

Structurally dissecting socio-cultural factors associated with men's acceptance and justification of gender-based violence against women across regional, rural and urban spaces of Ghana: A trend analysis of 2003, 2008, 2014 GDHS

[Alternative titles]

What factors are driving recent changes in men's attitude towards wife beating across regional, rural and urban spaces of Ghana? Findings from 2003, 2008 and 2014 Ghana DHS

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Abstract

Gender based violence affects at least one third (33%) of all ever-partnered women worldwide, and more than one-third (36.7%) in Sub-Saharan Africa. Since, men's attitude is a strong determinant of whether he perpetrates violence or not, addressing factors that can encourage violence such as men's attitude and gender norms excusing violence has become desirable. Despite this, it is very shocking to see the sparse knowledge in literature on factors associated with men's attitudes towards gender-based violence. There is also limited knowledge of trends and patterns in men's attitude towards GBV over a considerable long period of time. Using data from the Ghana 2003, 2008 and 2014 Demographic and Health Survey (DHS), this study bridges these two gaps in literature. First, it presents data on the prevalence and factors associated with approval of GBV among men. Then, it discloses factors consistent in such relationships across the three data waves identified. Data analysis included a combination of bivariate descriptive (Pearson chi-square) and inferential multivariate logistic regression models, fitted to examine the independent relationship between socio-cultural factors and men's acceptance of wife beating across the waves. The result showed that between 2003 to 2014, men's acceptance of GBV fell from 31.7% to 12.4%, respectively. However, in two regions (the Western and the Upper West regions), acceptance increased by 2.1% and 3.8%. Shockingly, men who had only primary education were significantly more likely to approve GBV compared to men who had had no formal education. Having at least secondary education, being rich, in monogamous unions, living in urban areas were associated with increased likelihood of rejecting GBV, while belonging to certain ethnic, religious and cultural groups increased it. Access to media was not consistent. Further GBV studies should include men in their focus.

Keyword: Men's attitudes, Gender-Based Violence, Trends, Women, Ghana

INTRODUCTION

Africa gets a high share among the one-third of global women beaten, humiliated and sexually abused by their male partners or husbands every year. Beyond the 33 percent global average, 37 percent of sub-Saharan African women have been battered by their husbands or intimate male partners over the past few years (World Health Organization, 2013; United Nations Women, 2019). Wife beating or battering has been rightly considered a human right violation and a “global public health challenge “of epic proportions” (WHO, 2013) that demands urgent public health priority (Garcia-Moreno & Watts, 2011).

One main reason for such far cries against wife beating and other forms of violence against women including intimate partner violence and domestic violence is its deleterious effects on the women-sufferer (Garcia-Moreno & Watts, 2011). These include numerous physical and mental health challenges: depression, trauma, sexually transmitted infections, unwanted pregnancies, low birth weight babies, alcohol use problems, injuries, cardiovascular diseases, and at its extreme, femicide or suicide (Campbell, 2002; Krug, Mercy, Dahlberg & Zwi, 2002; Garcia-Moreno & Watts, 2011; WHO, 2013; Clark, Alonso, Everson-Rose, Spencer, Brady, Resnick, ... & Feng, 2016).

It is obvious that not all men/husbands beat their wives. However, according to available studies, men’s attitude towards wife beating is a significant factor in predicting whether a man beats his wife or not. Examples include findings by Yoshikawa, Shakya, Poudel & Jimba (2014) in Nepal; Abramsky, Watts, Garcia-Moreno, Devries, Kiss, Ellsberg, ... and Heise (2011) in ten countries “Bangladesh, Brazil, Ethiopia, Japan, Namibia, Peru, Republic of Tanzania, Samoa, Serbia and Montenegro, and Thailand”, Uthman, Moradi and Lawoko (2011) and Owoaje & OlaOlorun (2012) in Nigeria, to mention a few. All these studies show a significantly strong positive relationship between men’s attitude towards wife beating and actual perpetration of wife beating. Men who agreed that it was justifiable for a man to beat his wife for transgressing certain traditional gender roles were, at the same time, more likely to beat her or perpetrate other physical and/or sexual harms against her.

Scholars are shifting attention to investigating the magnitude and understanding the associated factors possibly encouraging acceptance of wife beating among women and men across countries. Attaining such knowledge and understanding is necessary in informing interventions targeted at discouraging attitudes of acceptance of wife beating and thus inadvertently mitigating possible instances of wife beating in study locations. Such studies have been conducted by scholars across countries and continents. A few examples include Rani et. al (2004) investigation across seven sub-Saharan African countries vis-à-vis Benin, Ethiopia, Malawi, Mali, Rwanda, Uganda and Zimbabwe; Takyi and Mann (2006) in Ghana; Rani and

Bornu (2009) in seven Asian countries vis-à-vis Armenia, Bangladesh, Cambodia, India, Kazakhstan, Nepal, and Turkey; Uthman, Lawoko, and Moradi (2009) in seventeen sub-Saharan African countries; Linos, Khawaja and Al-Nsour (2010) in Jordan; Dhaher, Mikolajczyk, Maxwell and Krämer (2010) among Palestinians in three West Bank cities; and Dalal, Lee and Gifford (2012) in Bangladesh, India, and Nepal, among others.

