

Violence Begets Violence: Armed conflict and domestic sexual violence in Sub-Saharan Africa

Gudrun Østby¹

HiCN Working Paper 233

September 2016

Abstract:

While the study of the causes of civil conflict is a well-established sub-discipline in the conflict literature, less is known about how political violence affects society. Although the majority of the direct victims of war are men, women face more insidious challenges, such as difficulty in providing for families and coping with sexual violence. The consequences of a conflict in terms of sexual violence are not limited to the abuses performed by conflict actors, nor are they limited to the period when the conflict was active. Drawing on psychological theories, this paper argues that armed conflict can have negative consequences for sexual violence in the private sphere. Combining subnational data on armed conflict events with individual-level data on partner abuse from DHS surveys in 17 Sub-Saharan African countries for a total of 95,913 women aged 15-49, I analyse the impact of conflict intensity on intimate partner sexual violence (IPSV). Individual-level analyses show that there is an independent, significant effect of armed conflict intensity in the home region of the respondent as regards her risk of experiencing IPSV. This result is robust even when controlling for factors such as childhood exposure to parent violence and the husband's alcohol consumption.

Keywords: Domestic violence; intimate partner sexual violence; armed conflict; GIS, DHS; Sub-Saharan Africa

¹ Peace Research Institute Oslo (PRIO). Email: gudrun@prio.org

Introduction

While the study of the causes of civil conflict is a well-established sub-discipline in international relations, less is known about how political violence affects society, and more specifically, the private sphere. In particular, there is a gap of systematical studies on the role of women and gender in analyses of political violence (Leiby, 2009: 445). Most of the combatants in armed conflict are men, so naturally men constitute the majority of the direct victims of military operations. Yet, armed conflicts are likely to have important indirect negative consequences that often affect women – arguably more so than men (Plümper & Neumayer, 2006: 723). In war-torn societies women may have to bear more heavily the brunt of family resources and are more vulnerable to sexual violence. Perpetrators of sexual violence include both rebels and government forces. Sometimes, even peacekeepers commit sexual assaults of women during war (see Nordås & Rustad, 2013). Further, there is the potential for more sexual violence overall as an effect of the general lack of law enforcement in wartime. In other words, during periods of civil conflict, one would expect women to face increased levels of violence in public, as well as at home.

As for the growing literature on conflict-related sexual violence, most contributions focus mainly on periods of ongoing conflict. However, the evidence is scarce when it comes to the long-term effects of conflict on sexual violence. In post-conflict environments, perpetrators may include members of the community, ex-combatants and family members who take advantage of the impunity and an embedded culture of violence (Aas, 2010: 5). There is emerging evidence that domestic violence intensifies during times of armed conflict, and it is likely that a large share of rape happens in the home. Some reports also suggest that domestic violence continues to intensify after the conflict has ended (e.g. Amnesty International, 2010).

The traumas inflicted by sexual crimes can have devastating and long-lasting effects on women's ability to participate in public life, including resolving conflict and rebuilding war-torn communities, particularly so in situations where sexual violence becomes normalized post conflict. Women who have survived sexual violence during or in the aftermath of armed conflict must cope with obvious and severe physical and psychological repercussions, such as HIV/AIDS, gynecological problems, unwanted pregnancy, post-traumatic stress disorder and depression. Furthermore, social and cultural adverse consequences may include rejection by family members and the community, social stigma, and the inability to marry (Stark & Wessells, 2012: 678; *ibid*). Overall, gender-based violence is likely to reinforce discrimination of women when it comes to education, participation in political, cultural and social arenas, and control over economic resources

In 2000, the UN Security Council passed Resolution 1325 on Women, Peace and Security, calling for protection of women and girls from gender-based violence in conflict settings and recognizing the critical role of women in peace-building as well as in conflict prevention and resolution. However, systematic evidence is still scant as to the impact on the lives of those exposed to the fighting, and particularly so when it comes to the impact on the lives of women more particularly. A direct consequence of this lack of information is the establishment of mythical figures that are accepted as facts by the community at large.¹ Furthermore, humanitarian guidelines developed to address the issue of gender-based violence and conflict tend to focus on sexual violence perpetrated by individuals outside the family. This focus neglects the potentially increased risk of other forms of gender-based

¹ The establishment of a more reliable description of the problem is sorely needed, and UNSCRs 1820 and 1888 specifically called for better data and overviews so that improved policies can be designed and better protection measures created for victims of sexual violence. Also UNSCR 1960 represents a major step forward in terms of commitments to prevent sexual violence and better understand the problem.

violence to which women might be more exposed, such as domestic sexual violence, or so-called intimate partner sexual violence (IPSV) (Clark et al., 2010: 310).²

Although domestic violence is often dismissed as a private family matter,³ it constitutes one of the world's most pervasive human rights violations (Saile et al., 2013: 17). Cross-country evidence from WHO suggests that lifetime prevalence rates of various forms of domestic violence (including sexual abuse) range from 15 to 71 percent across countries (Garcia-Moreno et al., 2006: 1937). The prevalence of sexual partner violence seems to be higher in poor countries (Stewart and Brown 2010), and anecdotal evidence suggests that the prevalence of IPSV might increase during and after episodes of political violence. However, to the best of my knowledge, empirical investigations are largely limited to a handful case studies of individual countries (see e.g. Saile et al., 2013). The lessons derived from such cases provide deep insight into specific cases, but a few cases do not yield an ideal basis for generalizations about the relationship between political and domestic violence. In order to evaluate the generalizability of this nexus, a systematic cross-national quantitative research design is needed. This paper contributes to filling this gap in the literature. Linking subnational data on armed conflict events from the UCDP-GED dataset (Sundberg & Melander, 2013) with geo-referenced household surveys from 17 countries in Sub-Saharan Africa, I explore the extent to which political violence intensity influences the prevalence of domestic sexual violence. The main goal of the analysis is to explore the association between exposure to political violence and domestic sexual violence.

The remainder of the paper proceeds as follows: The next section provides a brief literature review and presents a theoretical framework for analyzing the relationship between

² In this article I use the terms domestic sexual violence and intimate partner sexual violence (IPSV) interchangeably to denote the same phenomenon.

³ It is notable that marital rape is not recognized as a crime in certain countries, like Uganda despite years of campaigning (Annan & Brier, 2010: 158); <http://thinkafricapress.com/uganda/i-dont-controversial-marriage-and-divorce-bill-left-shelf/>.

political violence and domestic violence, focusing on explanations for both perpetration and victimization of domestic sexual violence. The third section presents the data and research design. Section four presents my empirical results, and section five concludes. The preliminary analyses indicate that the most important determinants of domestic sexual violence are childhood exposure to parent violence and the husband's alcohol consumption. However, even after controlling for these factors there is an independent, significant effect of armed conflict intensity in the home region of the individual woman **respondent**.

Armed conflict and domestic sexual violence

The phrase 'violence begets violence' (or 'hate begets hate') has been used for over 50 years, as in speeches by Dr. Martin Luther King, Jr. (1958).⁴ It means that violent behavior promotes other violent behavior in return. On the one hand it can mean that the one being stricken strikes back (see Widom, 1989). However, it can also mean that those witnessing violent acts are influenced in their own behavior and hence might exercise violence themselves (Noe & Rieckmann, 2013: 1).

Most of the existing research on domestic violence has been undertaken in the field of psychology. According to a social learning perspective, childhood exposure to violence is associated with a heightened risk of future perpetration (and/or acceptance) of intimate partner abuse. Pollak (2004: 311) proposes an intergenerational model of domestic violence, which rests on the following key assumptions: (i) The probability that a husband will be violent depends on whether he grew up in a violent home; (ii) The probability that a wife will remain with a violent husband depends on whether she grew up in a violent home; and (iii) Individuals who grew up in violent homes tend to marry other individuals that grew up in violent homes.

⁴ See <http://www.encyclo.co.uk/define/Violence%20Begets%20Violence>.

