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Exploring the association between attitudes towards wife beating and intimate partner violence using a dyadic approach in three sub-Saharan African countries

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ABSTRACT

Objective The present study examines the association between attitudes towards wife beating and intimate partner violence (IPV) using a dyadic approach in three sub-Saharan countries.

Setting We use data from the most recent Demographic and Health Survey cross-sectional studies which were conducted between 2015 and 2018 in Malawi, Zambia and Zimbabwe

Participants Our sample comprised 9183 couples who also had completed the information on the domestic violence questions and our variables of interest.

Results Our results indicate that women in these three countries are generally comparatively more inclined to justify marital violence than their husbands or partners. In terms of IPV experience, we found that when both partners endorsed wife beating, the risk of experiencing IPV was twice as likely after controlling for other couple-level and individual factors (OR=1.91, 95% CI 1.54–2.50, emotional violence; OR=2.42, 95% CI 1.96–3.00, physical violence; OR=1.97, 95% CI 1.47–2.61, sexual violence). The risk of IPV was also higher when the women alone endorsed IPV (OR=1.59, 95% CI 1.35–1.86, emotional violence; OR=1.85, 95% CI 1.59–2.15, physical violence; OR=1.83, 95% CI 1.51–2.22, sexual violence) than when the men alone were tolerant (OR=1.41, 95% CI 1.13–1.75, physical violence; OR=1.43, 95% CI 1.08–1.90, sexual violence).

Conclusions Our findings confirm that attitudes towards violence are perhaps one of the key indicators of IPV prevalence. Therefore, to break the cycle of violence in the three countries, more attention must be paid to attitudes towards the acceptability of marital violence. Programmes tailored to gender role transformation and promote non-violent gender attitudes are also needed.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ The study includes data from 9183 couples, which is a substantial sample size.
⇒ The study includes data from three countries and, thus, different cultural contexts.
⇒ We use a dyadic approach to understand the dynamics within the relationship and how individual and couple-related factors contribute to the overall picture.
⇒ The study design is cross-sectional, which precludes causal inferences.

BACKGROUND

Intimate partner violence (IPV) is a persistent public health problem affecting many women regardless of their sociodemographic or economic characteristics[1 2] and has been gaining global attention over the years due to its deleterious effects. On average, 30% of women globally have experienced IPV throughout their lifetime, suffering severe physical, mental and reproductive health consequences.[1] The prevalence of IPV also varies from country to country. It is significantly worse in low and middle-income countries, especially in sub-Saharan Africa (SSA), where IPV ranges from 9.4% in Comoros,[3] 45% in Zimbabwe,[4] to 78% in Ethiopia[5] with a regional prevalence of 36%, surpassing the global average.[6]

An increasing body of research has identified the multiple adverse effects of IPV, indicating that it is a human rights problem and a public health issue.[7–9] These studies have linked IPV to physical health outcomes such as chronic pain and somatic disorders[7]; aggravated symptoms of menopause,[9] sexually transmitted infections, including HIV and AIDS,[10] and worsening CD4+ cell depletion.[9] IPV has also been linked to mental health issues such as depression, suicidality, anxiety and post-traumatic stress disorder.[11] While some of these effects are short term, others are cumulative across the lifespan.[12]

Preventing IPV clearly requires understanding the factors that make IPV acceptable and endemic in society. Hence, several

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studies have attempted to understand them, with some of the risk factors in SSA fairly consistent across different parts of the world.[3] For instance, studies have found the individual-level factors, such as a woman's age, education, alcohol use, spousal age difference, age at first marriage and decision-making autonomy, among other predictors, to be associated with IPV risk.[13–15] However, in SSA, many scholars have mainly attributed IPV to the enduring patriarchal traditions that promote male dominance in many African countries.[16 17] In particular, scholars have been concerned with the interlocking of masculinity and cultural norms that endorse patriarchy-related attitudes and behaviours in men and women during socialisation.

One universally acknowledged patriarchy-related factor associated with IPV is an individual's beliefs about wife beating.[18] Extensive research evidence shows that such beliefs are widespread, although the magnitude varies widely across countries.[19–22] For instance, in a multicountry study, Tran *et al*[19] found that the proportion of women who justified wife beating ranged from 2.0% in Argentina to 90.2% in Afghanistan. When disaggregated by region, SSA and Asia had the highest percentage of women who endorsed these attitudes. In another study by Zegeye *et al*,[22] approximately 50% of Zambian, 38% of Zimbabwean and 17% of Malawian women were found to be acceptive of marital violence.

Understanding these attitudes and the associated factors is important because women are more likely to be susceptible to IPV in contexts where violence is socially acceptable.[23 24] This is because such attitudes are often perpetuated by the commonly held norms that create social standards for appropriate behaviours in society.[16] To illustrate, in many African cultures, it is expected that the husband should assert authority over his wife and correct any behaviour which deviates from social norms.[3 25] Consequently, women who feel that violence is justifiable under any circumstance will likely accept their husband's right to control their behaviour, even if it means using violence. Thus, tolerant attitudes towards IPV are a result of social conditioning and reflect the subordinate status of women and how they respond to violence.[23 26 27] Further, when violence is normalised, society might have little or no sympathy for the victims, which might prevent the latter from seeking help or leaving abusive marriages.

Unquestionably, IPV is a relational phenomenon. However, most empirical research, especially from SSA, has focused on individuals, either men or women, as units of analysis.[18 19 22] While this research has been informative in improving our understanding of the role of social norms in the persistence of marital violence, it has been limited in that it ignores the couple-level dynamics which also shape IPV.[20] This is because couple-level differences in IPV perspectives 'may indicate broader tensions and ideational differences between partners',[21] making the context in which IPV is experienced even more complex. For this reason, we adopt a dyadic approach to examine the association between tolerant attitudes towards IPV. We define dyadic concordance as the agreement in the responses between the husband and the wife and draw on data from three SSA countries (Malawi, Zambia and Zimbabwe).

Justification for a dyadic approach

Although couples enter a relationship as individuals, they bring with them their lived experiences which are reshaped through their interactions over time.[21] Therefore, the attitudes that either the wife or the husband have towards marital violence are likely influenced by a mix of these individual and shared experiences. In many African communities, people often marry spouses from the same geocultural setting and/or ethnic group to prevent core values from being neutralised.[17] For example, local terms such as *kuroora vematongo* or *ukhuni olungaziwayo kaluthezwa* are used in the Zimbabwean cultures to express this view. Even when people intermarry, they are likely to choose partners with similar attributes such as education, occupation, age and values.[21 28] Yet, despite these commonalities that bring people into marital unions, research has shown that the correlates of marital violence justification may be gendered.[21 29] For instance, one Sierra Leonean study found that although an increase in education was associated with an increase in the rejection of marital violence by women, the same did not change men's attitudes.[30] Gender differences in IPV rejection were also observed in Malawi where a positive association was found between access to media and acceptance of violence among men, while the same resulted in a higher rejection of violence among women.[21 31] In Nigeria, gender differences in the acceptance of wife beating were also found in the influence of age and media exposure.[29]

Given this background, it is important that research focuses on couples rather than individuals as this can provide a better understanding of factors behind attitudes towards marital violence.[32] This is because analysing interview data from only one partner limits the perception of couple's experiences as the data gathered are restricted to a single perspective. However, combining the husband and wife's perspectives through dyadic analysis can help confirm what the other partner has said, thus enriching the interpretation derived from the data.[33]

Context

This study focuses on three geographically connected countries that also share sociopolitical histories. The three countries are all former British colonies, and at one point, they were governed as one 'country' (figure 1) under the Federation of Rhodesia and Nyasaland.[34] As a result, migration between the three countries was inevitable.[35] Consequently, within each country, there is a large diaspora originating from all three countries. Hence, it can be expected that there is a cross-pollination of norms and values.