These studies have documented high levels of acceptance or justification of wife beating at various degrees among men and women, across those countries. In most of the studies, shockingly, women were more likely to accept and justify wife beating than the men. A good example is the study by Uthman, Lawoko, and Moradi (2009) among 17 countries, for instance, a shocking 74% of women and 58% of men in Ethiopia supported at least one reason for wife beating using the 2005 Ethiopia Demographic and Health Survey. Several factors found to be positively associated with acceptance of wife beating among women and men across countries have mainly included poverty, a history of family violence such as having a father who beat the mother, experiencing abuse in childhood, having low educational attainment, living in rural residence, lack of access to media, women's low economic and decision-making power, women's economic and political overdependence on man in household, younger ages, unemployment, and being in polygamous unions among others (Rani et. al, 2004; Rani & Bornu, 2009; Uthman et. al, 2009; Linos, et. al, 2010; Dalal, et. al, 2012;

Recently, the world “celebrated” obvious decline over the years in men and women's acceptance of wife beating as justified for any reasons (Pierotti, 2011; Oyediran, 2016; also, see many national Demographic and Health Survey reports). While it is obvious that these reports show that more men and men are rejecting the idea of wife beating as acceptable for any reason, except in some very few instances, it is also observable that almost none of such studies have investigated trends along regional and/or rural-urban residential lines. Pease and Flood (2006) study already demonstrated “the need to locate attitudes within the context of ... community and social norms” supporting wife beating. We build on this report to argue that while it might appear that the rate of acceptance of wife beating (AWB) has been on a decline in many countries and along national lines, acceptance of wife beating is only increasing in some regions. Any quick admittance of “success report” of reduction in AWB without description of patterns at constituent units (regional levels) may be a conclusion too sudden. We intend to influence more scholarship in this trend. Thus, we investigate trends in men's AWB across the ten regions of Ghana over a decade. We suppose our study is the first to investigate trends in men's attitude towards wife beating across regional, rural-urban levels, and progressive time-

periods. Oyediran (2011) demonstrated lacuna in trends studies in ATW attitude but investigated only women and at national levels in Nigeria.

Our data is borrowed from Men's Recode datasets of the nationally-representative Ghana Demographic and Health Surveys (GDHS) of 2003, 2008 and 2014. The data allows us to trace individual men's responses on wife-beating in 5 hypothetical scenarios. In each wave, the sampled men were asked the same questions if it was acceptable for a man to beat his wife if, *She – goes out without telling him* (measures freedom and trust), *neglects the children* (traditional gender role), *argues with him* (male hegemony), *refuses to have sex with him* (female sexual right), and, *burns the food*. All responses in the affirmative were coded "1", otherwise "0". A 6-index scale ranging from 0 (no acceptance) to 5 (acceptance in all) was generated based on responses for each scenario. A binary/dummy variable was then generated where any "Yes" response was coded "1" and only men who rejected all reasons "0". This was used as the Dependent variable. Main independent variables of this study were men's region, residence type, ethnicity, highest educational level, religious affiliation, and access to media, while controlling for age, marital status and occupational type. We intend to see the level and pattern of changes across regions and by these highlighted socio-economic backgrounds. Data was analyzed using bivariate and multivariate logistic regression models.

METHODS

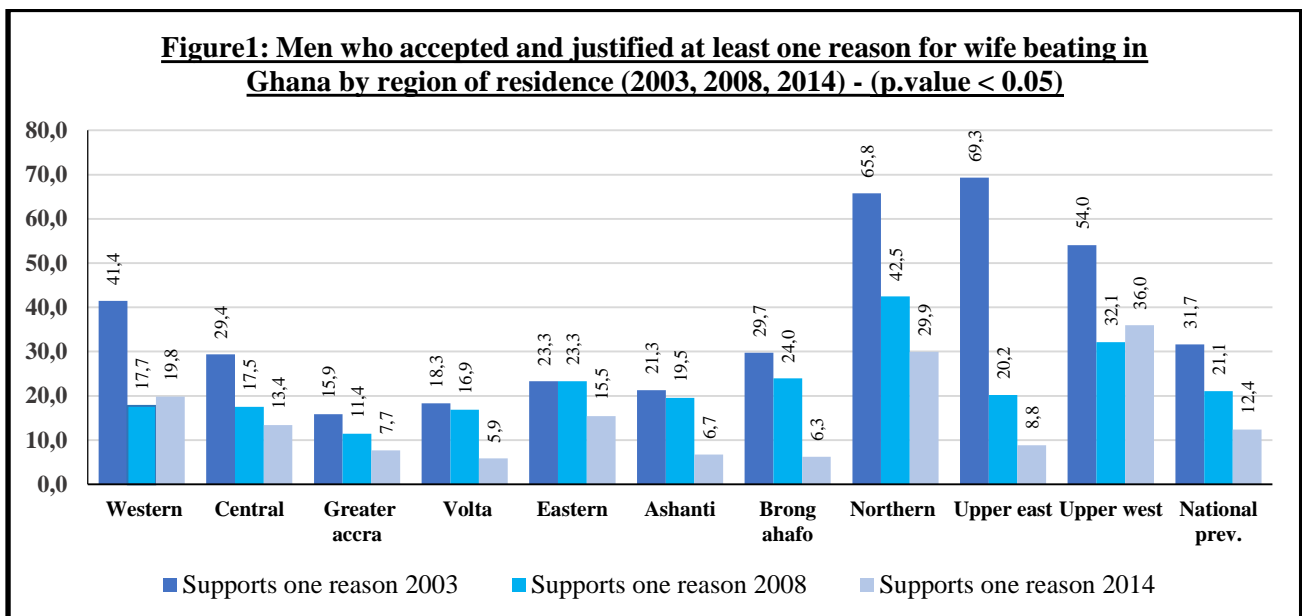
This study borrow data from the nationally representative Ghana 2003, 2008 and 2014 Demographic and Health Survey (GDHS) which employed similar questionnaire across the waves. Total sample size was a total of 13,715 men, aged 15 to 59 years: 2003 (4,901), 2008 (4,481) and 2008 (4,333). These were systematically selected using a two-staged sampling method across the 10 regions of Ghana. The data allows us to measure individual men's attitude towards wife beating based on their responses (Yes/No) to 5 questions on whether it was justifiable for a man to beat his wife if **she – "goes out without telling him", "neglects the children", "argues with him", "refuses to have sex with him", or "burns the food"**. Any "Yes" response indicates acceptance of wife beating; a thorough "No" in all cases implies 'zero tolerance'. Responses were coded as binary outcome (Yes=1, No=0). The result is used as the outcome variable. Data for each of the three waves was first tested independently in a uniform model and later pooled together in the final model. Patterns in responses for each wave was described with bivariate tests of significance at probability value <0.05 was conducted. To ascertain the net effects of each variable subcategories, multiple binary logistic regression models were fitted. Key dependent variables (mostly categorical) are tested are Year of survey (period effect, relevant for pooled data), subnational region (all 10 Ghanaian regions), residence (rural/urban), highest education (none, primary, secondary, higher), age group (15-19, 20-