Gallegos & Guitierrez (2010) broaden this perspective to allow that the larger society in which a person grows up will also affect his/her preferences towards violence. Specifically, they focus on the effects of civil war-related events, which are a significant shifter of the overall level of social violence. Catani (2010: 2–5) too extends the analytical framework of the violence begets violence hypothesis proposing a model in which increased levels of domestic violence in post-conflict societies may result from the transmission of violence from one level of the social context to another. He argues that the exposure to violent conflict may increase people's risk of becoming perpetrators of violence against members of their own family, often as a result of posttraumatic symptoms. Second, he holds that family members who are traumatized by violent conflict may also become victims of domestic violence because they tend to show behavioral and emotional symptoms which may provoke violent responses from other family members. In sum, the combination of exposure to childhood abuse and political violence may contribute to a 'culture of violence' in which violent response to conflict becomes both instrumental and normative in order to maintain male superiority (Jewkes, 2002; Saile et al., 2013: 18)

The above literature implies two distinct pathways through which the transmission of violence across both generations and the social contexts may result in domestic sexual violence against women in conflict-prone environments: a process of *re-victimization of women*, and so-called *victim-perpetrator transformation of men*. Below I use these two pathways as a point of departure to elaborate the argument for why we should expect to see a higher risk of domestic sexual violence in societies which are more exposed to armed conflict.

First, it has been suggested that post-traumatic stress disorder resulting from conflict-related trauma of women may contribute to re-victimization experiences of inter-personal

violence (Widom, Czaja & Dutton, 2008: 9).⁵ Central to the phenomenon of domestic violence is the level of acceptance by the victims. I assume that this is conditioned by cultural norms in society as well as the victim's alternative options to staying in an abusive relationship. Cultural and personal norms may influence whether the victim will perceive domestic violence as unjust or accept it as something normal. Whether it is possible to leave a violent partner should also depend on the legal system and the level to which the victim is socioeconomic dependent on her partner.

A second trajectory leading from violence exposure from one for or the other to increased domestic violence relates to a victim-perpetrator transformation of men (Saile et al., 2013: 18). Perpetration of domestic violence is sometimes divided into two categories, one which is referred to as expressive, and the other as instrumental. From a psychological perspective, living in a conflict zone may often bring about a general feeling of threat, insecurity and loss of control. Being exposed to violent conflict may lead to various mental health problems, including post-traumatic stress disorder and depression, which might also increase the risk of perpetrating domestic sexual violence. Furthermore, political violence often implies increased economic deprivation which may in turn have a negative impact on family functioning. In the expressive form of domestic violence, passing this pressure on to others within the closest social environment may release some of the emotional pressure and serve as a psychological relief valve (Noe & Rickmann, 2013: 4).

Furthermore, Tauchen et al. (1991: 6–12) propose an instrumental form of domestic violence whereby it aims to 'educate' the victim in line with the interest of the perpetrator. In conflict-ridden environments pre-existing gender-based inequalities may be exacerbated and traditional gender roles are often challenged. For example, occupation policies may imply

⁵ Although both sexes are represented among perpetrators and victims of domestic violence, it seems in general, that the majority of perpetrators are men while the most victims are women (Melton and Sillito 2011).

continuous humiliation of men and render them less able to provide for their families. This may compromise their masculine identity – which is often inseparably attached to the role of economic provider (Hoang & Yeoh, 2011: 717). In a study of masculinity, violence and sexuality among the armed forces in the DRC Baaz & Stern (2009: 507) found that the frustration of “not being able to be a real man and provider for the family” is demonstrated in a sexualized and negative image of women, in which women in general are portrayed as opportunistic and unreliable. According to a feminist perspective, this, in turn, may lead to men increasingly using (sexual) violence against their partners in order to reassert their social position of power in the family (Clark et al., 2010: 314).

Overall, there appears to be a strong consonance between risk factors for male perpetration of domestic sexual violence and risk factors in female partners that increase the probability of such violence (see e.g. Saile et al., 2013: 18). In empirical investigations of domestic sexual violence both men’s prior experiences with childhood exposure to family violence and their exposure to political conflict and human rights violations have been linked to their higher risk of perpetrating physical violence against their partners (see e.g. Heyman & Smith Slep, 2002; Gupta et al., 2009; Clark et al., 2010).

One way of explaining post-conflict domestic sexual violence is to see it as part of a *continuum* of violence between peace and war. In this perspective, feminist scholars of sexual and gender-based violence have argued that what happens during war is part of a longer-term pattern of violence and gender relations (see e.g. Boesten, 2010). The conflict phase can be interpreted as mainly a time of increased intensity of existing and ongoing patterns of female subjugation by men and patterns of violent relationships associated with patriarchal norms. The reasons for sexual violence during and after conflict can hence, according to this perspective, mainly be found in long-standing unequal gender relations that predate the conflict and are perpetuated over time. Noting that many patterns of sexual

violence by armed organizations during war do not reflect pre-war patterns, Wood (2014) concludes that recent research only support certain versions of the continuum theory.

The argument made in the current study in that violence during war is related to violence in the post-conflict phase corresponds well with the continuum hypothesis. However, the mechanisms proposed here are focused more strongly on how wartime violence in the local sphere can change norms and behavior in the post-conflict phase.

Existing empirical evidence

Empirical findings from several studies suggest that female victims or witnesses of family violence as a child have a higher risk of becoming victims of domestic sexual violence, controlling for a host of other socio-demographic factors known to influence domestic violence such as age, education and poverty (see e.g. Abramsky et al., 2011; Gage, 2005). However, there has been very little research on the effect of armed conflict exposure on re-victimization of women in intimate relationships, and we know little about if and how violent conflict affects the prevalence of gender-based violence in the home.

The scarce empirical research on the link between political violence and domestic violence has mainly been focusing on military personnel. For military personnel, perpetration of domestic violence has been associated with post-traumatic stress disorder (PTSD) resulting from the exposure to war-zone stressors. For example, according to Marshall, Panuzino and Taft (2005: 864) the prevalence of domestic violence is up to three times higher for active-duty servicemen and veterans than for the population in general. Sherman et al. (2006) reported similar results.

Only a handful studies have explored the relationship between political violence and domestic violence in civilian populations. These are largely limited to a few studies of individual countries, such as e.g. Colombia (Noe & Ripsmann, 2013); the East Timor (Hynes et al., 2004); the Palestinian territory (Clark et al., 2010); Peru (Gallegos & Guitterez, 2010)

and Uganda (Annan & Brier, 2010). Results from these studies mostly indicate that there is a positive impact of violent conflict on sexual and other forms of domestic violence. For example, Gallegos & Guterrez (2010) used survey data from Peru to investigate the potential relationship between the exposure to civil war violence and the incidence of domestic violence, defined as physical and/or sexual abuse of women from their husbands and partners. They found that exposure to civil war violence, especially during a woman's early life, increases the probability for her to be a victim of DV, even after controlling for the woman and her partner's characteristics. Further, Gupta et al. (2009) in a study of immigrant men attending health clinics in Boston, MA found that men who reported exposure to pre-immigration political violence had significantly higher rates of past year perpetration of domestic sexual violence than did those men who were not exposed to political violence.

Add to the above that various studies have found that people who have experienced violence from conflict become more risk-seeking (Voors et al., 2012). Also, according to Noe & Rickmann (2012: 3), witnessing violent acts in the context of armed conflict can lead to 'widespread tacit tolerance and acceptance of the use of physical violence to solve private and social problems', and ultimately to general culture of violence. The authors highlight the phenomenon of 'emotional blunting' of victims as well as perpetrators as a consequence of their violent experiences (ibid: 4). This implies a potential lowering of the psychological threshold restraining the use of violence at home.

In summary, previous studies seem to point at a positive relationship between conflict exposure and domestic violence, but systematic, quantitative investigations on the determinants and prevalence of domestic sexual violence against women in conflict-ridden and post-conflict societies remain scarce, and I am not aware of any systematic effort at analyzing the *armed conflict–domestic sexual violence* nexus across countries.

Hypotheses

In line with the above discussion, I expect that the effect from political violence to domestic sexual violence is not limited to individuals who were directly victimized by conflict (e.g. those who were directly involved in combat), but that also witnesses of severe violence in their geographical neighborhood are more subject to perpetrate or being subject to domestic sexual violence. I also assume that this effect increases with the severity of conflict and that closer and more intense conflict events are perceived to be more threatening than distant and less intense ones. In particular one should expect a strong effect of political violence for those individuals who are direct victims of such. However, some studies have also shown that incidences of extreme violence can have adverse psychological effects on individuals even if it happened thousands of kilometers away (see e.g. Silver et al., 2002). In sum this supports the idea that experiencing or witnessing violent manifestations of conflict increases the incidence of domestic sexual violence in spatial proximity to these manifestations, be in the larger community, or within the family (across generations).