Apart from the shared history, the three countries can also be described as resource constrained, characterised by high unemployment, intermittent food shortages and the repercussions of HIV and AIDS.[27 36 37] The three

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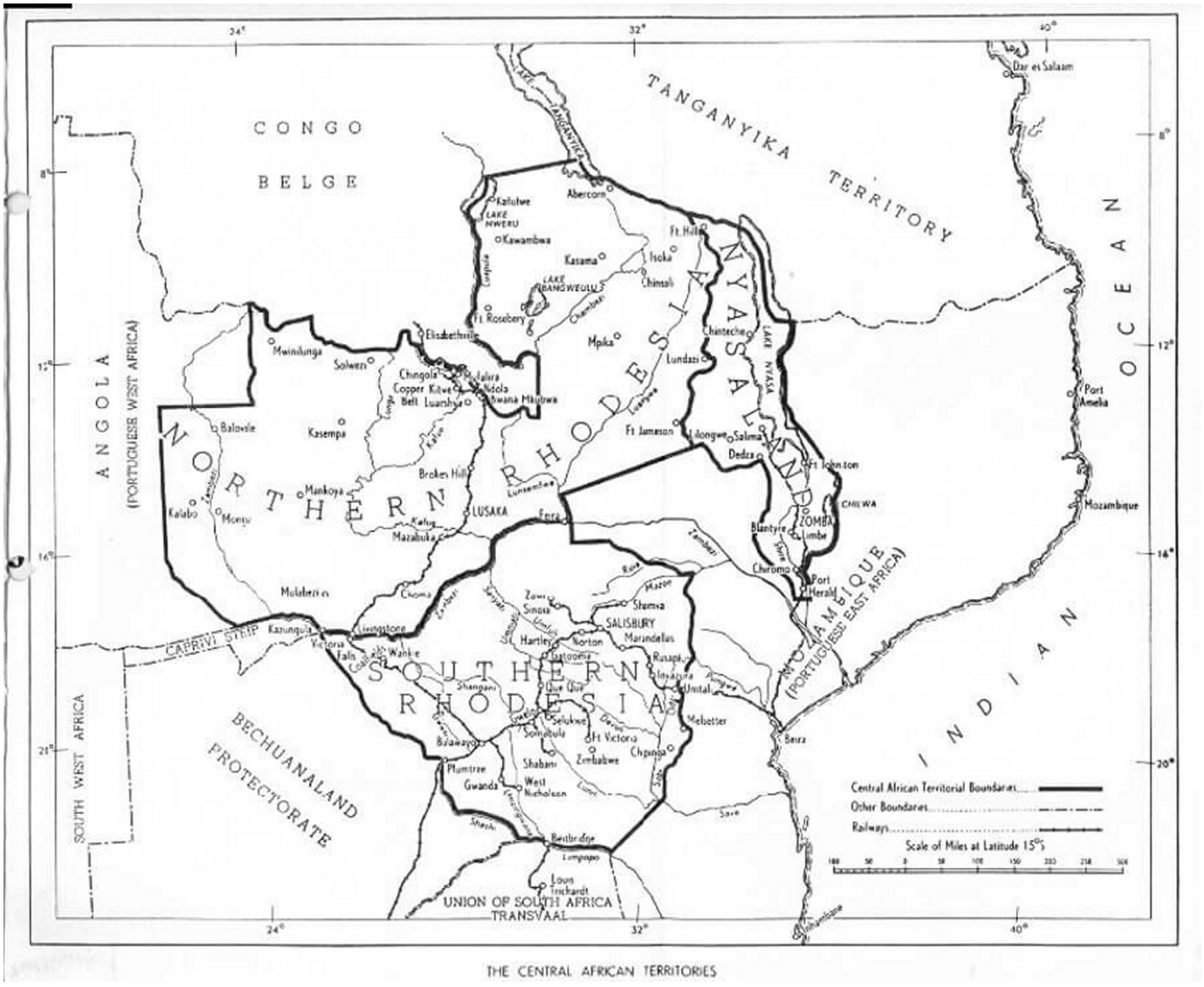

Figure 1 Map of the Central African Republic. Source: https://eap.bl.uk/archive-file/EAP121-1-3-16.

countries are also heavily dependent on development aid, which ranges from 35% to 50% of total expenditure, partly due to low economic growth.[38]

However, despite these similarities, the countries also share some differences that are[39 40] likely to influence communal attitudes towards marital violence. For instance, in Malawi, certain regions follow the matrilineal tradition,[40 41] unlike in Zimbabwe and Zambia, which are predominantly patriarchal. However, although descent and inheritance are traced through the maternal line, research evidence suggests that such societies often mirror a patriarchal society in many ways, including domestic violence.[40]

METHODS

The study uses the most recent Demographic and Health Survey (DHS)[42] cross-sectional data from Malawi (2015), Zambia (2018) and Zimbabwe (2015). The DHS collects data which are nationally representative on a range of population health indicators, including domestic violence. In general, the DHS surveys employ a stratified two-stage cluster sampling, selecting women based on urban or rural residence. The surveys also use uniform data collection instruments across countries, thus allowing for cross-country comparisons. Further details regarding the methodology used in DHS are found at www.measuredhs.org.

In each of the three selected countries, the sample was limited to currently partnered women, given that some of the covariates used in this paper focused on concordance and gender differences between couples.[21] The final analytical sample comprised 9183 couples who had completed the information on the 13 IPV questions in the survey and our variables of interest.

Outcome variable

The variable of interest in this study was *ever experienced* IPV, which was derived from 13 questions (table 1).

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Table 1 IPV variables used in the study

Variable/question	Coding
Humiliated, threatened them with harm, insulted or made them feel bad	Emotional violence
Pushed, shook or had something thrown, slapped or punched with fist or hit by something harmful; arm twisted, or hair pulled, kicked or dragged, strangled or burnt, threatened with knife/gun/weapon	Less severe physical
Physically forced them into unwanted sex; forced into unwanted sexual acts; physically forced to perform unwanted sexual acts	Sexual

IPV, intimate partner violence.

Women were asked if their husband or partners ever did any of the following:

If the respondent answered yes to any of these questions, we assumed they had been a victim of that form of violence. We then created dichotomous variables indicating whether a woman had experienced emotional, physical or sexual violence (0=No, 1=Yes).

Main explanatory variable

The main explanatory variable was attitudes towards IPV, which was derived from five questions that asked both men and women's attitudes towards wife beating under five hypothetical situations: (a) going out without telling her husband/partner; (b) neglecting children; (c) arguing with the husband/partner; (d) refusing sex; and (e) burning food. Following prior research on IPV attitudes, we coded the responses to each of these questions as: 1=tolerant if the husband/wife justified marital violence on at least one of the five hypotheticals and 0=non-tolerant if the husband or wife rejected wife beating across all hypotheticals.

In order to capture concordance or discordance in husbands and wives' individual responses to these questions, we created a four-categorical variable: 1=concordance (both reject across all five scenarios); 2=concordance (both accept wife beating in at least one scenario); 3=discordance (husband only accepts at least one scenario); and 4=discordance (wife only accepts).

We also assumed that similarities in background characteristics of both partners might be an important predictor for couple-level concordance tolerance of IPV; therefore, we also included the following variables: work status, educational and age difference and exposure to media.