24,.....,40-44, 45 and older), religion (Catholic, Other Christians, Islam, Traditional & Others), Poverty (poor, middle, rich), access to media (no, yes), occupation, marital status and form of marriage (never married, monogamous, polygamous). Men with missing information on key variables were excluded from the study

FINDINGS

1. Trend in Men’s acceptance towards wife beating by regions of Ghana in 2003, 2008 and 2014

Between 2003 to 2014, men’s attitude towards wife beating changed drastically. Nationally, men’s acceptance of wife beating declined from an average of 32% in 2003 to 12% in 2014. At regional levels, the most visible decline was in the Upper East region where acceptance fell from 69% in 2003 to 9% in 2014. However, between 2008 to 2013, acceptance increased from 18% to 20% in the Western region and from 32% to 36% in the Upper West regions. These regions call for closer attention in these regions. By rural and urban residence, men’s acceptance of wife beating also declined significantly from 25% to 9% in urban areas and from 38% to 16% in rural areas between 2003 to 2014. At the national level, two reasons were most widely accepted across the years: first, “If she neglects the children” (23%, 13%, 8.2%), then “If she goes out without telling him” (19.6%, 10.5%, 6.5%) in that order of the waves 2003, 2008, and 2014. Percentage change in attitude was higher for men’s acceptance of beating wife if “neglects the children” at 66.8% decline, compared to 64.3% decline if “she goes out without telling him”.

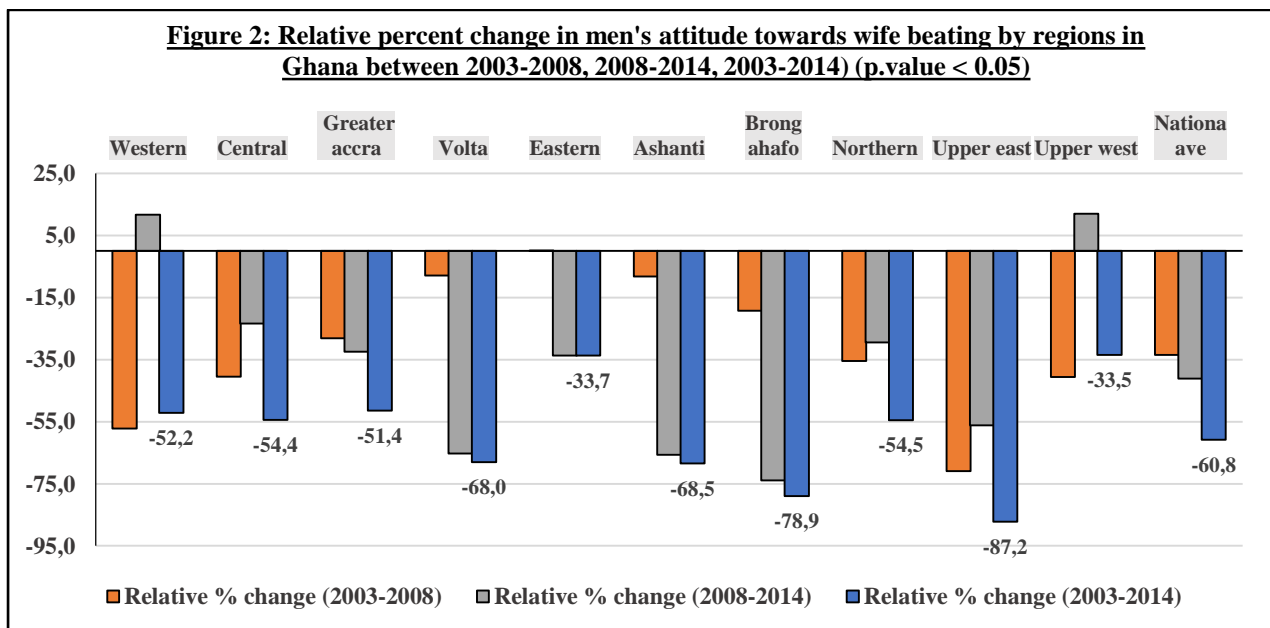


From Figure 1, men in the Northern (65.8%, 42.5%, 30%) and Upper East (70%, 20%, 9%) regions had the highest acceptance of wife beating in the 2003 and 2008 waves. However, while there was a drastic and sharp decline in acceptance in the Upper East region from 70% in 2003 to merely 9% in 2014, the Northern region had a slower decline from 66% in 2003 to 30%. It will be interesting for further studies to identify key factors possibly responsible for such

sharp decline in the former at grassroots levels. By 2014, with a national acceptance average of 12.4%, the Upper West region (36%) had overtaken the Northern region (30%), the Western region (20%), the Central region (13%) and the Upper East region (now 9%) to become the region with the highest percentage of acceptance of wife beating among men. The regions with the least acceptance in descending order were the Greater Accra (8%), the Ashanti (7%), the Brong Ahafo (6.3%) and the Volta (6%) regions accepted at least one reason for wife beating.