H1 (societal effect): *The more severe the political violence history in the home region of a woman the higher the probability that she experience domestic sexual violence.*

H2 (generational effect): *The probability that a woman experience domestic sexual violence is higher if she grew up in a violent home.*

Research design

In order to assess the relationship between conflict intensity and domestic sexual violence I use individual-level data from 17 countries in Sub-Saharan Africa (Burkina Faso, Cameroon, DRC, Cote d'Ivoire, Gabon, Ghana, Kenya, Liberia, Malawi, Mali, Mozambique, Nigeria,

Rwanda, Tanzania, Uganda, Zambia, Zimbabwe) from the period 2006–2011 and spatially link these with subnational data on conflict intensity from the period 1989–2005.

Data on domestic sexual violence

The data on domestic sexual violence stem from Demographic and Health Surveys⁶ conducted in 17 countries in Sub-Saharan Africa in the period 2006–2011. In a typical DHS survey, a sample of households is selected throughout the entire country and then interviewed using a household questionnaire to collect housing characteristics. Women aged 15– 49 are interviewed using a separate women’s questionnaire. DHS began to collect information on the prevalence of domestic violence against women in the 1990s. The DHS Domestic Violence Module collects information on a series of relevant indicators such as general experience of physical and/or sexual violence; violence during pregnancy; and experience of emotional, physical, or sexual violence by current (or most recent) husband. At the time of writing, comparable information on the prevalence of domestic violence against women has been collected in 87 surveys in 47 countries through the Demographic and Health Surveys. For the preliminary analysis presented in this paper, I selected to most recent publicly available survey for each SSA country provided that it was geo-referenced and included a Domestic Violence Module (see Figure 1 and Table A1).

[Figure 1 about here]

In total these 17 surveys included 214,593 women of which 54 percent or 117,700 women were interviewed about domestic violence. All women interviewed in the domestic violence module were asked ‘Has your partner ever physically forced you to have sex or perform sexual acts against your will?’ This question was asked with regard to both lifetime experiences and the preceding 12 months. Women who responded that they had ‘often’ or ‘sometimes’ been forced to engage in these acts were defined as having experienced

⁶ See www.measuredhs.com.

domestic sexual violence.⁷ For this study I use two alternative dependent variables: Those who report IPSV in general (among ever-married or cohabiting women) and those who report IPSV for the last 12 months (among currently married or cohabiting women).

When it comes to childhood history of family violence the DHS record information on whether each respondent's father ever beat her mother. This variable is essential for evaluating the second hypothesis about the generational effect on domestic sexual violence.

Data on conflict intensity

In order to test the first hypothesis, I construct a measure of conflict intensity in the home region of each individual respondent. As regards conflict data, I rely on UCDP's Geo-referenced Events Dataset.⁸ The UCDP-GED (Sundberg & Melander, 2013) codes individual events in all armed conflicts registered by the UCDP by exact location, date, and type. Currently, the dataset covers only Sub-Saharan Africa for the 1989–2010 period, and includes events related to all the three UCDP conflict categories: *state-based* conflict (armed conflict where at least one party is the government of a state), *non-state* conflict (communal and organized armed conflict where none of the parties is the government of a state), and *one-sided* violence (intentional attacks on civilians by governments and formally organized armed groups). The UCDP-GED dataset contains approximately 22,000 events. Each event comes complete with date of the event, place of the event (with coordinates), actors participating in the event, estimates of fatalities, as well as variables that denote the certainty with which these data are known.⁹ Some 11,000 of these are state-based violence, 4,000 events of non-state conflict, and 6,000 events of one-sided violence. The total fatality count for the dataset is 750,000 deaths in the 'best estimate' category (1,136,969 fatalities in the

⁷ This operationalization is in line with Peterman, Palermo & Bredenkamp (2011: 1063).

⁸ See <http://www.ucdp.uu.se/ged/>.

⁹ See http://www.pcr.uu.se/research/ucdp/datasets/ucdp_ged/.

high estimate) (Sundberg & Melander, 2013: 527). I am taking advantage of the geo-location of the measures to construct on the basis of individual events subnational regional measures of total conflict fatalities (across all three conflict types) for the period 1989 to 2005, the year preceding the period of the DHS surveys used in the analysis (2006–2011). More precisely, in order to operationalize conflict intensity I use log-transformed (best) estimates for the total number of fatalities (for the period 1989–2005) by each first-level administrative unit and couple this with the individual-level geo-referenced data from the DHS surveys.

Control variables

To estimate the impact of conflict intensity and violent family history on the probability of domestic sexual violence it is important to control for potentially confounding variables. First, I include the *respondent's current age*. Some studies have found a negative effect of age when it comes to the risk of domestic violence (see e.g. USAID, 2008).

Second, I control for the *respondent's education*. Simister & Makowiec (2008) have found that domestic violence is less common if women and men alike are well educated. However, results as regards education are inconsistent. In a study of Kenya, for example, Kimuna & Djamba (2008) found the effect of women's education on domestic violence to be non-linear. Lawoko et al. (2007) in a related study found that a women having a higher education status than her partner increased her vulnerability to domestic violence.

Furthermore, men's alcohol abuse has been found to be a significant predictor of partner violence in previous studies (Gage, 2005; Jewkes et al., 2002; Koenig et al., 2003). This effect may have various explanations. On the one hand, a study by Jewkes et al. (2002: 1425–1426) suggests that male partners' alcohol abuse may contribute to increasingly conflict-prone relationships due to conflict over the man's drinking, which in turn may lead to higher levels of partner violence. On the other hand, alcohol abuse may lead to behavioral

disinhibition, which may also lead to higher levels of physical violence (Saile et al., 2013: 23).

In a study of men's justification of wife beating in India, Zhu & Dalal (2010) found that economic stress was a significant determinant. In order to account for this I control for household wealth using the DHS-defined 'wealth index' which divides each country into 5 income groups based on information about household assets

Finally, according to USAID (2008) 'community factors', such as average education level or income, may be associated with increased levels of IPSV. I hence include a set of regional-level socioeconomic variables, such as regional average levels of education, economic wealth, as well as a measure of economic inequality measured as a Gini coefficient based on the distribution of household assets within each region.

Handling missing data

For both the term for violent family history and partner's alcohol abuse there are relatively high shares of missing observations, 3.7 and 14.3 percent, respectively.¹⁰ In order to maximize N and the number of countries included in the analyses, I hence include separate 'missing dummies' for these two variables.¹¹

¹⁰ In fact, two countries in my sample lack information on violent family history altogether; the DRC and Rwanda. Rwanda also did not include the question on partner's alcohol problem in the DHS.

¹¹ Since missingness is dominated by complete exclusion of certain variables in some surveys, multiple imputation techniques are more or less inapplicable. The missing category, which is included as a covariate in the regression model, will obviously correlate highly with the country dummies for Rwanda and DRC. As these variables have no substantial interpretation, this issue is deemed tolerable.

Statistical model

Since the dependent variable is a dummy variable (exposure to IPSV or not), I use a logistic regression model.¹² All analyses were done with Stata/SE version 12.1. Coefficients from logistic regression models are inherently difficult to interpret. I therefore present change, in percentage points, in the individual risk of being raped when key variables change. These changes are computed when all other variables are set to their mean, using the CLARIFY package (Tomz et al., 2003). The figures are computed based on 1,000 simulations of coefficients based on the coefficient vector and the variance-covariance matrix from the regression models. Each of these simulations includes a more or less likely realization of a possible coefficient vector. Since the more likely outweigh the less likely according to the normal distribution from which they are drawn, the resulting set of 1000 predicted probabilities gives us not only a best estimate, but also a measure of the real uncertainty.

The dataset is a cross section, which is admittedly not ideal. The main aim of this paper is to uncover the *effect* of conflict on domestic sexual violence, but what we observe is merely the joint presence of these two ailments post hoc. To conclude that conflict causes domestic sexual violence, we should ideally have had reliable data on domestic violence for the same regions prior to the onset of conflict, and be reasonably sure that the model is correctly specified. Neither of these factors is present, and our findings should not be considered as causal effects. Nevertheless, I believe the quality of the data and research design is sufficiently good to produce interesting results.

Descriptive statistics for both the individual- and country level are provided in the appendix (Tables A2 and A3).

¹² According to Rutstein & Roja's (2003: 9) *Guide to DHS Statistics*, the use of sample weights is appropriate to calculate representative levels of statistics, such as percentages, means, and medians, but inappropriate for estimating relationships, such as regression and correlation coefficients. Hence, sample weights were not used. Furthermore, sensitivity analyses showed that the sample weights had no effect on the results in any case.

Results

Before moving to the regression results, I present some descriptive statistics in the form of maps in order to visualize the magnitude and geographical variation of domestic sexual violence and its main hypothesized determinants, political conflict intensity and family history of domestic violence. All maps were created with ArcGIS 9.2.