Extensive research has shown that both wife and husband's employment status is associated with both IPV and IPV acceptance.[21] Employment increases women's access to resources, reducing their dependency on their husbands and, thus, their susceptibility to violence. At the same time, some studies have shown that when women outearn their husbands, they are more likely to be tolerant of marital violence.[18 19] For this reason, we also included a categorical variable whether (1) both were working, (2) both were not working, (3) only the husband was working and (4) only the wife was working.

To get the educational difference, we subtracted the wife's education from that of the husband. A negative score specified that the wife was more educated and was coded as (1=wife more educated); a score of 0 indicated the husband and wife had a similar educational level and was coded as (2=no difference), while a positive score indicated that the husband was more educated and was coded as (3=husband more educated).

We also hypothesised that the age difference could create relationship inequality, which we believed could result in marital discord. We, therefore, proceeded to create the age difference variable in the same way as the educational difference variable. We then created four categorical variables: 1=0–4 years difference; 2=5–9 years difference, 3=≥10 years difference and 4=wife older.

Joint exposure to information about IPV might substantially affect attitudinal change more than when women or men alone are exposed.[21] As such, we also included a variable that revealed couple similarities in exposure to media. This composite variable was derived from the respondent's frequency of reading newspapers, listening to the radio or watching television and was coded as 0=no access, 1=sometimes (ie, less than once a week) and 2=frequent (at least once a week or every day). We further recoded the variable on a four-level categorical scale to reflect the extent of differences in the characteristics between the man and the woman.

Polygamy was assessed from the respondent's position among cowives (0=no cowives and 1=≥2 wives).

The marital duration was derived from subtracting the age at first cohabitation from the wife's current age at the time of the interview. In order to capture this accurately, we included women who were only married once. We also followed the same procedure we used in deriving the spousal age difference and coded it as a three-categorical variable: 1=0–4 years, 2=5–9 years and 3=≥10 years difference.

Women's decision autonomy

Women's decision autonomy was derived from the question which asked who had the decision-making responsibility on (1) household purchases, (2) visiting relatives, (3) visiting healthcare institutions and (4) husband's earnings. For each of these questions, the women's responses were (1) wife alone, (2) husband alone, (3) joint decision and (4) other. The responses to these questions were recoded to take the value of (0) if the woman was not involved in any decision-making, (1) if the woman indicated 'make sole decisions' and (2) if the woman made decisions jointly with her husband/partner.

We also included the following controls: the place of residence (1=urban, 2=rural) and household wealth, which was categorised into quintiles in the DHS but recoded into three categorical variables for the analysis (1=poor; 2=middle, 3=rich).

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Patient and public involvement

There was no direct patient or public involvement, given our study used secondary data.

Data analysis

The analysis was performed in STATA V.16.0. First, we present the descriptive analysis of the outcome variables (emotional, physical and sexual violence) as well as the distribution of the main explanatory variable. Next, we consider the association between dyadic attitudinal concordance or discordance using logistic regression. To show the impact of these attitudinal differences on IPV risk, we also compute the average marginal effects (AMEs), an '*intuitional way of describing relationships predicted using regression methods*',[43] by computing numerical rather than analytical derivatives.[44] Simply put, AMEs present regression results as differences in probabilities rather than ORs.

RESULTS

The sample (table 2) consisted of 9183 couples from Malawi (n=2788), Zambia (n=3880) and Zimbabwe (n=2515). Exposure to emotional violence ranged from 241.1% in Malawi to 29.9% in Zimbabwe. Physical violence was highest in Zambia (34.5%), followed by Zimbabwe (29.2) % and then Malawi (22.6%). Exposure to sexual violence was highest in Malawi (16.5%), Zambia (12.3%) and then Zimbabwe (10.4%).

Concordance in attitudes towards wife beating

Figure 2 presents the distribution of the main explanatory variable for Malawi, Zambia and Zimbabwe, while figure 3 presents the overall distribution for the three countries.

Malawi had the highest rejection of marital violence (79.0%), followed by Zimbabwe (51.6%) and then Zambia (40.9%). In all three countries, more women than men were acceptive of wife beating, with the highest proportion being observed in Zambia, followed by Zimbabwe and then Malawi. Given that Malawi's Central and Southern regions where the majority of the population live are largely matrilineal,[41] and thus women in these regions are considered more autonomous, we conducted a supplementary analysis (see online supplemental file 1) to determine if this could have influenced the low tolerance of violence. Consistent with our assumptions, the supplementary analysis revealed a high couple-level rejection rate of marital violence in the Central (81.5%) and Southern (82.1%) versus the Northern (68.1%).

Overall, there was a higher rejection of marital violence among men (81.3%) than women (64.3%) in the three countries. In terms of concordance, slightly above half (55.4%) of the couples rejected wife beating, while for a quarter of the couples, only the wife felt marital violence was justified.

Table 3 presents the adjusted logistic regression models for IPV experience and couple-level attitudes towards wife beating. The probability of experiencing all forms of IPV was highest when both partners endorsed marital violence, followed by when the woman alone was tolerant and then the husband alone, in that order. Women were almost twice as likely to be victims when both partners justified IPV, with the highest effect recorded for physical (OR=2.42, 95% CI 1.96-3.00). Among the couples where only the wife accepted wife beating, the risk of experiencing IPV was 59%, 85% and 83% for emotional, sexual and physical violence, respectively. When the husband/partner alone justified wife beating, the risk of IPV increased by 41% for physical violence and 43% for sexual violence.

Access to media increased the risk of physical violence (OR=1.30, 95% CI 1.04-1.61) in couples where only the woman had access and sexual violence (OR=1.37, 95% CI 1.09-1.72) when both partners had no access.

When both partners or the husband alone was working, the risk of experiencing all forms of violence was reduced. However, these results were only significant for a few interactions; emotional violence (OR=0.69, 95% 0.51-0.92) when both were working and sexual violence (OR=0.77, 95% CI 0.65-0,91) when the husband alone was working. Interestingly, the risk of experiencing IPV increased but was not statistically significant when the wife alone was working. Women who made decisions with their partners or had no decision-making power on health issues were less likely to report emotional (OR=0.77–0.82) or physical violence (OR=0.66–0.89). However, the risk for sexual violence increased by 25% for women with no say in their health matters. Women who made joint or no decisions on household issues were also less likely to experience emotional and sexual abuse (OR=0.53–0.79). Making joint decisions on mobility or having no say on mobility also reduced the odds of experiencing all forms of IPV (OR=0.65–0.82). There was no significant association for the husband's earnings except for emotional violence. The odds of experiencing emotional violence were up to 1.65 for women with no say in husbands' earnings. When the husband was more educated than the wife, the risk of emotional violence increased by up to 16%.

The spousal age difference was significantly associated with sexual and physical violence for the ≥10 years age gap category. The risk of physical violence was reduced by 30% in wife older relationships and 20% when the age gap was ≥10 years. Sexual violence also reduced by 19% in couples where the age difference was at least 10 years. Women in polygamous marriages were up to 54% more likely to experience physical violence.

The marital duration was also associated with the risk of experiencing all forms of IPV. Couples married for at least 5–9 or 10 years and more had higher chances of experiencing all forms of IPV (OR=1.36–1.96).