2. Relative percentage decline across regions from 2003-2008, 2008-2014, 2003-2014

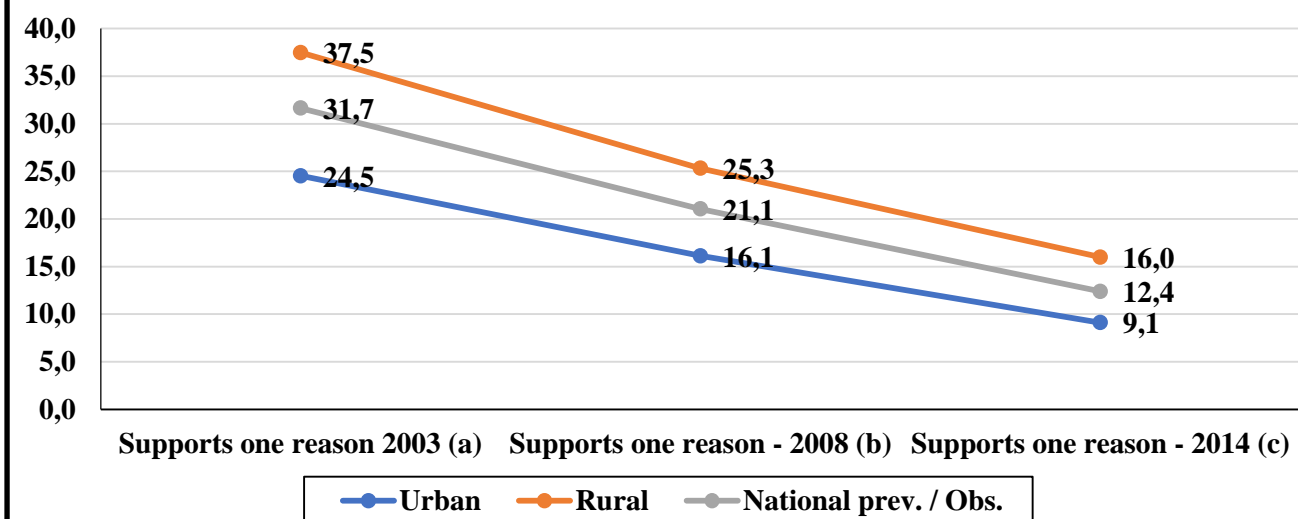
Figure 2 shows relative percentage change (increase or decline) in men’s acceptance of wife beating across the regions between the survey waves: 2003-2008, 2008-2014 and 2003-2014. Between 2003 to 2014, the largest changes in men’s acceptance of wife beating occurred in the Upper East region at 87.2%, the Brong Ahafo region (78.9%), the Ashanti region (68.5%), and the Volta region (68.0%). Other decline witnessed over the same period took place in the Northern region (54.5%), Central (54.4%), Western (52.2%), Greater Accra (51.4%).



3. Trends in Men’s Attitude by Rural and Urban Residence in 2003, 2008 and 2014

Men resident in rural areas have been, and remain, more likely to justify wife beating compared to their urban counterparts across the three waves. Decline in both areas are much similar. While men’s acceptance of wife beating decline from 38% in 2003 to 16.0% in 2014 (58% decline) among men in the rural areas, it declined from 25% to 9% (64% decline) among men in the areas over the same period. Decline in rural areas is above the 61% change observed nationally.

Figure 3: Trends in men's attitudes towards wife beating across urban and rural spaces of Ghana (2003, 2008, 2014)



4. Result of Multivariate Logistic Regression

Table 3 shows logistic regression result of independent associations between men's acceptance of wife beating and key socio-economic factors. It consists of five columns. The first column has the names of each independent variable with its subcategories. The first category is the referent category with a default adjusted odds ratio coefficient of 1.0. The three waves of datasets were pooled and analyzed to test the effect of survey period and other key variables. The result of this is the content of the second column. The third column contains result output on only year 2003, the fourth on 2008, and the last on 2014. The table was so arranged for easy comparison for and across all waves. Like Table 3, Table 4 has the same dependent and independent variables. Table 4 shows the how perception differ independently among rural and urban residences samples.

Findings from the binary logistic regression (Table 2) show that compared to men's attitude in Year 2003, by 2013, men are aOR 0.32 (68%) less likely to accept wife beating as justified for any reason. Compared to men in Greater Accra, Ghana's capital city, men in Northern, Upper East and Upper West were about 2 to 4 times more likely to justify wife beating.

Education matters. There was no statistically significant difference between men who had no education and those with only primary education in attitudes towards violence. Only men who have secondary and/or higher education were less likely to accept wife beating compared to the Primary education holders. Men with secondary Men in rich homes were less likely to accept wife beating in 2003 and 2008 only, the relationship was not significant in 2014.

Access to media was not significant across all waves. Polygamous men were also more likely to justify wife beating compared to monogamous men. Finally, as men grew older, the less likely they

would justify wife beating. These findings matter and call for intensity in men’s education, among others.

Men’s occupation only seemed to matter significantly in year 2003. The relationship was not significant thereafter. In 2003, men in the “top managerial, technical or professional” occupational hierarchy were the least likely to accept that wife beating was justifiable on any ground. Compared to this category, men in lower occupational hierarchy were more likely to accept at least one reason for wife beating – men in agriculture (aOR 1.57, p.value <0.01), Clerical/sales/services (aOR 1.54, p-value <0.01; Manual labour workers and others (1.52; p.value <0.01) and “Not working” (aOR 1.36, p.value <0.05).

The same trend was observed in the relationship between men’s acceptance and age. The relationship was mostly statistically significant in year 2003. In 2003, compared to middle aged men 25-34 years old, younger men aged 15-24 (aOR 1.49, p-value 0.001) were more likely to justify wife beating. Older men 35-44 (aOR 0.74, p-value 0.001) and 45 and above (aOR 0.61, p-value 0.001) were less likely to accept any reason for wife beating compared to the same category. In 2008, the relationship was only significant for men in the oldest group, 45 and above (aOR 0.7, p-value 0.05) who were consistently less likely compared to the same referent category. In 2014, the relationship was also significant only for men in the youngest group 15-24 who were (aOR 2.0, p-value 0.001) more likely to justify wife beating. This finding is consistent with findings in previous single wave studies where age is consistently negatively associated with acceptance of wife beating (Oyediran, 2016).