Geographical patterns of domestic sexual violence

The map in Figure 2 shows the prevalence of domestic sexual violence at the regional level for the 17 countries included in the analysis. This map shows the prevalence of lifetime experience of IPSV. In general the map highlights three points. First, the map reveals some disturbing figures, with IPSV rates as high as 41–56 percent for certain regions in DRC and Uganda. Second, there are striking geographical differences between the Western parts of Africa as opposed to the Central and Eastern parts when it comes to the share of women who have experienced IPSV at some point in life. With a couple of exceptions in Liberia, Côte d'Ivoire and Nigeria the DHS surveys indicate that in most subnational regions in the surveyed countries in West Africa less than 10 percent of women have experienced IPSV, as indicated by the yellow color. However, if look at Central and East Africa the figures are much higher for a large share of the regions, as indicated by the orange and red colors. Third, there seems to be much greater subnational variation in terms of the magnitude of IPSV in Central and East Africa.

[Figure 2 about here]

The map in Figure 3 overlays the domestic violence map with figures for the regional share of women who grew up in a home where they witnessed that their father beat their mother, symbolized by light blue dots. Here, the picture seems a bit clearer. In general there seems to be pattern in which the higher the regional share of women who witnessed inter-parental violence as a child (i.e. the larger the light blue dots) he higher the regional share of women

having experienced sexual domestic violence themselves (indicated by more orange or reddish the color). Hence, the map indicates that there seems to be a cyclical, generational effect when it comes to domestic sexual violence.

[Figure 3 about here]

Figures 4 and 5 overlay the IPSV map with geographical data on conflict events and fatalities aggregated up to the subnational region. These maps are less clear. Neither reveals a clear pattern indicating that IPSV happens mostly in the most conflict prone regions or in the regions where conflict has been most intense in the period 1989-2005. However, these maps are somewhat hard to read and to get a fuller picture a statistical assessment is needed.

[Figures 4 and 5 about here]

Multivariate regression results

This section reports the results from the individual-level multivariate empirical evaluations of the proposed Hypotheses 1–2, which are conducted by means of two logistic regression models. In Model 1 presents the results for IPSV experienced in the last 12 months preceding the survey (i.e. 2006-2011 for the 17 countries included here). Both models include the main independent variables of a violent family history and political conflict intensity in terms of (log-transformed) figures for total number of fatalities in the individuals region of residence for the period 1989-2005, in addition to a set of individual, household-level and regional controls as well as country dummies.

[Table 1 about here]

A quick look at Table 1 shows that both the main explanatory variables, regional conflict intensity and a violent family history significantly increase the risk that a woman is sexually abused by her partner – be it recently (Model 1) or in her lifetime (Model 2). This provides support to both the hypotheses 1 and 2 about a societal as well as a generational

effect on domestic sexual violence. These effects are further described and visualized below, but first some notes on the performance of the control variables:

As regards the control variables the effects are more or less as expected, with a couple of exceptions, and the results seem to be largely similar for recent and lifetime experiences of IPSV. I first test the effect of individual level variables and then move to household-level and regional-level variables. First, I find an IPSV-reducing effect of age, which has also been documented in earlier studies (see e.g. USAID, 2008). One explanation for this when we look at recent IPSV could be that some women choose to leave a violent partner. Another explanation could be that if we assume that partners are often about the same age, it is not unlikely that younger men can be more sexually aggressive than elder ones (see Aromäki, Haebich & Lindman, 2002: 421–422).

Second, woman's education seems to have a non-linear relationship to her risk of being sexually abused by her partner. This is in line with some previous literature (see e.g. Kimuna & Djamba, 2008), and overall women's education level and household wealth on domestic conflict has shown mixed results in the literature (Peterman, Palermo & Bredenkamp, 2011). More specifically, compared to those women who have no formal education at all, I find that the women who have completed primary education only have the highest risk whereas the highest educated women (i.e. the ones with higher education) have the lowest risk of experiencing IPSV. To get a fuller picture of the education effect one should consider including husbands education and look at educational differences within couples (Lawoko et al. 2007). Third, I find a clear positive, significant effect of partner's alcohol abuse, which has been linked to higher levels of domestic violence in several previous studies (e.g. Jewkes et al., 2002; Koenig et al., 2003; Gage, 2005).

When it comes to the influence of household wealth, the model indicates that it is only the women who belong to a household in the richest 5th of the population who are significantly at a lower risk of IPSV than the reference group, the poorest 5th. Finally, the

regional-level socioeconomic controls show somewhat surprising effects. First it seems that the average level of female education in a region is negatively related to the risk of experience IPSV for individual women. However, the result of the average regional wealth is more as expected – the richer the region, the lower the risk of individual IPSV. Finally, it seems that living in a region with sharper economic differences between households (measured as the Gini coefficient) has a negative impact on a woman’s risk of being sexually abused by her partner. However it could be the case that this is really an effect of poverty if it is so that the poorest regions are so poor that the level of inequality is low too (if practically all are poor).

The interpretation of logistic regression coefficients is not intuitive and hence I present substantial effects in the form of changes in risk of experiencing recent IPSV¹³ for the main explanatory variables and selected control terms based on Model 1 Table 1. First, Figure 6 shows a strong effect of having grown up in a violent home with inter-parental violence. A women who grew up witnessing that her father beat her mother has 5 percent points higher risk of being victim to domestic sexual violence herself than a woman who did not experience such inter-parental violence as a child. The effect of husband’s alcohol abuse is also very strong – in fact nearly as strong as the effect of growing up with a violent father. The effect of conflict intensity measured as fatalities is also quite substantial, with the risk for experiencing IPSV increases by app. 1 percentage point if we compare a region with zero conflict fatalities in the period 1989–2005 to a region with 1,000 killed in the same period. It is important to remember that although the effect seems rather modest it suggests an increase in risk for *all* woman in the region in question meaning that a region with 100,000 woman inhabitants will see 1,000 additional incidents of IPSV if we move from 0 to 1,000 conflict deaths (that is 1 woman raped by her partner for each person dying as a direct result of political violence). Figure 6 also maps the results for regional inequality and welfare. As can

¹³ The plot for lifetime experiences of IPSV look very similar and is hence not included here.

be seen women living in one of the richest regions has about 3.3 percentage points less risk of experiencing IPSV than women living in the poorest regions (5th vs. 95th percentile). The results for inequality are not as expected: If we compare the women living in the most economically unequal as opposed to the most economically equal regions the risk of experiencing IPSV is reduced by app. 2 percentage points.

[Figure 6 about here]

Finally, as indicated by the maps above there seems to be a lot of cross-national variation in terms of the impact of conflict intensity on domestic violence. Figure 7 summarizes results for individual analyses of each of the 17 countries with logit coefficients and associated 95 percent confidence intervals. The figure shows that for 5 countries there seems to be a positive effect of conflict intensity on IPSV: Cameroon, Nigeria, Rwanda, Tanzania and Zimbabwe. In 9 countries the effect is not significantly different from 0, and in three countries there is actually a negative significant effect: DRC, Ghana and Mali.

A possible interpretation is that conflict in these countries reduces the incidence of domestic violence. This is, however, not the only explanation, and not the most likely. DRC and Mali stand out as the two countries with the largest regions. Thus, the precision of the conflict measure, and thereby its validity, becomes problematic. For Ghana, the same mechanism seems to be in play, albeit in the other extreme: There are very few conflict events in Ghana (cf. Figure 4), and it is therefore difficult to argue that the minute treatment should be associated with the country-wide effect reported in Figure 7.

[Figure 7 about here]

Conclusions and avenues for future research

When it comes to sexual abuse of women in wartime or post-conflict societies, media attention tends to focus primarily on sexual violence committed by men in uniform. Far less

attention is given to sexual violence committed by men from local communities, who, as for example in the case of DRC, sometimes may join the military on rape raids or exploit the situation of conflict to assault women without fear of being punished (Peterman, Palermo & Bredekamp, 2011: 1065; Bosmans, 2007). Even less visible is the magnitude of domestic violence, which is likely to be the most extensive form of violence against women (Heise, Ellsberg & Gottmoeller, 2002: S5). As noted by Baaz & Stern (2010: 3) and Skjelsbæk (2010: 40), a single focus on sexual violence committed by soldiers may conceal other forms of sexual and gender-based violence, such as domestic violence. The latter may very well be equally—if not more—challenging in the daily lives of women in conflict-ridden and post-conflict societies.

