variables were added to the model.

Delivery at a facility covers a wide range of potential facilities including all public or private or nongovernmental hospitals of various kinds, health centers, private clinics, and other country-specific health institutions. With respect to delivery care, women in Bangladesh, Kenya, Rwanda, and Zimbabwe were less likely to deliver at a health facility if they experienced violence by their husbands/partners than if they did not (Table 4.3). After multivariate adjustment, this relationship holds only in Rwanda, where women who reported IPV were less likely to deliver at a health facility (OR=0.71) than women who did not report violence.

Table 4.3 Prevalence and adjusted odds ratios (OR) of antenatal care within the first trimester of pregnancy from a health professional and delivery at a health facility for the most recent live birth in the last five years, by experience of physical or sexual violence by their current husbands/partners among currently married or cohabiting women age 20-44 years (DV women subsample), DHS surveys 2002-2006

Outcome	Bangladesh ¹	Bolivia	Dominican Republic	Haiti	Kenya	Malawi	Moldova	Rwanda	Zambia	Zimbabwe
First ANC visit with a health professional within the 1st trimester										
No violence (%)	23.4	53.5	85.7	51.6	12.1	7.8	75.0	8.2	16.0	30.3
Violence (%)	15.1	52.9	74.9	54.7	10.1	7.3	73.1	7.6	11.9	27.4
Adjusted odds ratio (OR)²										
No violence	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Violence	0.95	1.09	0.62	1.22	0.9	0.95	1.07	1.03	0.68	0.95
ANC from health professional (%)										
No ANC ³ , no violence	48.6	21.6	0.8	13.8	10.5	7.0	1.2	4.6	6.1	5.0
No ANC ³ , violence	53.3	19.4	2.9	15.8	9.6	6.4	2.2	4.2	7.1	4.8
ANC after 1st trimester, no violence	28.0	25.0	13.5	34.6	77.4	85.2	23.8	87.2	77.8	64.7
ANC after 1st trimester, violence	31.6	27.7	22.2	29.5	80.3	86.4	24.7	88.2	81.0	67.8
ANC during 1st trimester, no violence	23.4	53.5	85.7	51.6	12.1	7.8	75.0	8.2	16.0	30.3
ANC during 1st trimester, violence	15.1	52.9	74.9	54.7	10.1	7.3	73.1	7.6	11.9	27.4
Number (unweighted)	1,399	5,717	2,517	1,313	2,519	5,127	1,081	1,847	2,390	2,499
Delivery at a health facility										
No violence (%)	15.8	61.3	98.2	27.2	46.6	58.2	--	32.5	44.7	73.2
Violence (%)	7.8	61.9	98.5	27.8	36.3	57.3	--	22.8	46.5	68.5
Adjusted odds ratio (OR)²										
No violence	1.00	1.00	1.00	1.00	1.00	1.00	--	1.00	1.00	1.00
Violence	0.96	1.14	1.56	1.18	0.89	0.95	--	0.71	0.90	1.02
Number (unweighted)	1,401	5,754	2,538	1,317	2,537	5,146	--	1,856	2,402	2,500

-- number of cases too few in one of the relevant categories. In Moldova, 99 percent of women with a birth in the past five years report delivering at a health facility.

¹ The data for Bangladesh are drawn from the couples file.

² Adjusted for woman's age, number of years of education, and area of residence, child's birth order, and household wealth quintile

³ Includes women who received ANC only from someone who was not a health professional

† p<0.10, * p<0.05, ** p<0.01, *** p<0.001

In summary, the results suggest that there are few clear associations between a woman's experience of violence and her ability or willingness, when pregnant, to seek antenatal care in the first trimester or to have an institutional delivery. In the Dominican Republic and Zambia, women were less likely to have received timely ANC from a health professional if they experienced intimate partner violence than if they did not. In Rwanda, women were less likely to have had an institutional delivery if they experienced violence than if they did not.

4.4 Children's Vaccinations and Child Nutrition

This section explores the relationship between women's experience of intimate partner violence and children's health outcomes. The specific outcomes examined include children's vaccination status and measures of anthropometry—stunting, underweight, and wasting. For vaccination status, the DHS collected information about the vaccination coverage of all children born to interviewed women in the five years before the survey. The World Health Organization recommends that, to be fully vaccinated, children should receive one dose of BCG vaccine to protect against tuberculosis, three doses of DPT vaccine to protect against diphtheria, pertussis, and tetanus, three doses of the polio vaccine, and one dose of the measles vaccine. The recommendation is that all children should receive these vaccinations well within the first year of life.