Table 3: Trends in Men’s Acceptance of Wife Beating Across in Ghana from 2003, 2008, 2014

DEPENDENT VARIABLES ==>	Men's acceptance of Wife Beating			
	All Years (2003, 2008, 2014)	Year 2003 only	Year 2008 only	Year 2014 only
INDEPENDENT VARIABLES:	(aOR)	(aOR)	(aOR)	(aOR)
DHS Year:				
<i>Year 2003 (Ref.)</i>	1.000	1.000	1.000	1.000
Year 2008	0.59***	(. - .)	(. - .)	(. - .)
Year 2014	0.32***	(. - .)	(. - .)	(. - .)
Age: 25-34 (Ref.)	1.000	1.000	1.000	1.000
15-24	1.50***	1.49***	1.3	1.99***
35-44	0.74***	0.58***	1.05	0.72
45 and above	0.61***	0.51***	0.70*	0.72
Marital union: Monogamous (Ref.)	1.000	1.000	1.000	1.000
Polygamous	1.48***	1.66***	1.07	1.71*
No wives/Not married	1.1	1.03	1.11	1.2
Education: Primary (Ref.)	1.000	1.000	1.000	1.000
No education	0.9	0.85	0.82	1.2
Secondary	0.64***	0.56***	0.73**	0.72*
Higher	0.29***	0.34***	0.26***	0.25**
Wealth: Rich (Ref.)	1.000	1.000	1.000	1.000
Poor	1.34**	1.34*	1.48**	1.41
Middle	1.42***	1.37*	1.51**	1.42
Region: Greater Accra Ref.)	1.000	1.000	1.000	1.000
Western	2.18***	2.98***	1.34	2.07**

Central	1.45**	1.57*	1.28	1.41
Volta	0.79	0.82	1.02	0.41*
Eastern	1.53**	1.33	1.78*	1.55
Ashanti	1.13	1.19	1.44	0.68
Brong Ahafo	1.29	1.57	1.67*	0.45*
Northern	3.79***	5.75***	3.20***	2.34*
Upper East	1.64**	7.27***	1.05	0.45*
Upper West	2.79***	3.18***	2.03**	3.66***
Religion:				
Other Christians (Ref.)	1.000	1.000	1.000	1.000
Catholic	1.06	0.96	0.98	1.42
Muslims	1.15	1.18	1.22	0.87
Traditionalists & Others	1.31***	1.2	1.24	2.03***
Media: No Access (Ref.)	1.000	1.000	1.000	1.000
Access to Media	0.84	1.02	0.74	0.61
Occupation: Top managers / professionals (Ref.)	1.000	1.000	1.000	1.000
Agriculture	1.57**	2.15**	1.21	1.3
Clerical/sales/services	1.54**	1.95*	1.29	1.17
Manual and others	1.52**	2.06**	1.25	1.23
Not working	1.36*	2.03**	1.14	0.92
Constant	0.24***	0.15***	0.18***	0.12***
Observations	13,715	4,901	4,481	4,333
Notes: *** p<0.001, ** p<0.01, * p<0.05; aOR - adjusted Odds Ratios; *Media include access to television, radio, newspapers and magazines. *Referent category is the first category in each variable. *An Adjusted Odds Ratio (aOR) of less than 1 signifies that the category is less likely to accept wife beating compared to the referent category; while an aOR above 1 signifies higher probability of acceptance. Note the stars for probability significance.				

Table 4: Trends in men's acceptance of wife beating across the urban and rural areas of Ghana 2003, 2008, 2014

Dependent Variables ==>	Men's acceptance of Wife Beating							
	Urban (All years)	Urban (2003)	Urban (2008)	Urban (2014)	Rural (All years)	Rural (2003)	Rural (2008)	Rural (2014)
Models ==>	(aOR)	(aOR)	(aOR)	(aOR)	(aOR)	(aOR)	(aOR)	(aOR)
DHS Year: Year 2003	<i>Ref.</i>	(. - .)	(. - .)	(. - .)	<i>Ref.</i>	(. - .)	(. - .)	(. - .)
Year 2008	0.63***	(. - .)	(. - .)	(. - .)	0.57***	(. - .)	(. - .)	(. - .)
Year 2014	0.32***	(. - .)	(. - .)	(. - .)	0.31***	(. - .)	(. - .)	(. - .)
Age: 25-34	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
15-24	1.82***	1.60*	1.63*	2.86**	1.31**	1.43*	1.13	1.44
35-44	0.74	0.55*	0.92	0.93	0.73***	0.58***	1.14	0.61**
45 and above	0.58***	0.35***	0.67	1.13	0.62***	0.60***	0.70*	0.53**
Marital union: Monogamous	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Polygamous	1.56*	1.59	1.66	1.81	1.46***	1.69**	0.96	1.73*
No wives/Not married	0.95	0.83	1.02	1.09	1.22*	1.17	1.19	1.37
Education: Primary	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
No education	1.05	0.84	1.37	1.35	0.87	0.86	0.69*	1.23
Secondary	0.63***	0.54**	0.71	0.84	0.66***	0.56***	0.77*	0.75
Higher	0.26***	0.29**	0.20***	0.37	0.38***	0.47*	0.41*	0.12**
Wealth: Rich	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Poor	0.95	0.86	1.09	1.55	1.38*	1.26	1.65*	1.29
Middle	1.33*	1.68**	1.18	1.33	1.36*	1.09	1.77**	1.36
Religion (Other Christians)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Catholic	0.99	0.82	0.95	1.56	1.09	1	0.94	1.4
Islam	1.17	0.99	1.63*	0.92	1.08	1.18	1.02	0.85
Traditionalists & Others	1.46*	1.69*	0.92	1.5	1.29**	1.07	1.28	2.26***
Region: Greater Accra	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Western	2.21***	2.23**	1.86*	2.37**	1.76*	2.55	0.8	1.98
Central	1.60**	1.89*	1.28	1.63	1.11	1.09	0.94	1.35
Volta	0.96	0.97	1.44	0.41	0.6	0.6	0.68	0.4
Eastern	1.92**	1.73	2.28*	1.65	1.09	0.85	1.14	1.55
Ashanti	1.03	1.1	1.43	0.49	1.01	1	1.14	0.79
Brong ahafo	1.16	1.22	1.4	0.51	1.11	1.25	1.37	0.43
Northern	4.41***	8.65***	2.79**	2.16	3.08***	3.89**	2.67*	2.42
Upper east	2.03	10.11***	0.61	0.49	1.32	5.14**	0.83	0.46
Upper west	3.14**	4.68*	1.65	3.23*	2.20**	2.24	1.68	3.90*
Media: No access	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Access to Media	0.37**	0.18	0.7	0.27**	1.01	1.21	0.77	1.04
Occupation: Top managers/professionals	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Agriculture	1.45	2.41*	1.05	1	1.99**	2.63*	1.17	4.84*
clerical/sales/services	1.44	1.87	1.39	0.95	1.90**	2.37	1.18	3.93*
Manual and others	1.37	1.96*	1.32	0.91	1.96**	2.4	1.15	4.79*
Not working	1.15	1.88*	1.07	0.63	1.87**	2.61*	1.16	3.99*
Constant	0.58	1.05	0.17*	0.23*	0.20***	0.15**	0.23**	0.02***
Observations	5,772	1,872	1,869	2,031	7,943	3,029	2,612	2,302