To the best of my knowledge, the study presented herein is the first cross-national attempt to systematically assess the relationship between past conflict exposure and domestic sexual violence. National Demographic and Health Surveys from 17 countries in Sub-Saharan Africa in the period 2006–2011 display significant levels of IPSV, and large geographical variations – both across countries and regions, from certain regions in Mali and Burkina Faso where IPSV is hardly reported by individual women to certain regions in Uganda and DRC where almost or more than 50 percent of married women have experienced sexual abuse by their partner.

Combining subnational data on political violence intensity with the individual-level DHS data, I find that domestic sexual violence seems both cyclical/generational *and* intertwined with political violence. Conflict exposure heightens the risk of domestic sexual violence, and witnessing violence between parents renders girls vulnerable to experience IPSV themselves as adults. If violence begets violence in the sense that experiencing or witnessing political violence increases the probability of committing (and/or accepting) domestic violence, there may be severe consequences for society at large. This self-reinforcing culture of violence can indeed be a vicious circle in conflict-ridden and post-

conflict societies, whereby violence against women is counter-productive to peaceful development overall by undermining the process of rebuilding economic, social and moral structures (Saile et al., 2013: 23). The consequences of domestic violence are not limited to the directly affected victims of such deeds. Ultimately, if domestic violence is a common phenomenon in society it might cultivate future conflict due to the lack of peaceful role models (see e.g. Pollak, 2004).

There are some limitations to the present study, which has implications for future contributions to this literature. First, it is not clear whether the mechanism linking conflict-related violence, with domestic sexual violence has a causal effect by increasing the risk factors for victimization or for perpetration, or both. Furthermore, future research trying to understand the link between political conflict and domestic violence should try to disaggregate both the independent variable. Domestic violence is not limited to sexual violence, but can also include other varieties of physical, emotional violence, as well as economic discrimination towards women. The DHS include a variety of variables which would be interesting to explore in this regard. Future studies should disaggregate the dependent variable and look at whether and how conflict exposure impacts on various types of partner violence.

Furthermore, the current analysis does not account for internal displacement, migration, or individuals who died as a result of violence. The DHS includes a question about how many years an individual has resided in the current area of residence, but 70 percent of the sample studied here had missing observations on this variable. Future studies of single countries should account for migration history whenever possible, as we have no guarantee that the women reporting IPSV in a certain region are the same women who lived in the region before conflict broke out.

Finally, future efforts should try to better understand the link (if any) between sexual violence committed by conflict actors (see Cohen & Nordås, 2014), sexual violence

committed by civilians outside the family and domestic sexual violence. In many conflicts the level of sexual violence by conflict actors varies temporally and regionally, and is asymmetric with one group practicing it and the other not (Wood, 2006; *ibid*). It would be interesting to see to what extent (if any) domestic violence follows these patterns.

References

- Aas, Sidsel E (2010) 'Nothing about us without us.' Sexual violence in conflict – How to end impunity. Noref Report, Oslo, Norway.
- Abramsky, Tanya; Charlotte H Watts, Claudia Garcia-Moreno, Karen Devries, Ligia Kiss, & May Ellsberg (2011) What factors are associated with recent intimate partner violence? Findings from the WHO multi-country study on women's health and domestic violence. *BMC Public Health* 11(109): 1–17.
- Amnesty International (2010) Violence in post-conflict situations. Fact sheet. <http://www.amnestyusa.org/violence-against-women/stop-violence-against-women-svaw/violence-in-post-conflict-situations/page.do?id=1108238>.
- Annan, Jeannie & Moriah Brier (2010) The risk of return: Intimate partner violence in Northern Uganda's armed conflict. *Social Science & Medicine* 70(1): 152–159.
- Aromäki, Anu S; Kim Haebich & Ralf E Lindman (2002) Age as a modifier of sexually aggressive attitudes in men. *Scandinavian Journal of Psychology* 43(5): 419–423.
- Baaz, Maria Eriksson & Maria Stern (2009) Why do soldiers rape? masculinity, violence, and sexuality in the armed forces in the Congo (DRC). *International Studies Quarterly* 53(2): 495–518.
- Baaz, Maria Eriksson & Maria Stern (2010) Understanding and addressing conflict-related sexual violence. Policy Notes 2010/3, Nordic Africa Institute (NAI), Uppsala, Sweden.
- Boesten, Jelke (2010) Analyzing rape regimes at the interface of war and peace in Peru. *International Journal of Transitional Justice* 4(1): 110–129.
- Bosmans, Marleen (2007) Challenges in aid to rape victims: The case of the Democratic Republic of the Congo. *Essex Human Rights Review* 4(1):1–12.
- Catani, Claudia (2010) War at home - a review of the relationship between war trauma and family violence. *Verhaltenstherapie* 20: 19–27.
- Clark, Cari Jo; Susan A Everson-Rose, Shakira Franco Suglia, Rula Btoush, Alvaro Alonso, & Muhammad M Haj-Yahia (2010) Association between exposure to political violence and intimate-partner violence in the occupied Palestinian territory: A cross-sectional study. *Lancet* 375(9711): 310–316.
- Cohen, Dara Kay & Ragnhild Nordås (2014) Sexual violence in armed conflict Introducing the SVAC dataset, 1989–2009. *Journal of Peace Research* 51(3): 418–428.

- Gage, Anastasia J (2005) Women's experience of intimate partner violence in Haiti. *Social Science & Medicine* 61(2): 343–364.
- Gallegos, Jose V & Italo A Guitierrez (2010) The effect of civil conflicts on domestic violence: The case of Peru. Unpublished paper, Department of Economics Syracuse University & University of Michigan.
- Garcia-Moreno, Claudia; Henrika AFM Jansen, Mary Ellsberg, Lori Heise & Charlotte H Watts (2006) Prevalence of intimate partner violence: Findings from the WHO multi-country study on women's health and domestic violence. *Lancet* 368(9543): 1260–1269.
- Gupta, Jhumka; Dolores Acevedo-Garcia, David Hemenway, Michele R Decker, Anita Raj & Jay G Silverman (2009) Premigration exposure to political violence and perpetration of intimate-partner violence among immigrant men in Boston. *American Journal of Public Health* 99(3): 462–469.
- Haj-Yahia, Muhammad M & Rula Abdo-Kaloti (2007) The rates and correlates of the exposure of Palestinian adolescents to family violence: toward an integrative-holistic approach. *Child Abuse Neglect* 27(7): 781–806.
- Heise, Lori; Mary Ellsberg, & Megan Gottmoeller (2002) A global overview of gender-based violence. *International Journal of Gynecology and Obstetrics* 78: S5–S14.
- Heyman, Richard E & Amy M Smith Slep (2002) Do child abuse and interparental violence lead to adulthood family violence? *Journal of Marriage and Family* 64(4): 864–870.
- Hoang Lan Anh & Brenda SA Yeoh (2011) Breadwinning wives and 'left-behind' husbands: Men and masculinities in the Vietnamese transnational family. *Gender & Society* 25(6):717–739.
- Hynes, Michelle; Kathryn Robertson, Jeanne Ward & Chadd Crouse (2004) A determination of the prevalence of gender-based violence among conflict-affected populations in East Timor. *Disasters* 28(3): 294–321.
- Jewkes, Rachel (2002) Intimate partner violence: Causes and prevention. *Lancet* 359(9315): 1423–1429.
- Jewkes, Rachel; Jonathan Levin & Loveday Penn-Kekana (2002) Risk factors for domestic violence: Findings from a South African cross-sectional study. *Social Science & Medicine* 55(9): 1603–1617.
- Kimuna, Sitawa, R & Yanyi K Djamba (2008) Gender based violence: Correlates of physical and sexual wife abuse in Kenya. *Journal of Family Violence* 23(5): 333–342.