Despite the recommendations by the World Health Organization for timely and complete childhood vaccinations and the large variability observed in vaccination rates, few studies have looked at the relationship between childhood vaccination status and IPV. In one of the few studies on this topic, Kishor and Johnson (2004) found that, in most of the 10 countries studied, children whose mothers experienced violence were less likely to be fully vaccinated at the right age. Based on this one study, we hypothesize that women who experience violence are less likely to have their children fully vaccinated on time.

Similarly, there is a limited amount of literature examining the relationship of mother's IPV status with children's nutritional status. A recent analysis of data from the National Family Health Survey in India showed that women's experience of physical violence was significantly associated with children's poor anthropometric status, including being underweight for age and having a severely low body mass index (BMI) for age (Ackerson and Subramanian, 2008). Using data from five Latin American DHS surveys, Heaton and Forste (2008) examined the relationship between lifetime experience of physical violence and children's nutritional status, using the height-for-age z-scores. After multivariate adjustment for a range of couple interaction factors as well as demographic characteristics, they found that Bolivian children whose mothers reported experiencing any physical violence in their lifetimes had a lower height-for-age score.

In Colombia, Haiti, and Nicaragua, the significant associations are attenuated after controlling for other factors. A study in rural India showed that women's experience of physical violence or sexual coercion was significantly associated with lower weight-for-age z-scores (Sethuraman et al., 2006). Five of the countries studied in the *Profiling Domestic Violence* report (Kishor and Johnson, 2004) showed a relationship between women's experience of IPV and children being undernourished (below minus two standard deviations on any of the three anthropometric measures). We hypothesize weak to no associations between childhood anthropometry and IPV, but these results may vary by context.

The analysis in this section considers the vaccination status of all children age 12-23 months at the time of the survey, since they should have been fully vaccinated by that age and is restricted to women with at least one child age 12-23 months. A binary variable was created comparing women who had one or more children age 12-23 months who were not fully vaccinated with women whose children age 12-23 months all had been fully vaccinated. More than 98 percent of women in all 10 countries had only one child age 12-23 months.

Evaluation of nutritional status is based on the rationale that, in a well-nourished population, there is a statistically predictable distribution of children of a given age with respect to height and weight. In any large population, there is variation in height and weight, and this variation approximates a normal distribution. Use of a standard reference population as a point of comparison facilitates the examination of differences in the anthropometric status of subgroups in a population and of changes in nutritional status over time. The reference population that was used for all 10 countries in this study is the U.S. National Center for Health Statistics (NCHS) standard.

The DHS surveys included an anthropometric component, for which all children under five years of age were weighed and measured. The current analysis is limited to children of interviewed who were successfully measured and weighed and for whom valid measurements were obtained. Three standard indices of physical growth that describe the nutritional status of children include height-for-age (stunting), weight-for-height (wasting), and weight-for-age (underweight).

Height-for-age is a measure of linear growth. A child who is below minus two standard deviations (-2 SD) from the median of the NCHS reference population in terms of height-for-age is considered short for his/her age, or stunted. Stunting reflects malnutrition over a long period of time and is also affected by recurrent and chronic illnesses. Weight-for-height describes current nutritional status. A child who is below -2 SD from the reference median for weight-for-height is considered too thin for his/her height, or wasted, a condition reflecting acute or recent nutritional deficit (UNICEF, 2007). Wasting represents failure to receive adequate nutrition in the period immediately preceding the survey and may be the result of recent illness or of seasonal variations in the food supply. Severe wasting is closely linked to a child's mortality risk (UNICEF, 2007).

Weight-for-age is a composite index of weight-for-height and height-for-age and thus does not distinguish between acute malnutrition (wasting) and chronic malnutrition (stunting). Weight-for-age is a good overall indicator of a population's nutritional health and is often used to monitor nutritional status on a longitudinal basis. Like weight-for-height, this index is subject to seasonal variation.

For each woman with a child under the age of five years who was successfully weighed and measured, summary measures of anthropometric status were created. For stunting, if a woman had any child or multiple children under the age of five who were stunted, she was given a code of "1." If a woman had at least one child under the age of five, but no stunted children, she was given a code of "0." If she had no children under the age of five, she would be missing for this analysis. Similar summary measures were also created for underweight and wasting. On average, the number of children under five years of age per woman ranged from 1.1 in Moldova to 1.5 in Rwanda.