Notes: *** p<0.001, ** p<0.01, * p<0.05; aOR - adjusted Odds Ratios; *Media include access to television, radio, newspapers and magazines. *Referent category is the first category in each variable. *An Adjusted Odds Ratio (aOR) of less than 1 signifies that the category is less likely to accept wife beating compared to the referent category; while an aOR above 1 signifies higher probability of acceptance. Note the stars for probability significance.

Trends in Men's Acceptance of Wife Beating Across in Ghana from 2003 - 2014

DEPENDENT VARIABLES ==>	Men's acceptance of Wife Beating	Men's acceptance of Wife Beating	Men's acceptance of Wife Beating	Men's acceptance of Wife Beating
Models ==>	All Years (2003, 2008, 2014)	Year 2003 only	Year 2008 only	Year 2014 only
	(aOR)	(aOR)	(aOR)	(aOR)
DHS Year: Year 2003	Ref.	(. - .)	(. - .)	(. - .)
Year 2008	0.59***	(. - .)	(. - .)	(. - .)
Year 2014	0.32***	(. - .)	(. - .)	(. - .)
Region: Greater Accra	Ref.	Ref.	Ref.	Ref.
Western	2.18***	2.98***	1.34	2.07**
Central	1.45**	1.57*	1.28	1.41
Volta	0.79	0.82	1.02	0.41*
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Northern	3.79***	5.75***	3.20***	2.34*
Upper east	1.64**	7.27***	1.05	0.45*
Upper west	2.79***	3.18***	2.03**	3.66***
Education: Primary	Ref.	Ref.	Ref.	Ref.
No education	0.9	0.85	0.82	1.2
Secondary	0.64***	0.56***	0.73**	0.72*
Higher	0.29***	0.34***	0.26***	0.25**
Religion (Other Christians)	Ref.	Ref.	Ref.	Ref.
Catholic	1.06	0.96	0.98	1.42
Islam	1.15	1.18	1.22	0.87
Traditionalists & Others	1.31***	1.2	1.24	2.03***
Wealth: Rich	Ref.	Ref.	Ref.	Ref.
Poor	1.34**	1.34*	1.48**	1.41
Middle	1.42***	1.37*	1.51**	1.42
Media: No access	Ref.	Ref.	Ref.	Ref.
Access to Media	0.84	1.02	0.74	0.61
Occupation: Top managers/professionals	Ref.	Ref.	Ref.	Ref.
Agriculture	1.57**	2.15**	1.21	1.3
clerical/sales/services	1.54**	1.95*	1.29	1.17
Manual and others	1.52**	2.06**	1.25	1.23
Not working	1.36*	2.03**	1.14	0.92
Marital union: Monogamous	Ref.	Ref.	Ref.	Ref.
Polygamous	1.48***	1.66***	1.07	1.71*
No wives/Not married	1.1	1.03	1.11	1.2
Age: 25-34	Ref.	Ref.	Ref.	Ref.
15-24	1.50***	1.49***	1.3	1.99***
35-44	0.74***	0.58***	1.05	0.72
45 and above	0.61***	0.51***	0.70*	0.72
Constant	0.24***	0.15***	0.18***	0.12***
Observations	13,715	4,901	4,481	4,333
Notes: *** p<0.001, ** p<0.01, * p<0.05; aOR - adjusted Odds Ratios; Media include access to television, radio, newspapers and magazines.				

Ghana: Trends in men's acceptance of wife beating across urban and rural areas from 2003 - 2014