Among non-couple-level factors included in our model, the risk of IPV generally decreased with age, although it was only significant for sexual violence for the age category of 35–49 (OR=0.74, 95% 0.57-0.95). Women from very wealthy families also had reduced odds of experiencing all forms of IPV (OR=0.67–0.73). Place of residence only

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Table 2 Descriptive statistics for controls used in the analysis

Variables	Malawi n=2788	Zambia n=3880	Zimbabwe n=2515	Overall n=9183
Views of wife beating				
Concordance—both reject	79	40.9	51.6	55.4
Concordance—both accept	1.5	15.8	9.8	9.8
Discordance—husband only accepts	6.2	7.5	14.2	8.9
Discordance—wife only accepts	13.3	35.7	24.4	25.9
Experience of IPV				
Emotional violence	24.1	26.4	29.9	26.6
Physical violence	22.6	34.5	29.2	29.4
Sexual violence	16.4	12.6	10.4	13.1
Educational difference				
No difference	16.6	15.9	30.5	20.1
Husband more educated	56	54.8	46.1	52.8
Wife more educated	27.4	29.3	23.4	27.1
Spousal age difference				
0–4	48.8	42.2	40.9	43.9
5–9	33.9	39.1	37.9	37.1
10+	12.5	15.8	17.3	15.2
Wife older	4.9	2.9	3.4	3.8
Work				
Both working	63.2	47.5	37.1	49.5
Both not working	3.4	3.2	11.9	5.6
Husband only	30	47	45.1	41.2
Wife only	3.4	2.4	5.8	3.2
Media access				
Both have no access	31	26.4	20.6	26.2
Both have access	29.5	37.6	48.8	38.2
Husband only	28	27.7	20.5	25.8
Wife only	11.5	8.3	10.15	9.8
Age				
15–24	33.09	27.49	25.59	28.71
25–34	42.73	40.99	56.26	42.96
35+	24.18	31.53	28.15	28.33
Residence				
Urban	17.79	29.99	40.39	29.04
Rural	82.21	70.01	59.61	59.61
Wealth				
Poor	38.98	49.26	34.9	42.17
Middle	20.92	21.47	15.37	19.64
Rich	40.1	29.26	49.73	38.19
Polygamy				
Yes	8.72	7.53	6.16	7.53
No	91.28	92.47	93.84	92.47
Health decision-making				
Alone	14.83	38.33	31.31	29.13
Joint	52.83	40.77	53.17	47.88

Continued

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Table 2 Continued

Variables	Malawi n=2788	Zambia n=3880	Zimbabwe n=2515	Overall n=9183
No	32.35	20.9	15.52	22.99
Household decision-making				
Alone	5.95	7.77	24.93	11.87
Joint	52.94	57.21	62.52	57.33
No	41.11	35.02	12.55	30.79
Visiting relatives				
Alone	13.08	19.69	23.72	18.74
Joint	65.11	56.44	63.63	61.08
No	21.81	23.86	12.65	20.18
Husband's earnings				
Alone	5.76	7.09	11.71	7.94
Joint	50.62	57.63	72.53	59.52
No	43.62	35.28	15.75	32.54

IPV, intimate partner violence.

significantly affected emotional violence, where rural women were 27% less likely to report this type of violence than their urban counterparts. Compared with Zambia, the risk of emotional violence was higher in Malawi and Zimbabwe (OR=1.32–1.38). The risk of sexual violence was also higher in Malawi (OR=1.81, 95% 1.43-2.28), while the probability of experiencing physicalviolence was lower in Malawi (OR=0.80, 95% 0.67-1.63).

Average marginal effects

Given that our main focus in this study was on concordance or discordance in attitudes towards wife beating, we also present country-specific regression results for this variable (table 4). We also computed the AMEs based on the estimation of the regression models. As in the pooled models (table 3), women were generally more likely to

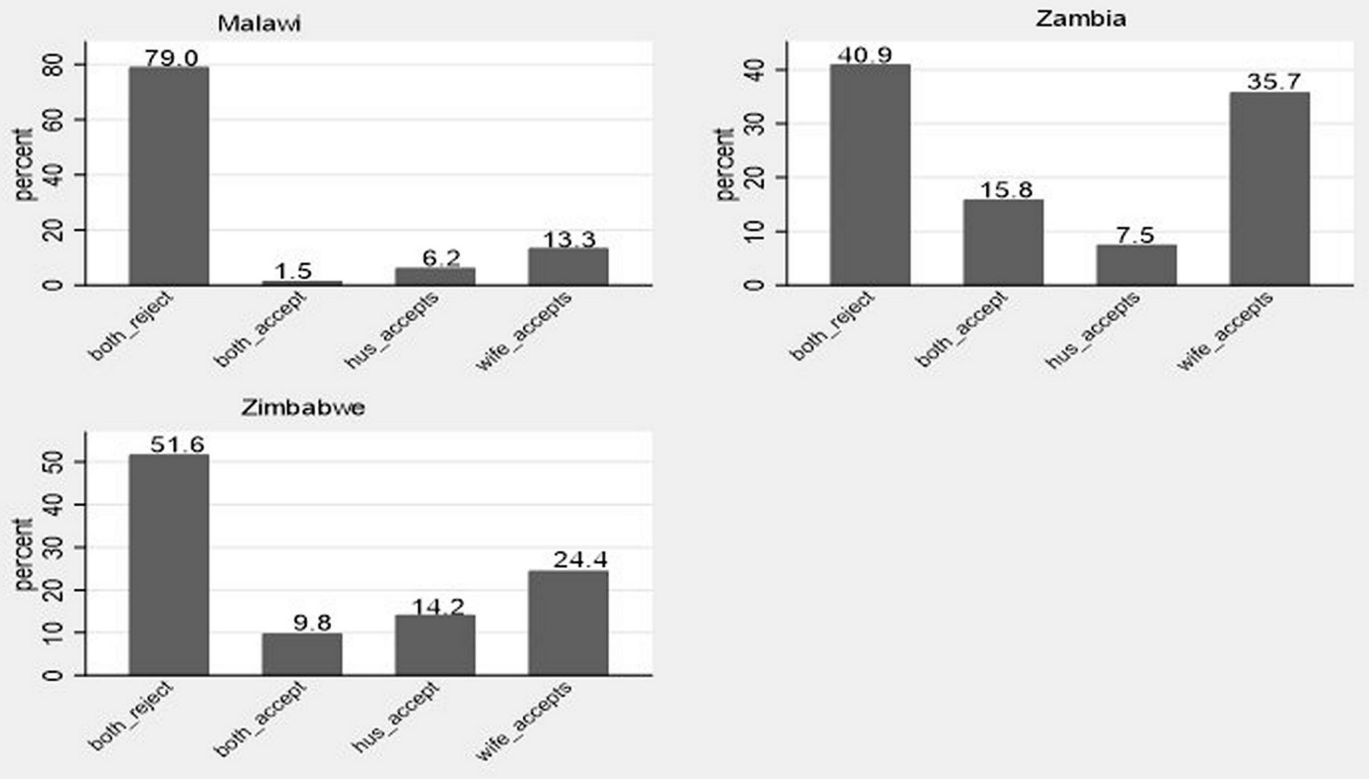

Figure 2 Distribution of attitudes towards wife beating for Malawi, Zambia and Zimbabwe (n=9183).