Table 4.4 Prevalence and adjusted odds ratios (OR) of women having all children age 12-23 months fully vaccinated and of women with one or more children under five years who are stunted, underweight, or wasted, by maternal experience of physical or sexual violence by their current husbands/partners, among currently married or cohabiting women age 20-44 years (DV women subsample), DHS surveys 2002-2006

	Bangladesh ¹	Bolivia	Dominican Republic	Haiti	Kenya	Malawi	Moldova	Rwanda	Zambia	Zimbabwe
All children 12 to 23 months fully vaccinated			*		*					
No violence (%)	75.3	52.9	35.8	39.6	57.4	65.7	74.7	75.2	70.8	55.0
Violence (%)	66.4	48.7	21.4	52.8	47.5	62.9	81.3	72.3	69.2	56.3
Adjusted odds ratio (OR)³			†		*					
No violence	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Violence	0.97	0.88	0.52	1.75	0.68	0.87	2.01	0.92	0.91	1.21
Number (unweighted)	312	1,501	715	386	727	1,609	279	599	731	611
One or more children < 5 years are stunted²	**	*		†	***					
No violence (%)	39	29.5	9.1	24.2	32.4	54.2	8.6	54.2	54.4	30.8
Violence (%)	49.8	33.1	10.9	32.5	43.5	57.5	11.0	58.8	53.4	29.5
Adjusted odds ratio (OR)³				†	**					
No violence	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Violence	1.17	1.14	0.96	1.50	1.41	1.15	1.03	1.08	0.95	0.89
Number (unweighted)	1,294	5,390	2,238	1,206	2,261	4,329	935	1,749	2,174	2,063
One or more children under age 5 years are underweight²				†	**					
No violence (%)	45.3	8.9	5.8	23.4	22.2	26.7	4.7	30.1	34.3	16.7
Violence (%)	52.1	10.0	5.8	31.1	28.0	28.4	7.1	31.9	32	17.7
Adjusted odds ratio (OR)³				†	†					
No violence	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Violence	1.00	1.11	0.76	1.53	1.24	1.09	1.00	0.97	0.87	0.97
Number (unweighted)	1,294	5,390	2,238	1,206	2,261	4,329	935	1,749	2,174	2,063
One or more children under age 5 years are wasted²			*							†
No violence (%)	14.1	1.6	2.5	10.8	6.2	6.7	4.7	5.5	7.2	8.8
Violence (%)	16.5	1.6	0.8	11.2	7.5	7.5	5.2	6.3	6.7	6.4
Adjusted odds ratio (OR)³			*							*
No violence	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Violence	1.03	1.00	0.28	1.10	1.23	1.14	1.11	1.14	0.89	0.64
Number (unweighted)	1,294	5,390	2,238	1,207	2,262	4,329	935	1,749	2,177	2,063

¹ The data for Bangladesh are drawn from the couples file

² Anthropometry was calculated only for children who were successfully weighted and measured and who had valid measures.

³ Adjusted for woman's age, number of years of education, area of residence, and number of children ever born and household wealth quintile

† p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Few of the children's health outcomes are related to their mothers' experience of violence (Table 4.4). In the Dominican Republic and Kenya, women were less likely to fully vaccinate their children if they had a history of physical or sexual violence by their current husbands/partners than if they did not. After adjusting for the woman's age (continuous variable), woman's number of years of education (continuous variable), household wealth quintile, urban-rural residence, and number of children ever born, women with a history of violence by current husbands/partners were less likely to have their children fully vaccinated in the Dominican Republic (adjusted OR=0.52) and Kenya (adjusted OR=0.68).

For children's nutritional status, children four years old or younger of mothers who have experienced violence by their current husbands or cohabiting partners are more likely to be stunted in Bangladesh, Bolivia, Haiti, and Kenya than children of mothers who have not experienced violence. After controlling for confounding factors, however, mother's experience of violence increases the risk of a child being stunted only in Haiti (OR=1.50) and Kenya (OR=1.41). Further, children in Haiti and Kenya were also at greater risk of being underweight if their mothers had experienced violence (OR=1.53 and 1.24, respectively). Finally, the relationship of IPV and child wasting is contrary to expectations. In the two countries where the relationship is significant—the Dominican Republic and Zimbabwe—children whose mothers experienced violence were less likely to be wasted (OR=0.28 and 0.64, respectively).

In summary, the results suggest that the relationship between children's vaccination status and women's experience of IPV and between child nutritional status indicators and IPV vary by context. It is puzzling that women's experience of violence is related to less wasting in the Dominican Republic and Zimbabwe, and further exploration of specific mechanisms is needed.