- Koenig, Michael A; Tom Lutalo, Fenf Zhao, Fred Nalugoda, Fred Wabwire-Mangen, Noah Kiwanuka, Jennifer Wagman, David Serwadda, Maria Wawer & Ron Gray (2003) Domestic violence in rural Uganda: Evidence from a community-based study. *Bulletin-World Health Organization* 81(1): 53–60.
- Lawoko Stephen; Koustuv Dalal, Luo Jiayou & Bjarne Jansson B (2007) Social inequalities in intimate partner violence: A study of women in Kenya. *Violence and Victims* 22(6): 773–784.
- Leiby, Michele (2009) Wartime sexual violence in Guatemala and Peru. *International Studies Quarterly* 53(2): 445–468.
- Marshall, Amy D; Jillian Panuzio & Casey T Taft (2009) Intimate partner violence among military veterans and active duty servicemen. *Clinical Psychological Review* 25(7): 862–876.
- Melton, Heather C & Carrie Lefevre Sillito (2011) The role of gender in officially reported intimate partner abuse. *Journal of Interpersonal Violence* 27(6): 1090–1111.
- Noe, Dominik & Johannes Rieckmann (2013) Violent behaviour – The effect of civil conflict on domestic violence in Colombia. *Courant Research Centre 'Poverty, Equity and Growth' - Discussion Paper* No. 136, University of Göttingen, Germany.
- Nordås, Ragnhild & Siri Camilla Aas Rustad (2013) Sexual exploitation and abuse by peacekeepers: Understanding variation. *International Interactions* 39(4): 511–534.
- Peterman, Amber; Tia Palermo & Caryn Bredenkamp (2011) Estimates and determinants of sexual violence against women in the Democratic Republic of Congo. *American Journal of Public Health* 101(6): 1060–1067.
- Pollak, Robert A (2004) An intergenerational model of domestic violence. *Journal of Population Economics* 17(2): 311–329.
- Plümper, Thomas & Eric Neumayer (2006) The unequal burden of war: The effect of armed conflict on the gender gap in life expectancy. *International Organization* 60(3): 723–754.
- Rutstein, Shea Oscar & Guillermo Rojas (2003) *Guide to DHS statistics*. Calverton, MD: Demographic and Health Surveys, ORC Macro.
- Saile, Regina; Frank Neuner, Verena Ertl & Claudia Catani (2013) Prevalence and predictors of partner violence against women in the aftermath of war: A survey among couples in Northern Uganda. *Social Science & Medicine*: 86(1): 17–25.

- Sherman, Michelle D; Fred Sautter, M Hope Jackson, Judy A Lyons & Xiaotong Han (2006) Domestic violence in veterans with posttraumatic stress disorder who seek couples therapy. *Journal of Marital and Family Therapy* 32(4): 479–490.
- Silver, Roxane Cohen; E Alison Holman, Daniel N McIntosh, Michael Poulin & Virginia Gil-Rivas (2002) Nationwide longitudinal study of psychological responses to September 11. *Journal of the American Medical Association* 288(10): 1235–1244.
- Simister, John & Judith Makowiex (2008). Domestic violence in India: Effects of education. *Indian Journal of Gender Studies* 15(3): 507–18.
- Skjelsbæk, Inger (2010) The Elephant in the Room: An Overview of How Sexual Violence Came to be Seen as a Weapon of War. PRIO Report.
- Sundberg, Ralph; Kristine Eck & Joakim Kreutz (2012) Introducing the UCDP non-state conflict dataset. *Journal of Peace Research* 49(2): 351–362.
- Stark, Lindsay & Mike Wessells (2012) Sexual violence as a weapon of war. *Journal of the American Medical Association* 308(7): 677–678.
- Stewart, Frances & Graham Brown (2009) Fragile States. Report no. 3, Centre for Research on Inequality, Human Security and Ethnicity (CRISE), Oxford.
- Sundberg, Ralph & Erik Melander (2013) Introducing The UCDP Georeferenced Event Dataset. *Journal of Peace Research* 50(4) 523–532.
- Tauchen, Helen V; Ann Dryden Witte & Sharn K Long (1991) Domestic violence: A non-random affair. *National Bureau of Economic Research Working Paper Series* 1665: 1–37.
- Tomz, Michael; Jason Wittenberg & Gary King (2003) CLARIFY: Software for interpreting and presenting statistical results. Typescript, Stanford University, University of Wisconsin, and Harvard University.
<http://gking.harvard.edu/clarify/clarify.pdf>.
- USAID (2008) Intimate partner violence among couples in 10 DHS countries: Predictors and health outcomes. *DHS Analytical Studies* 18.
- Voors, Maarten J; Eleonora EM Nillesen, Philip Verwimp, Erwin H Bulte, Robert Lensink & Daan P Van Soest (2012) Violent conflict and behavior: A field experiment in Burundi. *American Economic Review* 102(2): 941–964.
- Widom, Cathy S (1989) Does violence beget violence? A critical examination of the literature. *Psychological Bulletin* 106(1): 3–28.
- Widom, Cathy S; Sally J Czaja & Mary Ann Dutton (2008) Childhood victimization and lifetime revictimization. *Child Abuse & Neglect* 32(8) 785–796.

- Wood, Elisabeth Jean (2006) Variation in sexual violence during war. *Politics and Society* 34(3): 307–341.
- Wood, Elisabeth J (2014) Conflict-related sexual violence and the policy implications of recent research. *International Review of the Red Cross* 96(894): 457–478.
- Zhu Ying & Koustuv Dalal (2010) Childhood exposure to domestic violence and attitude towards wife-beating in adult life: A Study of men in India. *Journal of Biosocial Science* 42(2): 255–269.

Table 1. Determinants of domestic sexual violence

	Model 1 IPSV last 12 months (currently married or co- habiting women)	Model 2 Any IPSV (ever-married or cohabiting women)
Regional conflict fatalities (ln) 1989-2005	0.021 (0.008)**	0.025 (0.007)***
Family violence history (<i>Ref: father did not beat mother</i>)		
Father beat mother	0.663 (0.030)***	0.669 (0.027)***
Missing on family violence history	0.292 (0.049)***	0.299 (0.043)***
Age	-0.017 (0.002)***	-0.008 (0.001)***
Education (<i>Ref: no formal education</i>)		
Primary education	0.221 (0.037)***	0.247 (0.033)***
Secondary education	0.084 (0.047)*	0.131 (0.042)***
Higher education	-0.192 (0.104)*	-0.174 (0.089)*
Partner's alcohol abuse (<i>Ref: Partner does not drink</i>)		
Partner drinks alcohol	0.704 (0.028)***	0.703 (0.025)***
Missing on alcohol abuse	0.179 (0.529)	0.144 (0.476)
Household wealth (<i>ref: Poorest</i>)		
Poorer	0.039 (0.039)	0.003 (0.035)
Middle	0.049 (0.040)	0.037 (0.036)
Richer	0.040 (0.042)	0.017 (0.038)
Richest	-0.124 (0.050)**	-0.113 (0.045)**
Regional education level (females)	0.026 (0.012)**	0.039 (0.011)***
Regional household wealth (asset score)	-1.66 (0.263)***	-1.821 (0.233)***
Regional inequality (assets)	-1.054 (0.196)***	-1.125 (0.175)***
Constant	-3.543 (0.165)***	-3.478 (0.147)***
N	85,670	95,913

Logit regression coefficients (standard errors in parentheses), * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$, country dummies not shown.