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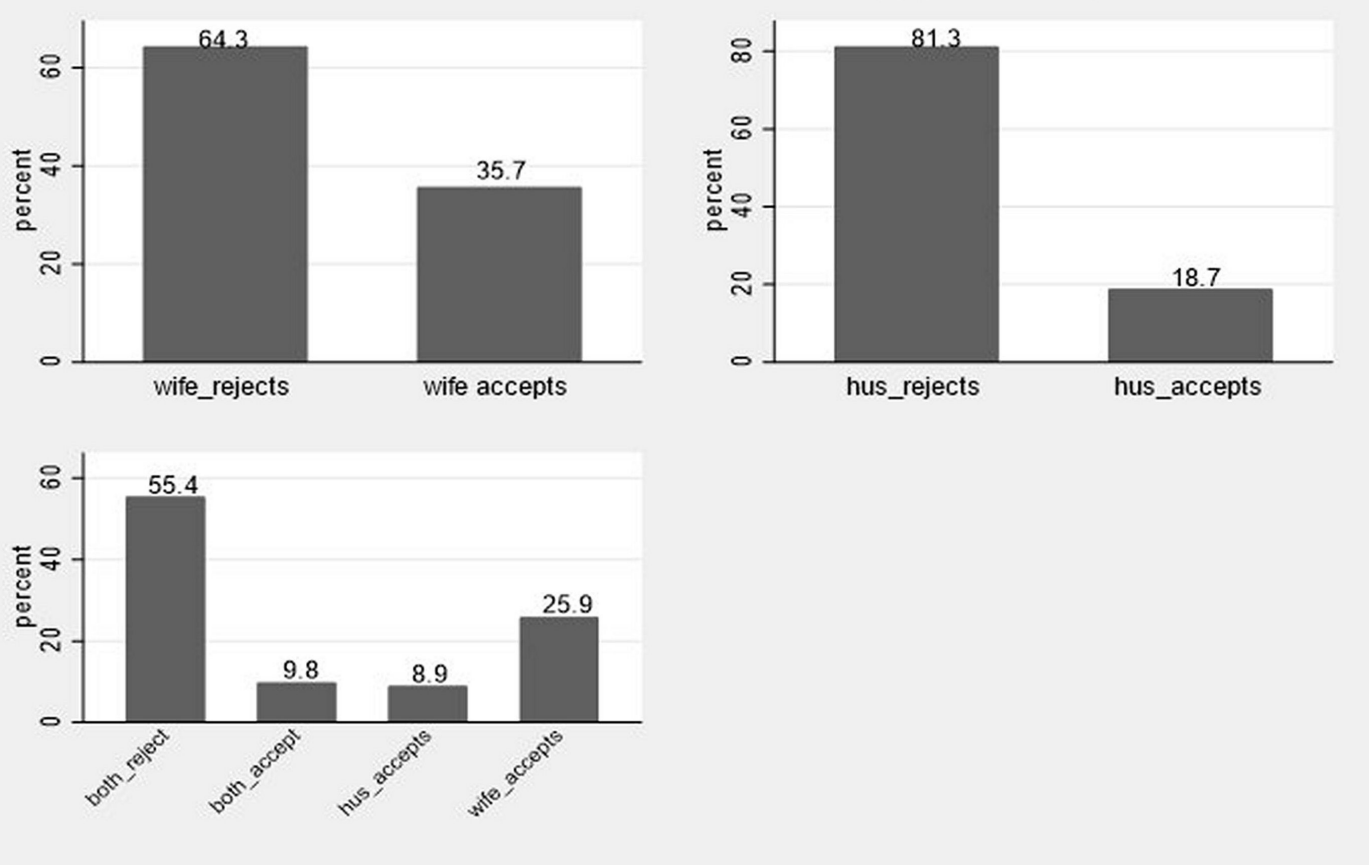

Figure 3 Overall distribution of attitudes towards wife beating (n=9183).

be at risk of IPV if both partners or the woman alone endorsed IPV. The probability of experiencing emotional violence increased by 10% for Malawian women, 14% for Zambian women and 11% for Zimbabwean women when both partners endorsed IPV. When the wife alone was tolerant, the risk increased by 6% in Malawi, 11% in Zambia and 8% in Zimbabwe. A similar pattern can be observed for the other IPV types, where the AMEs increase the most when both partners are tolerant of IPV, followed by the women alone and, lastly, the men—although for the latter, the results were not statistically significant.

DISCUSSION

Although attitudes towards marital violence are universally acknowledged as a proxy indicator for perpetration and victimhood,[23] limited research has examined couple-level concordance or discordance, especially in SSA countries. We came across only two studies investigating this relationship on a cross-national level.[20 21] Thus, our study adds to this research by adopting a dyadic approach and focusing on three geographically connected countries with similar sociopolitical histories and values, making cross-country comparisons plausible.

Overall, the findings suggest a high rejection of IPV at the individual level, with more men (81%) than women (64%) not endorsing wife beating. While this is counterintuitive, as one would expect the perpetrators to be more accepting of wife beating, similar findings have also been reported in Nigeria,[45] Uganda[46] as well as in a cross-country study.[23] The results from our study have also shown greater variability in attitudes at the couple level, with couples who justify wife beating ranging from 1.5% in Malawi to 16.1% in Zambia. The low tolerance of IPV in Malawi could be due to the matrilineal nature of the Central and Southern regions in that country[41] which was also revealed in our supplementary analysis. In these communities, women hold more power and are more autonomous, hence, it is not surprising that overall, Malawian women would have the least tolerance of marital violence relative to their Zimbabwean and Zambian counterparts. Yet, despite this low tolerance, our findings also suggest that Malawian women were more likely to experience sexual violence (but not physical or emotional) compared with Zambian and Zimbabwean women, with the highest prevalence found in the Central and Northern regions. This finding was rather unexpected given matrilineality is supposed to provide more leverage in a relationship.[41] Thus, sexual violence might operate differently in Malawi, and may even follow a similar pattern as in patrilineal societies where cultural or societal norms limit women's agency and control over their bodies and sexual lives. However, this conclusion remains speculative, and further explorations are needed to validate it.

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Table 3 Logistic regression models for IPV experience and couple-level attitudes towards wife beating

Variable	Emotional violence	Physical violence	Sexual violence
Attitudes (Both reject=ref)			
Concordance—both accept	1.91 (1.54–2.5)***	2.42 (1.96–3.00)***	1.97 (1.47–2.61)***
Discordance—husband only accepts	1.10 (0.86–1.39)	1.41 (1.13–1.75)**	1.43 (1.08–1.90)**
Discordance—wife only accepts	1.59 (1.35–1.86)***	1.85 (1.59–2.15)***	1.83 (1.51–2.22)***
Media use (Both have access=ref)			
Both have no access	1.13 (0.94–1.36)	1.13 (0.95–1.33)	1.37 (1.09–1.72)**
Husband only	1.07 (0.89–1.28)	1.14 (0.96–1.35)	1.02 (0.82–1.27)
Wife only	1.18 (0.94–1.48)	1.30 (1.04–1.61)**	1.23 (0.92–1.64)
Work (Both do not work=ref)			
Both work	0.69 (0.51–0.92)**	0.91 (0.68–1.21)	0.730.50–1.08)
Husband only	0.88 (0.76–1.03)	0.98 (0.85–1.12)	0.77 (0.65–0.91)***
Wife only	1.12 (0.83–1.52	1.11 (0.81–1.52)	1.10 (0.97–1.58)
Healthcare decision-making (Sole=ref)			
Both	0.77 (0.63–0.91)**	0.66 (0.56–0.77)***	0.96 (0.76–1.21)
Wife does not make decisions	0.82 (0.67–1.00)**	0.89 (0.74–1.08)*	1.25 (1.00–1.58)**
Household purchases (Sole=ref)			
Both	0.71 (0.57–0.88)**	0.89 (0.71–1.10)	0.53 (0.40–0.69)***
Wife does not make decisions	0.67 (0.54–0.84)***	0.79 (0.63–1.00)**	0.65 (0.48–0.87)**
Visiting friends and relatives (Sole=ref)			
Both	0.65 (0.54–0.79)***	0.82 (0.69–0.97)**	0.68 (0.55–0.84)***
Wife does not make decisions	0.71 (0.57–0.88)***	0.77 (0.62–0.96)**	0.68 (0.52–0.89)**
Husband's earnings (Sole=ref)			
Both	1.00 (0.78–1.29)	0.87 (0.66–1.14)	0.91 (0.67–1.25)
Wife does not make decisions	1.65 (1.27–2.11)***	1.07 (0.81–1.42)	1.24 (0.89–1.72)
Educational difference (No difference=ref)			
Husband more educated	1.16 (1.00–1.36)**	1.02 (0.87–1.20)	0.85 (0.67–1.07)
Wife more educated	1.12 (0.93–1.35)	0.93 (0.78–1.13)	0.88 (0.69–1.14)
Spousal age difference (0–4=ref)			
5–9	0.94 (0.81–1.08)	1.00 (0.87–1.15)	0.95 (0.81–1.12)
10+	0.98 (0.81–1.18)	0.80 (0.67–0.96)**	0.81 (0.63–1.03)*
Wife older	0.83 (0.57–1.21)	0.70 (0.47–1.02)*	0.67 (0.38–1.16)
Polygamy (No=ref)	1.17 (0.92–1.49)	1.54 (1.23–1.92)***	1.16 (0.87–1.55)
Marital duration (0–4=ref)			
5–9	1.36 (1.12–1.66)**	1.59 (1.31–1.93)***	1.48 (1.10–2.00)**
10+	1.63 (1.28–2.08)***	1.96 (1.55–2.47)***	1.47 (1.03–2.11)**
Age			
25–34	1.09 (0.90–1.33)	0.91 (0.75–1.09)	0.86 (0.63–1.18)
35–49	0.87 (0.66–1.15)	0.74 (0.57–0.95)**	0.77 (0.52–1.19)
Wealth (Poor=ref)			
Middle	0.92 (0.77–1.09)	0.95 (0.80–1.12)	0.92 (0.74–1.15)
Rich	0.72 (0.59–0.87)***	0.73 (0.60–0.94)**	0.67 (0.50–0.88)***
Residence (Urban=ref)	0.73 (0.59–0.89)**	0.87 (0.70–1.07)	1.04 (0.76–1.43)
Country (Zambia=ref)			
Malawi	1.32 (1.14–1.56)***	0.80 (0.67–0.97)**	1.81 (1.43–2.28)***
Zimbabwe	1.38 (1.18–1.62)***	0.90 (0.76–1.07)	0.88 (0.76–1.43)