Dependent Variables ==>	Men's acceptance of Wife Beating	Men's acceptance of Wife Beating	Men's acceptance of Wife Beating	Men's acceptance of Wife Beating	Men's acceptance of Wife Beating	Men's acceptance of Wife Beating	Men's acceptance of Wife Beating	Men's acceptance of Wife Beating
Models ==>	Urban (All years)	Urban (2003)	Urban (2008)	Urban (2014)	Rural (All years)	Rural (2003)	Rural (2008)	Rural (2014)
	(aOR)	(aOR)	(aOR)	(aOR)	(aOR)	(aOR)	(aOR)	(aOR)
DHS Year: Year 2003	<i>Ref.</i>	(. - .)	(. - .)	(. - .)	<i>Ref.</i>	(. - .)	(. - .)	(. - .)
Year 2008	0.63** *	(. - .)	(. - .)	(. - .)	0.57** *	(. - .)	(. - .)	(. - .)
Year 2014	0.32** *	(. - .)	(. - .)	(. - .)	0.31** *	(. - .)	(. - .)	(. - .)
Region: Greater Accra	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
Western	2.21** *	2.23**	1.86*	2.37**	1.76*	2.55	0.8	1.98
Central	1.60**	1.89*	1.28	1.63	1.11	1.09	0.94	1.35
Volta	0.96	0.97	1.44	0.41	0.6	0.6	0.68	0.4
Eastern	1.92**	1.73	2.28*	1.65	1.09	0.85	1.14	1.55
Ashanti	1.03	1.1	1.43	0.49	1.01	1	1.14	0.79
Brong ahafo	1.16	1.22	1.4	0.51	1.11	1.25	1.37	0.43
Northern	4.41** *	8.65***	2.79**	2.16	3.08** *	3.89**	2.67*	2.42
Upper east	2.03	10.11** *	0.61	0.49	1.32	5.14**	0.83	0.46
Upper west	3.14**	4.68*	1.65	3.23*	2.20**	2.24	1.68	3.90*
Education: Primary	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
No education	1.05	0.84	1.37	1.35	0.87	0.86	0.69*	1.23
Secondary	0.63** *	0.54**	0.71	0.84	0.66** *	0.56** *	0.77*	0.75
Higher	0.26** *	0.29**	0.20** *	0.37	0.38** *	0.47*	0.41*	0.12**
Religion (Other Christians)	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
Catholic	0.99	0.82	0.95	1.56	1.09	1	0.94	1.4
Islam	1.17	0.99	1.63*	0.92	1.08	1.18	1.02	0.85
Traditionalists & Others	1.46*	1.69*	0.92	1.5	1.29**	1.07	1.28	2.26** *
Wealth: Rich	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
Poor	0.95	0.86	1.09	1.55	1.38*	1.26	1.65*	1.29
Middle	1.33*	1.68**	1.18	1.33	1.36*	1.09	1.77**	1.36
Media: No access	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
Access to Media	0.37**	0.18	0.7	0.27**	1.01	1.21	0.77	1.04
Occupation: Top managers/professionals	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
Agriculture	1.45	2.41*	1.05	1	1.99**	2.63*	1.17	4.84*
clerical/sales/services	1.44	1.87	1.39	0.95	1.90**	2.37	1.18	3.93*
Manual and others	1.37	1.96*	1.32	0.91	1.96**	2.4	1.15	4.79*
Not working	1.15	1.88*	1.07	0.63	1.87**	2.61*	1.16	3.99*
Marital union: Monogamous	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
Polygamous	1.56*	1.59	1.66	1.81	1.46** *	1.69**	0.96	1.73*
No wives/Not married	0.95	0.83	1.02	1.09	1.22*	1.17	1.19	1.37
Age: 25-34	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
15-24	1.82** *	1.60*	1.63*	2.86**	1.31**	1.43*	1.13	1.44
35-44	0.74	0.55*	0.92	0.93	0.73** *	0.58** *	1.14	0.61**

45 and above	0.58** *	0.35***	0.67	1.13	0.62** *	0.60** *	0.70*	0.53**
Constant	0.58	1.05	0.17*	0.23*	0.20** *	0.15**	0.23**	0.02** *
Observations	5,772	1,872	1,869	2,031	7,943	3,029	2,612	2,302
<i>Notes: *** p<0.001, ** p<0.01, * p<0.05; aOR - adjusted Odds Ratios; Media include access to television, radio, newspapers and magazines</i>								

Trends in men's acceptance of wife beating across urban areas of Ghana from 2003 - 2014

Dependent Variables ==>	Men's acceptance of Wife Beating	Men's acceptance of Wife Beating	Men's acceptance of Wife Beating	Men's acceptance of Wife Beating
Models ==>	Urban (All years)	Urban (2003)	Urban (2008)	Urban (2014)
	(aOR)	(aOR)	(aOR)	(aOR)
DHS Year: Year 2003	<i>Ref.</i>	(. - .)	(. - .)	(. - .)
Year 2008	0.63***	(. - .)	(. - .)	(. - .)
Year 2014	0.32***	(. - .)	(. - .)	(. - .)
Region: Greater Accra	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
Western	2.21***	2.23**	1.86*	2.37**
Central	1.60**	1.89*	1.28	1.63
Volta	0.96	0.97	1.44	0.41
Eastern	1.92**	1.73	2.28*	1.65
Ashanti	1.03	1.1	1.43	0.49
Brong Ahafo	1.16	1.22	1.4	0.51
Northern	4.41***	8.65***	2.79**	2.16
Upper east	2.03	10.11***	0.61	0.49
Upper west	3.14**	4.68*	1.65	3.23*
Education: Primary	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
No education	1.05	0.84	1.37	1.35
Secondary	0.63***	0.54**	0.71	0.84
Higher	0.26***	0.29**	0.20***	0.37
Religion (Other Christians)	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
Catholic	0.99	0.82	0.95	1.56
Islam	1.17	0.99	1.63*	0.92
Traditionalists & Others	1.46*	1.69*	0.92	1.5
Wealth: Rich	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
Poor	0.95	0.86	1.09	1.55
Middle	1.33*	1.68**	1.18	1.33
Media: No access	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
Access to Media	0.37**	0.18	0.7	0.27**
Occupation: Top managers/professionals	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
Agriculture	1.45	2.41*	1.05	1
clerical/sales/services	1.44	1.87	1.39	0.95
Manual and others	1.37	1.96*	1.32	0.91
Not working	1.15	1.88*	1.07	0.63
Marital union: Monogamous	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
Polygamous	1.56*	1.59	1.66	1.81
No wives/Not married	0.95	0.83	1.02	1.09
Age: 25-34	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
15-24	1.82***	1.60*	1.63*	2.86**
35-44	0.74	0.55*	0.92	0.93
45 and above	0.58***	0.35***	0.67	1.13

Constant	0.58	1.05	0.17*	0.23*
Observations	5,772	1,872	1,869	2,031
<p><i>Notes: *** p<0.001, ** p<0.01, * p<0.05; aOR - adjusted Odds Ratios; Media include access to television, radio, newspapers and magazines.</i></p>				

Trends in men's acceptance of wife beating across rural areas of Ghana from 2003 - 2014