4.5 Women's Body Mass Index

There are only a few studies that look at the relationship between women's experience of violence and their anthropometric status. The report *Profiling Domestic Violence* (Kishor and Johnson, 2004) found limited evidence suggesting an association between women's body mass index (BMI) and IPV. Using data from the 1998-1999 National Family Health Survey in India, Ackerson and Subramanian (2008) found that women who experienced physical violence at the hands of a family member were significantly more likely to be underweight (BMI<18.5) or severely underweight (BMI<16). In a study of a rural region of India, women's experience of physical violence or sexual coercion was associated with both lower overall weight and low BMI (Sethuraman et al., 2006). These findings suggest that the relationship between women's BMI and IPV will be weak and will likely vary by country.

The BMI is a measure of body fat and is defined as the individual's body weight in kilograms divided by the square of height in meters. A BMI between 18.5 and 24.99 is considered within the normal range; a BMI less than 18.5 is considered underweight or as having chronic energy deficiency (CED); a BMI between 25 and 29.99 is considered overweight; and a BMI of 30 or more is considered obese. This analysis looked at women at the lowest end of the distribution (BMI<18.5), who would be classified as having CED, and women at the highest end of the distribution (BMI≥25), who would be classified as overweight or obese. Only currently married/cohabiting women age 20-44 who were successfully weighed and measured, and for

whom valid measurements were obtained, are considered. In addition, women who were pregnant at the time of the DHS survey or had given birth in the 2 months prior to the survey were excluded.

The results of the bivariate analysis (Table 4.5) indicate that women in Zambia who experienced physical or sexual violence were less likely to have CED (11 percent) than women who did not experience violence (14 percent). This negative association between women's experience of violence and CED is also seen for Zambia in the multivariate analysis, albeit at a lower level of significance.

In Bangladesh, Kenya, and Rwanda, women who experienced physical or sexual violence by their current husbands/partners were less likely to be overweight or obese than women who did not experience violence. After adjusting for the same factors as for children's nutrition, the only statistically significant findings are in Bolivia (which was not significant in the bivariate analysis) and Rwanda, whereby women who experienced violence were significantly less likely to be overweight or obese than women who did not experience violence.

In summary, CED, which is a marker of poor access to food, is either not related or only weakly related to violence in these countries. The only significant finding is counterintuitive, suggesting that women who experienced physical or sexual violence were less likely to have CED than women who did not. Similarly, women who experienced violence were less likely to be overweight or obese in some countries. Again, careful consideration of the pathways of these associations is needed as well as consideration of culture-specific patterns of women's access to food.

Table 4.5 Prevalence and adjusted odds ratios (AOR) of chronic energy deficiency and overweight or obesity by experience of physical or sexual violence by their current husbands/partners among currently married or cohabiting women age 20-44 (DV women subsample), DHS surveys, 2002-2006

Outcome	Bangladesh ¹	Bolivia	Dominican Republic	Haiti	Kenya	Malawi	Moldova	Rwanda	Zambia	Zimbabwe
Chronic energy deficiency (BMI<18.5)									*	
No violence (%)	31.4	1.1	na	12.1	11.1	7.7	4.0	5.7	13.9	7.1
Violence (%)	32.2	0.9	na	11.6	13.4	7.6	3.3	5.6	10.8	7.8
Adjusted odds ratio (OR)²									†	
No violence	1.00	1.00	na	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Violence	0.83	0.88	na	0.96	1.13	0.99	1.05	0.97	0.77	1.01
Overweight or obese (BMI≥25.0)	***				†			*		
No violence (%)	15.6	55.1	na	29.5	29.4	15.2	48.2	12.1	13.6	32
Violence (%)	8.9	54.9	na	25.0	25.3	15.4	51.9	7.9	14.7	28.5
Adjusted odds ratio (OR)²		*						*		
No violence	1.00	1.00	na	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Violence	0.88	0.89	na	0.85	0.96	1.10	0.95	0.62	0.90	1.03
Number (unweighted)	2,168	7,853	na	1,634	2,734	4,659	2,957	1,574	2,272	2,939

Note: Includes women who were successfully weighed and measured and who had valid measurements. Women who were pregnant or had given birth in the last two months were excluded from the analysis

na= not available; item not measured

¹ The data for Bangladesh are drawn from the couples file.

² Adjusted for woman's age, number of years of education, area of residence, and number of children ever born and household wealth quintile

† p<0.10, * p<0.05, ** p<0.01, *** p<0.001

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