*P<0.10; **p<0.05; ***p<0.005.
IPV, intimate partner violence; OR, Odds ratio.

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Table 4 Logistic regression and average marginal effect models for IPV experience and couple-level attitudes towards wife beating

Variable	Emotional (OR)	AME	Physical	AME	Sexual	AME
Concordance (both reject=ref)						
Malawi						
Concordance (both accept)	1.68 (0.60–4.69)	0.10 (0.06–0.31)	1.28 (0.40–4.13)	0.04 (–0.17 to 0.26)	0.66 (0.21–2.09)	–0.05 (–0.15 to 0.07)
Discordance (husband accepts)	1.15 (0.71–1.84)	0.02 (–0.06 to 0.11	1.31 (0.77–2.21)	0.05 (–0.05 to 0.14)	1.41 (0.85–2.36)	0.05 (–0.03 to 0.13)
Discordance (wife accepts)	1.37 (0.97–1.95)*	0.06 (–0.01 to 0.13)**	1.48 (1.02–2.13)**	0.07 (–0.01 to 0.14)**	1.37 (0.96—1.97)	0.05 (–0.13 to 0.10)
Zambia						
Concordance (both accept)	2.28 (1.59–2.81)***	0.14 (0.08–0.19)***	3.10 (2.38–4.10)***	0.24 (0.18–0.30)***	2.72 (1.81–4.09)***	0.10 (0.06–0.14)***
Discordance (husband accepts)	1.33 (0.90–1.97)	0.05 (–0.02 to 0.11)	1.53 (1.08–2.17)**	0.08 (0.01–0.15)**	1.63 (0.96–2.79)*	0.04 (–0.01 to 0.09)
Discordance (wife accepts)	1.84 (1.45–2.34)***	0.11 (0.07–0.15)**	2.19 (1.78–2.70)***	0.16 (0.12–0.20)***	2.38 (1.75–3.24)***	0.08 (0.05–0.11)***
Zimbabwe						
Concordance (both accept)	1.69 (1.18–2.41)***	0.11 (0.03–0.18)***	1.81 (1.25–2.63)***	0.12 (0.04–0.20)***	1.76 (1.02–3.05)**	0.05 (–0.01 to 0.11)**
Discordance (husband accepts)	0.92 (0.63–1.36)	–0.01 (–0.08 to 0.06)	1.30 (0.94–1.80)	0.05 (–0.01 to 0.11)	1.25 (0.80–1.98)	0.02 (–0.02 to 0.06)
Discordance (wife accepts)	1.47 (1.11–1.95)**	0.08 (0.02–0.13)**	1.73 (1.27–2.35)***	0.11 (–0.05 to 0.17)***	1.70 (1.12–2.57)**	0.05 (0.01–0.09)**

*p < .10. **p < .05. ***p < .005.
AME, average marginal effect; AME, average marginal effect; IPV, intimate partner violence; OR, Odds ratio.

In terms of associations, the findings from this study indicate that the risk of IPV was highest when both partners justified wife beating. After controlling for other couple-level and demographic variables, the risk of experiencing IPV was up to two times more likely when both partners were tolerant of IPV. This is consistent with findings from other studies that adopted a dyadic approach.[20 21] However, among discordant couples, our findings suggest that the risk of IPV was higher when the wife justified IPV than when the husband/partner alone was acceptive. Again, this finding was somewhat counterintuitive as we had expected that IPV risk would be higher when the men perceived violence as normal. Explanations for this *status quo* could be associated with several factors. For instance, there is a possibility of reporting bias, especially where sensitive or socially undesirable traits are involved.[47] Hence, abusive men might not disclose their actual attitudes in order to remain favourable to the interviewer. Hence, social desirability is one of the inherent major threats in self-reported surveys such as the DHS. Another possibility is that women subjected to repeated victimisation might have developed low self-esteem and have been conditioned to self-blame for whatever reason is causing the violence.[45] Such a situation, unfortunately, perpetuates IPV and might have a significant psychosocial impact on the victims.[33] As such, studies that seek to disentangle the psychological aspects of conditioned abuse are needed to have a better and more concrete understanding of the phenomenon.

In terms of the other couple-level variables, working status and decision-making autonomy were found, in some cases, to be significantly associated with all forms of IPV. In particular, we found that women who made joint decisions or did not have decision-making power on health, household purchases or mobility had lesser odds of experiencing emotional and sexual violence (except for health). This finding aligns with previous studies from other low-income countries such as the Philippines,[48] Peru[49] and Ethiopia[50] and suggests that in patriarchal societies such as Malawi, Zambia and Zimbabwe, women who control household decisions are more likely to be at risk of experiencing IPV.[48] This is likely because female autonomy is not consistent with gender and societal norms in patriarchal contexts and is therefore perceived as undermining men's position as decision-makers.[26] Moreover, in many African communities, especially those of the patrilineal tradition, the family is at the centre of the marital relationship.

In general, this suggests that men are less likely to use violence when the women are working, provided they are working too.[51] This finding is not surprising as other studies have drawn similar conclusions. This finding is significant for the three countries under study, as is the case in many SSA countries, considering their economic condition characterised by high unemployment and low wages, encouraging women to engage in informal work to supplement the household income. Resnick[52] notes that more than 70% of the working population in Lusaka

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(Zambia) alone were in informal jobs. The situation is similar in Zimbabwe and Malawi, where more than 80%[53] and 89%[54] of the labour force, respectively, is also involved in informal work. Most of the people in the informal sector are women, who work as tailors, hairdressers or food sellers, and, in most cases, earn more from this work than those in formal employment. In patriarchal countries, such economic empowerment might threaten patriarchal societal norms, especially if the man is involved in formal work and earns less than the wife engaged in informal work. While these explanations we provide are plausible, further explorations are required to tease out the association between work status and IPV in the three countries, considering the largely non-significant results.