Dependent Variables ==>	MAWB	MAWB	MAWB	MAWB
Models ==>	Rural (All years)	Rural (2003)	Rural (2008)	Rural (2014)
	(aOR)	(aOR)	(aOR)	(aOR)
DHS Year: Year 2003	<i>Ref.</i>	(. - .)	(. - .)	(. - .)
Year 2008	0.57***	(. - .)	(. - .)	(. - .)
Year 2014	0.31***	(. - .)	(. - .)	(. - .)
Region: Greater Accra	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
Western	1.76*	2.55	0.8	1.98
Central	1.11	1.09	0.94	1.35
Volta	0.6	0.6	0.68	0.4
Eastern	1.09	0.85	1.14	1.55
Ashanti	1.01	1	1.14	0.79
Brong ahafo	1.11	1.25	1.37	0.43
Northern	3.08***	3.89**	2.67*	2.42
Upper east	1.32	5.14**	0.83	0.46
Upper west	2.20**	2.24	1.68	3.90*
Education: Primary	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
No education	0.87	0.86	0.69*	1.23
Secondary	0.66***	0.56***	0.77*	0.75
Higher	0.38***	0.47*	0.41*	0.12**
Religion (Other Christians)	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
Catholic	1.09	1	0.94	1.4
Islam	1.08	1.18	1.02	0.85
Traditionalists & Others	1.29**	1.07	1.28	2.26***
Wealth: Rich	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
Poor	1.38*	1.26	1.65*	1.29
Middle	1.36*	1.09	1.77**	1.36
Media: No access	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
Access to Media	1.01	1.21	0.77	1.04
Occupation: Top managers/professionals	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
Agriculture	1.99**	2.63*	1.17	4.84*
clerical/sales/services	1.90**	2.37	1.18	3.93*
Manual and others	1.96**	2.4	1.15	4.79*
Not working	1.87**	2.61*	1.16	3.99*
Marital union: Monogamous	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
Polygamous	1.46***	1.69**	0.96	1.73*
No wives/Not married	1.22*	1.17	1.19	1.37
Age: 25-34	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>	<i>Ref.</i>
15-24	1.31**	1.43*	1.13	1.44
35-44	0.73***	0.58***	1.14	0.61**
45 and above	0.62***	0.60***	0.70*	0.53**
Constant	0.20***	0.15**	0.23**	0.02***
Observations	7,943	3,029	2,612	2,302

Notes: *** p<0.001, ** p<0.01, * p<0.05; aOR - adjusted Odds Ratios; Media include access to television, radio, newspapers and magazines; MAWB - Men's acceptance of Wife Beating

References

- Abramsky, T., Watts, C. H., Garcia-Moreno, C., Devries, K., Kiss, L., Ellsberg, M., ... & Heise, L. (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*(1), 109.
- Campbell, J. C. (2002). Health consequences of intimate partner violence. *The lancet, 359*(9314), 1331-1336.
- Clark, C. J., Alonso, A., Everson-Rose, S. A., Spencer, R. A., Brady, S. S., Resnick, M. D., ... & Feng, S. L. (2016). Intimate partner violence in late adolescence and young adulthood and subsequent cardiovascular risk in adulthood. *Preventive medicine, 87*, 132-137.
- Dalal, K., Lee, M. S., & Gifford, M. (2012). Male adolescents' attitudes toward wife beating: a multi-country study in South Asia. *Journal of Adolescent Health, 50*(5), 437-442.
- Dalal, K., Lee, M. S., & Gifford, M. (2012). Male adolescents' attitudes toward wife beating: a multi-country study in South Asia. *Journal of Adolescent Health, 50*(5), 437-442.
- Dhaher, E. A., Mikolajczyk, R. T., Maxwell, A. E., & Krämer, A. (2010). Attitudes toward wife beating among Palestinian women of reproductive age from three cities in West Bank. *Journal of Interpersonal Violence, 25*(3), 518-537.
- Garcia-Moreno, C., & Watts, C. (2011). Violence against women: an urgent public health priority. *Bulletin of the world health organization, 89*, 2-2.
- Krug, E. G., Mercy, J. A., Dahlberg, L. L., & Zwi, A. B. (2002). The world report on violence and health. *The lancet, 360*(9339), 1083-1088.
- Linos, N., Khawaja, M., & Al-Nsour, M. (2010). Women's autonomy and support for wife beating: findings from a population-based survey in Jordan. *Violence and Victims, 25*(3), 409-419.
- Owoaje, E. T., & OlaOlorun, F. M. (2012). Women at risk of physical intimate partner violence: A cross-sectional analysis of a low-income community in southwest Nigeria. *African Journal of Reproductive Health, 16*(1).
- Rani, M., & Bonu, S. (2009). Attitudes toward wife beating: a cross-country study in Asia. *Journal of interpersonal violence, 24*(8), 1371-1397.
- Rani, M., Bonu, S., & Diop-Sidibe, N. (2004). An empirical investigation of attitudes towards wife-beating among men and women in seven sub-Saharan African countries. *African journal of reproductive health, 8*(3), 116-136.
- Takyi, B. K., & Mann, J. (2006). Intimate partner violence in Ghana, Africa: The perspectives of men regarding wife beating. *International Journal of Sociology of the Family, 61*-78.
- Uthman, O. A., Lawoko, S., & Moradi, T. (2009). Factors associated with attitudes towards intimate partner violence against women: a comparative analysis of 17 sub-Saharan countries. *BMC international health and human rights, 9*(1), 14.

Uthman, O. A., Moradi, T., & Lawoko, S. (2011). Are individual and community acceptance and witnessing of intimate partner violence related to its occurrence? Multilevel structural equation model. *PloS one*, 6(12), e27738.

Yoshikawa, K., Shakya, T. M., Poudel, K. C., & Jimba, M. (2014). Acceptance of wife beating and its association with physical violence towards women in Nepal: a cross-sectional study using couple's data. *PloS one*, 9(4), e95829.