Figure 1. Geographical coverage of domestic violence data from DHS

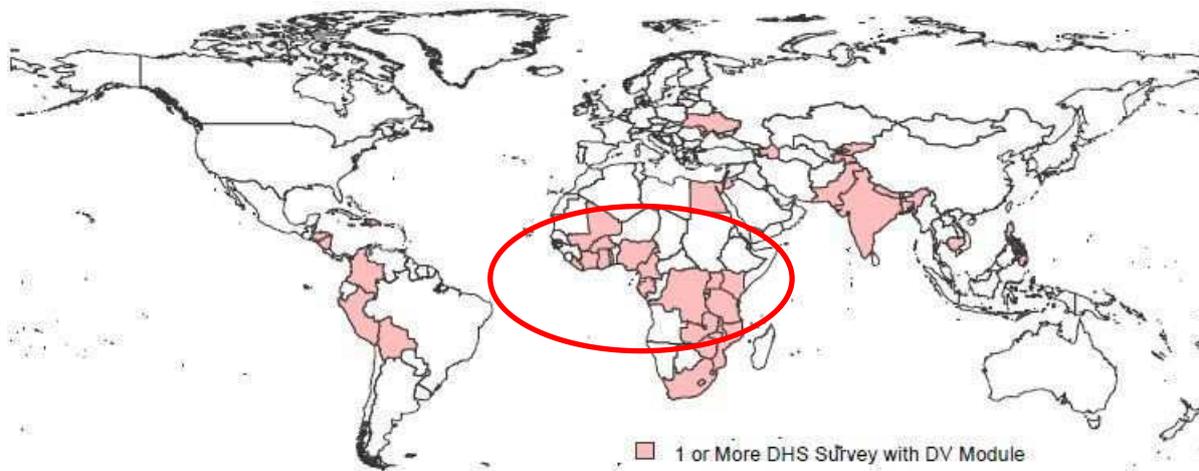
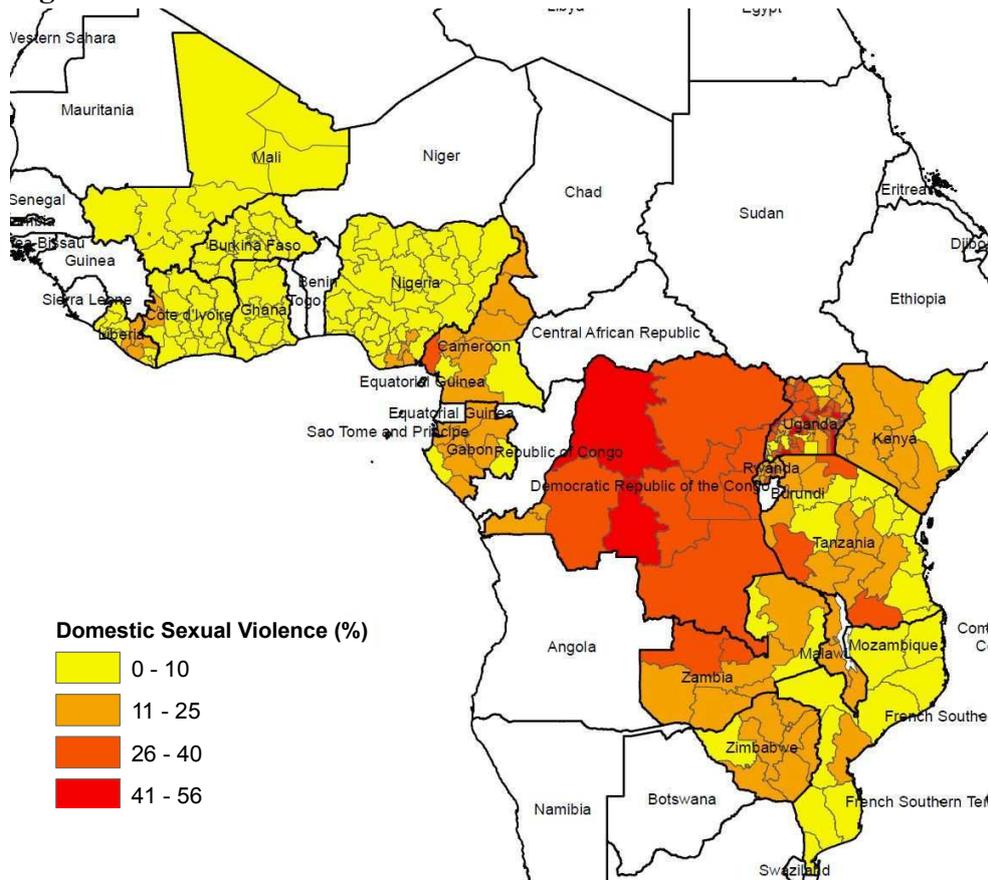