All categories of spousal age difference were negatively associated with all forms of violence but only statistically significant for physical violence (wife older and ≥10 years) as well as sexual violence (≥10 years). This echo results from a Nigerian[55] and South African study,[56] which also found that having older partners was protective against IPV. Thus, it is possible that when the spousal age difference is wider, the man is most likely to be more mature than the wife.[4] As such, he might be more tolerant of his wife and better able to handle marital conflict.[55]

Although older age was generally negatively associated with the risk of experiencing IPV, the results were not statistically significant for the most part. Without other evidence, we attribute these insignificant results to the possibility of a correlation between the age variable used in our study and the marital duration and spousal age difference variables. Given that the woman's age was used to create these two variables, it is possible that some of the effects were picked up by these two variables. Regardless, the finding mirrors what has been found in other countries that older age can protect women against marital violence.[57 58]

The relationship duration was found to have a significant effect on IPV. Couples in relationships for longer durations (5 years and above) had an elevated risk of experiencing marital violence. This finding was somewhat unexpected as we had assumed that younger women lack social and economic power as well as conflict management skills, all of which can influence their capacity to negotiate power dynamics in a relationship, making them vulnerable to IPV.[31] Nonetheless, this finding is supported by some empirical studies which have shown that the longer the couple is married, the more likely the wife is to experience IPV.[59 60] It is most likely that women stay longer in these relationships mainly for the sake of children, societal pressure and financial constraints, among others.[59] Thus, terms such as *kugarira vana* (Zimbabwe)[60] or *ukushipikisha* (Bemba, Zambia) are often used to encourage women to endure marital violence.[61]

Our study suggests that women from rich households were less likely to experience all forms of IPV. On the flip side, these findings indicate that IPV is positively associated with poverty. The main argument running in this paper is that power and control are the main drivers of IPV.[62] However, when people live in poverty, they have little to control, except perhaps their families and spouses. Family theorists also argue that the socioeconomic strain and financial insecurities of low-income families mediate the relationship between family wealth and IPV.[63 64] These tensions and insecurities can create an environment in which IPV can thrive.

Place of residence was only significantly associated with emotional violence. We found that rural women had lesser odds of experiencing emotional violence than their urban counterparts. This could be because women who reside in urban areas are more likely to be exposed to more content on gender-based violence than their rural counterparts.[59] Hence, they are more likely to recognise even the non-physical forms of IPV, such as emotional violence. Thus, the observed differences could be due to exposure and awareness of different forms of IPV.

While our findings can be generalised to couples in Southern Africa where the conditions that drive patriarchy and violence are similar, they should be interpreted with some limitations in mind. For instance, the data used in this study are cross-sectional; hence, it only shows patterns of IPV victimisation at particular points in time and does not allow us to determine causality. Given that DHS data are collected retrospectively, there is potential for recall bias among participants. Also, each member of the couple dyad was interviewed separately, which again may lead to socially desirable responses or withholding of information if the partner is not present. However, it is also possible that since IPV is a sensitive topic, it may be necessary to interview couples separately, especially in cases where one partner may be experiencing abuse and may feel uncomfortable or unsafe discussing the issue in front of their abuser.

Despite these limitations, this study has demonstrated that attitudes towards IPV are an important risk factor for IPV. The dyadic approach has also shown increased risk when both partners endorse IPV. Therefore, addressing social norms around violence might be the best solution to break these cycles of violence. Evidence from South Africa[56] and India[57] has shown that gender role transformative programmes such as the Stepping Stones and Creating Futures intervention[56] have greatly altered the attitudes in these countries. More specifically, the findings have demonstrated that while the three countries share many similarities, there are significant differences in attitudes towards wife beating, with Malawi having the least tolerant couples. Yet, despite such low tolerance, more women from Malawi reported sexual violence than in the other three countries. Thus, more studies comparing IPV along patriarchal and matrilineal lines are needed to understand how IPV manifests in these contexts.

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REFERENCES

1 WHO. *Violence against women prevalence estimates, 2018*. Geneva: WHO, 2018.
2 Cavanaugh CE, Messing JT, Petras H, *et al*. Patterns of violence against women: A latent class analysis. *Psychol Trauma* 2012;4:169–76.
3 Ahinkorah BO, Dickson KS, Seidu A-A. Women decision-making capacity and intimate partner violence among women in sub-Saharan Africa. *Arch Public Health* 2018;76:5.
4 Bengesai AV, Khan HTA. Female autonomy and intimate partner violence: findings from the Zimbabwe demographic and health survey, 2015. *Cult Health Sex* 2021;23:927–44.
5 Semahegn A, Mengistie B. Domestic violence against women and associated factors in Ethiopia; systematic review. *Reprod Health* 2015;12:78.
6 Devries KM, Mak JYT, García-Moreno C, *et al*. Global health. The global prevalence of intimate partner violence against women. *Science* 2013;340:1527–8.
7 Campbell JC. Health consequences of intimate partner violence. *Lancet* 2002;359:1331–6.
8 Fulu E, Jewkes R, Roselli T, *et al*. Prevalence of and factors associated with male perpetration of intimate partner violence: findings from the UN multi-country cross-sectional study on men and violence in Asia and the Pacific. *Lancet Glob Health* 2013;1:e187–207.
9 Stubbs A, Szoeke C. The effect of intimate partner violence on the physical health and health-related behaviors of women: A systematic review of the literature. *Trauma, Violence, & Abuse* 2021;0:1524838020985541.
10 El-Bassel N, Gilbert L, Wu E, *et al*. Intimate partner violence prevalence and HIV risks among women receiving care in emergency departments: implications for IPV and HIV screening. *Emerg Med J* 2007;24:255–9.
11 Devries K, Watts C, Yoshihama M, *et al*. Violence against women is strongly associated with suicide attempts: evidence from the WHO multi-country study on women's health and domestic violence against women. *Soc Sci Med* 2011;73:79–86.
12 Zengenene M, Susanti E. Violence against women and girls in Harare, Zimbabwe. *J Int Women's Stud* 2019;20.
13 Flannery DJ, Vazsonyi AT, Waldman ID. Family violence. In: *The Cambridge handbook of violent behavior and aggression*. New York, NY, US: Cambridge University Press, 2007: 403–17.
14 Eswaran M, Malhotra N. Domestic violence and women's autonomy in developing countries: theory and evidence. *Canadian J Economic* 2011;44:1222–63.
15 Bulte E, Lensink R. Empowerment and intimate partner violence:domestic abuse when household income is uncertain. *Rev Dev Econ* 2021;25:148–62.
16 Uthman OA, Moradi T, Lawoko S. Are individual and community acceptance and witnessing of intimate partner violence related to its occurrence? *PLoS One* 2011;6:e27738.
17 Bengesai AV, Derera E. The association between women empowerment and emotional violence in Zimbabwe: A cluster analysis approach. *SAGE Open* 2021;11:21582440211021399.
18 Hindin MJ. Understanding women's attitudes towards wife beating in Zimbabwe. *Bull World Health Organ* 2003;81:501–8.
19 Tran TD, Nguyen H, Fisher J. Attitudes towards intimate partner violence against women among women and men in 39 Low- and middle-income countries. *PLoS One* 2016;11:e0167438.
20 Alio AP, Clayton HB, Garba M, *et al*. Spousal concordance in attitudes toward violence and reported physical abuse in African couples. *J Interpers Violence* 2011;26:2790–810.
21 Behrman J, Frye M. Attitudes toward intimate partner violence in Dyadic perspective: evidence from sub-Saharan Africa. *Demography* 2021;58:1143–70.
22 Zegeye B, Shibre G, Ahinkorah BO, *et al*. Urban-rural disparities in wife-beating attitude among married women: a decomposition analysis from the 2017 Senegal continuous demographic and health survey. *Arch Public Health* 2021;79:102.
23 Rani M, Bonu S, Diop-Sidibe N. An empirical investigation of attitudes towards wife-beating among men and women in seven sub-Saharan African countries. *Afr J Reprod Health* 2004;8:116–36.
24 Khan MN, Islam MM. Women's attitude towards wife-beating and its relationship with reproductive Healthcare seeking behavior: A countrywide population survey in Bangladesh. *PLoS One* 2018;13:e0198833.
25 Rahman M, Nakamura K, Seino K, *et al*. Does gender inequity increase the risk of intimate partner violence among women? evidence from a national Bangladeshi sample. *PLoS ONE* 2013;8:e82423.
26 Sikweyiya Y, Addo-Lartey AA, Alangea DO, *et al*. Patriarchy and gender-inequitable attitudes as drivers of intimate partner violence against women in the central region of Ghana. *BMC Public Health* 2020;20:682.
27 Rajan H. When wife-beating is not necessarily abuse: A feminist and cross-cultural analysis of the concept of abuse as expressed by Tibetan survivors of domestic violence. *Violence Against Women* 2018;24:3–27.
28 Bandyopadhyay S, Green E. Explaining inter-ethnic marriage in sub-Saharan Africa. *J Int Dev* 2021;33:627–43.
29 Alabi TA, Ramsden MJ. Gender differences in the acceptance of wife-beating in Nigeria: evidence from the 2018 demographic and health survey. *Heliyon* 2021;7:e08191.
30 Cannonier C, Mocan N. The impact of education on women's preferences for gender equality: evidence from Sierra Leone. *J Dem Econ* 2018;84:3–40.
31 Swindle J. Pathways of global cultural diffusion: mass media and people's moral declarations about men's violence against women. *SocArXiv* 2018.
32 Eisikovits Z, Koren C. Approaches to and outcomes of Dyadic interview analysis. *Qual Health Res* 2010;20:1642–55.
33 Collaço N, Wagland R, Alexis O, *et al*. Using the framework method for the analysis of qualitative Dyadic data in health research. *Qual Health Res* 2021;31:1555–64.
34 Chomba C. Resurrecting and modernising the Federation of Rhodesia and Nyasaland 1953 - 1963: challenges and opportunities