Figure 2. Distribution of domestic sexual violence in SSA



Source: Author's calculations based on DHS

Figure 3. Domestic sexual violence and childhood exposure to family violence

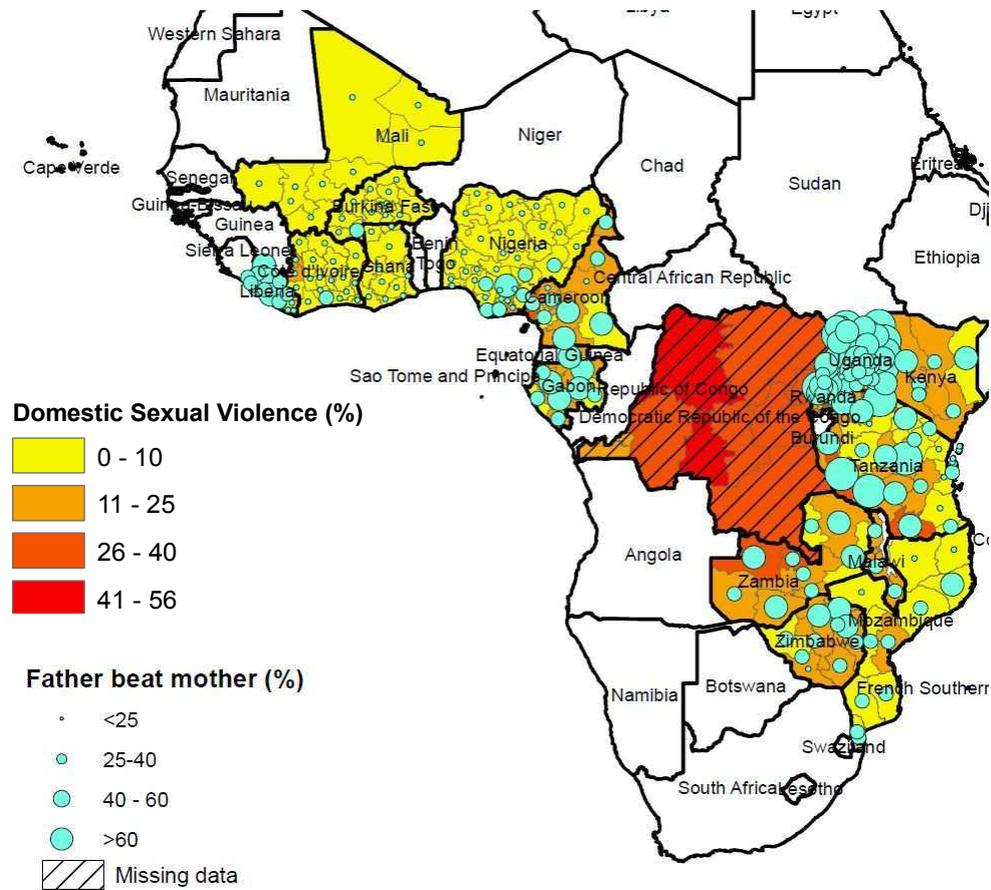


Figure 4. Domestic sexual violence and conflict events in SSA

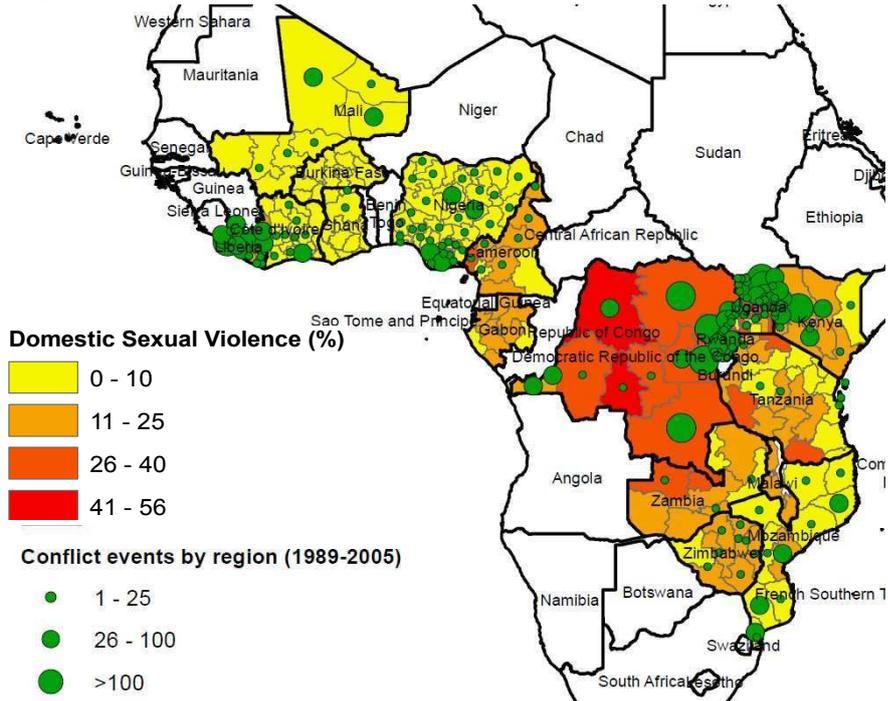


Figure 5. Domestic sexual violence and conflict fatalities in SSA

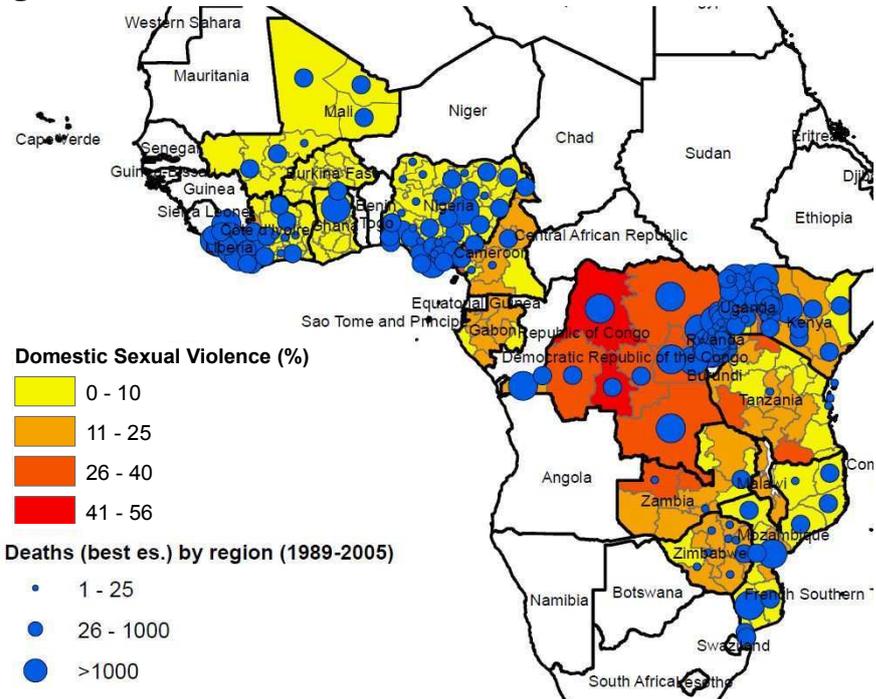


Figure 6. Change in risk of experiencing recent domestic sexual violence

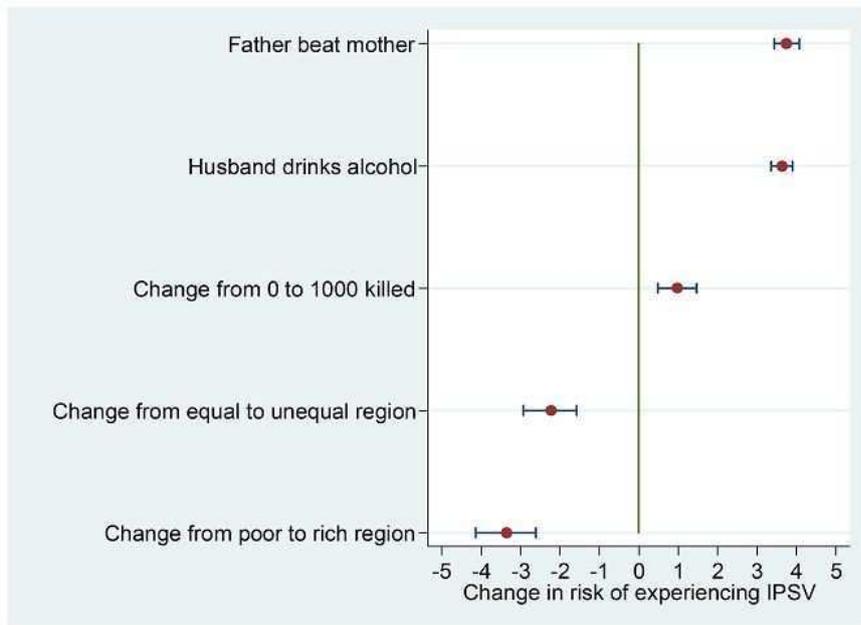
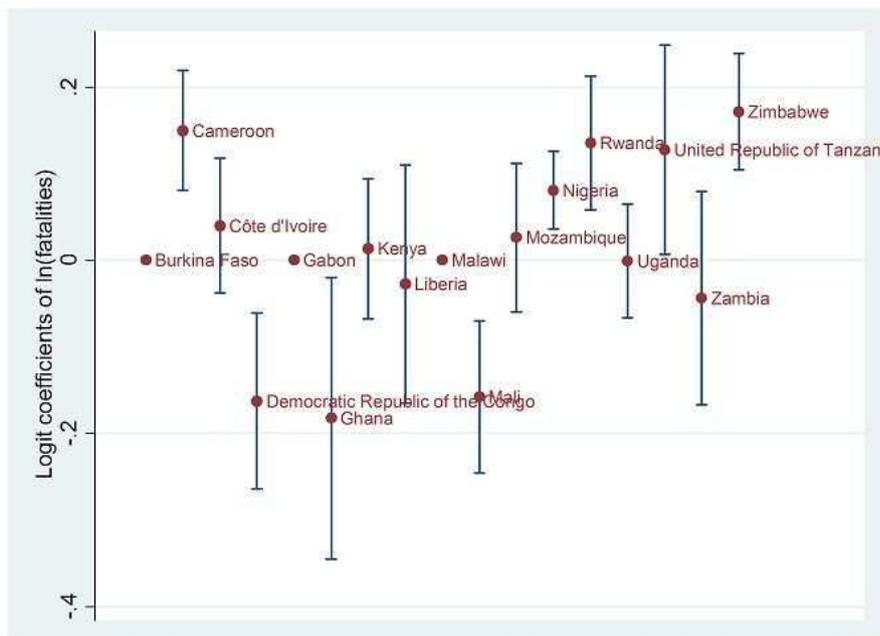


Figure 7. Impact of political violence (1989-2005) on recent domestic sexual violence, by country



Appendices

Table A1. Overview of DHS surveys used in analysis

Country, Year of Survey
Burkina Faso, 2010
Cameroon, 2011
Congo Democratic Republic, 2007
Cote d'Ivoire, 2011-12
Gabon, 2012
Ghana, 2008
Kenya, 2008-09
Liberia, 2007
Malawi, 2010
Mali, 2006
Mozambique, 2011
Nigeria, 2008
Rwanda, 2010
Tanzania, 2010
Uganda, 2011
Zambia, 2007
Zimbabwe, 2010-11

Table A2. Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
IPSV last 12 m	95637	0.074	0.263	0	1
Any IPSV	95913	0.097	0.296	0	1
Conflict fatalities (ln) 1989-2005 (best. est)	95913	2.926	2.989	0	11.048
Family violence history (Ref: father did not beat mother)					
Father beat mother	95913	0.201	0.401	0	1
Missing on family violence history	95913	0.145	0.352	0	1
Age	95913	30.909	8.528	15	49
Education (Ref: no formal education)					
Primary education	95913	0.357	0.479	0	1
Secondary education	95913	0.202	0.402	0	1
Higher education	95913	0.029	0.168	0	1
Partner's alcohol abuse (Ref: Partner does not drink)					
Partner drinks alcohol	95913	0.312	0.463	0	1
Missing on alcohol abuse	95913	0.037	0.189	0	1
Household wealth (ref: Poorest)					
Poorer	95913	0.205	0.404	0	1
Middle	95913	0.199	0.399	0	1
Richer	95913	0.197	0.398	0	1
Richest	95913	0.177	0.381	0	1
Regional education level (females)	95913	4.169	2.624	0	10.063
Regional household wealth (asset score)	95913	0.278	0.122	0.011	0.650
Regional Inequality (assets)	95913	0.479	0.143	0.215	0.962

Table A3. Selected descriptive statistics by country

	N	Domestic violence module	IPSV last 12 m	Any IPSV	Violent family history	Partner alcohol abuse	Battle deaths (89-05)	Conflicte events (89-05)
Burkina Faso	17087	0.665	0.011	0.015	0.093	0.287	0	0
Cameroon	15426	0.327	0.106	0.150	0.328	0.609	379	46
Côte d'Ivoire	9758	0.629	0.041	0.055	0.140	0.329	2057	161
DRC	9954	0.344	0.251	0.304	N.A.	0.508	92003	1989
Gabon	8422	0.660	0.099	0.155	0.442	0.647	0	0
Ghana	4916	0.497	0.048	0.068	0.144	0.386	2434	38
Kenya	8444	0.748	0.104	0.124	0.366	0.340	3612	418
Liberia	7052	0.692	0.079	0.095	0.339	0.341	23240	550
Malawi	23020	0.271	0.139	0.178	0.276	0.408	0	0
Mali	14583	0.675	0.029	0.031	0.089	0.012	1744	104
Mozambique	13745	0.497	0.056	0.078	0.296	0.395	5759	263
Nigeria	33385	0.711	0.030	0.045	0.127	0.213	10029	429
Rwanda	13671	0.366	0.132	0.174	N.A.	N.A.	173781	470
Uganda	8674	0.237	0.197	0.281	0.476	0.496	19187	1672
Tanzania	10139	0.695	0.107	0.127	0.344	0.343	29	8
Zambia	7146	0.733	0.143	0.169	0.387	0.530	48	10
Zimbabwe	9171	0.713	0.099	0.141	0.361	0.473	291	53