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of sustainable development in Africa. *J Sustain Develop Africa* 2017;19:163–84.
35 Groves ZR. Malawian migration to Zimbabwe, 1900–1965. In: *Malawian Migration to Zimbabwe, 1900–1965, Tracing Machona*. Cham, 2020.
36 Hindin MJ. Women's autonomy, status, and nutrition in Zimbabwe, Zambia, and Malawi. In: Kishor S, ed. *A focus on gender: collected papers on gender using DHS data*. Calverton, Maryland: ORC Macro, 2005.
37 Mwenge L, Sande L, Mangenah C, *et al*. Costs of facility-based HIV testing in Malawi. *PLoS ONE* 2017;12:e0185740.
38 UNAIDS. The gap report. 2014. Available: http://www.unaids.org/en/resources/campaigns/2014gapreport
39 ILO. *Inequality in Southern Africa: optionsfor redress*. 2013.
40 Chapoto A, Jayne TS, Mason NM. Widows' land security in the era of HIV/AIDS: panel survey evidence from Zambia. *Econ Dev Cult Change* 2011;59:511–47.
41 Chikhungu LC, Amos M, Kandala N II, *et al*. Married women's experience of domestic violence in Malawi: new evidence from a cluster and Multinomial logistic regression analysis. *J Interpers Violence* 2021;36:8693–714.
42 Demographic and health survey (DHS) programme. n.d. Available: https:// dhsprogram.com/Data/
43 Williams R. Using the margins command to estimate and interpret adjusted predictions and marginal effects. *Stata J* 2012;12:308–31.
44 Long JS, Mustillo SA. Using predictions and marginal effects to compare groups in regression models for binary outcomes. *Sociolog Method Res* 2021;50:1284–320.
45 Okenwa-Emegwa L, Lawoko S, Jansson B. Attitudes toward physical intimate partner violence against women in Nigeria. *SAGE Open* 2016;6:215824401666799.
46 Speizer IS. Intimate partner violence attitudes and experience among women and men in Uganda. *J Interpers Violence* 2010;25:1224–41.
47 Paulhus DL. Two-component models of socially desirable responding. *J Person Soc Psychol* 1984;46:598–609.
48 Hindin MJ, Adair LS. Who's at risk? factors associated with intimate partner violence in the Philippines. *Soc Sci Med* 2002;55:1385–99.
49 Svec J, Andic T. Cooperative decision-making and intimate partner violence in Peru. *Popul Dev Rev* 2018;44:63–85.
50 Ebrahim NB, Atteraya MS. Women's household decision-making and intimate partner violence in Ethiopia. *Acad J Int Stud* 2019;8:285–92.
51 Alonso-Borrego C, Carrasco R. n.d. Employment and the risk of domestic violence: does the breadwinner's gender matter? *SSRN J*
52 Resnick D. Taxing informality: compliance and policy preferences in urban Zambia. *J Develop Stud* 2021;57:1063–85.
53 Dzawanda B, Matsa M, Nicolau M. Poverty on the rise: the impact of the COVID-19 Lockdown on the informal sector of Gweru, Zimbabwe. *Int Soc Sci J* 2021;71:81–96.
54 Gondwe SR, Budlender D. *Informal economy budget analysis for Lilongwe City in Malawi. WIEGO resource document no.13*. Manchester, UK: WIEGO, 2019.
55 Adebowale AS. Spousal age difference and associated predictors of intimate partner violence in Nigeria. *BMC Public Health* 2018;18:212.
56 Jewkes R, Levin J, Penn-Kekana L. Risk factors for domestic violence: findings from a South African cross-sectional study. *Soc Sci Med* 2002;55:1603–17.
57 Rivara FP, Anderson ML, Fishman P, *et al*. Age, period, and cohort effects on intimate partner violence. *Violence Vict* 2009;24:627–38.
58 Issahaku PA. Correlates of intimate partner violence in Ghana. *SAGE Open* 2017;7:2158244017709861.
59 Gubi D, Nansubuga E, Wandera SO. Correlates of intimate partner violence among married women in Uganda: a cross-sectional survey. *BMC Public Health* 2020;20:1008.
60 Bonnes S. Education and income imbalances among married couples in Malawi as predictors for likelihood of physical and emotional intimate partner violence. *Violence Vict* 2016;31:51–69.
61 Chitakure J. *Shona Women in Zimbabwe: a purchased people*. Engene, OR: Pickwick Publishers, 2016.
62 Antai D. Controlling behavior, power relations within intimate relationships and intimate partner physical and sexual violence against women in Nigeria. *BMC Public Health* 2011;11:511.
63 Gelles RJ. Violence in the family: A review of research in the seventies. *J Marriage Family* 1980;42:873.
64 Schwab-Reese LM, Peek-Asa C, Parker E. Associations of financial stressors and physical intimate partner violence perpetration. *Inj Epidemiol* 2016;3:6.

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