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Understanding the Effect of Women Education on Intimate Partner Violence Among Ever Married Women in The Gambia

Isatou A. Badjie (Gambia Bureau of Statistics)



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ABSTRACT

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Intimate partner violence is a significant problem affecting women globally. In The Gambia, despite legislation to prevent IPV, women still face an increasing rate of IPV. This paper examined the effect of women education on intimate partner violence among ever married women in The Gambia using the 2019-2020 Demographic and Health Survey dataset employing a logistic regression model. The study highlights that women with higher education are less likely to witness IPV. In contrast, a woman who witness inter-parental violence or have a partner who exhibits controlling behaviour is more likely to experience intimate partner violence. It also shows that an employed woman, a woman from a poor household or a woman who has one or more children is more likely to be a victim of intimate partner violence. The findings show higher education is an escape route for IPV among Gambian women, which has implications for policy and programmatic interventions. These implications are discussed in the paper.

JEL Classification:

C25, J12; J16

Keywords:

Education, Intimate partner violence, The Gambia, logistic regression

Corresponding author:

Isatou A. Badjie (Gambia Bureau of Statistics)

Email: ibadjie9@gmail.com

1. Introduction

Intimate partner violence (IPV) is a global menace that violates the rights of humans and leads to severe social and economic consequences on societies and countries at large. It refers to showing a pattern of behaviour in any relationship that is used to gain power and control on an intimate partner (WHO, 2021). IPV is highly prevalent among women who are the most vulnerable in the society while men are more likely to be the perpetrators (Kishor & Bradley, 2012). Generally, victims of spousal abuse suffer from both physical and mental health issues as the actions are devastating (Mathur et al., 2018). Hence countries and international organisations have committed through goal five of the Sustainable Development Goals (SDG 5) to eliminate the act in a strive to ensure a world free of violence and discrimination, especially against women.

Worldwide, reports have shown that one in every three women in their lifetime had experienced either physical and or sexual violence by a partner (WHO, 2021). In Sub-Saharan Africa, about 33 per cent of women age 15-49 years, experience lifetime IPV which is slightly lower than the Southern Asia with 35 percent (WHO, 2021). According to the 2018 World Health Organization (WHO) global estimates on domestic violence, about 25 percent of women 15-39 years in The Gambia had experienced lifetime intimate partner violence. Yet Gambia has a slightly higher rate of IPV compared to its neighbour Senegal with 24 percent whom it has similar cultural practices as both countries have almost similar ethnic diversities (WHO, 2021).

Nonetheless, spousal violence is becoming a continuous trend in The Gambia; in 2019-2020, about 39 per cent of women 15-49 years of age have experienced either physical, emotional or sexual violence during their lifetime compared to 26 per cent in 2013 (GBoS and ICF, 2021). The proportion of women who had experienced physical violence stood at 29 per cent while 24 percent and 6 percent of women experienced emotional and sexual violence respectively at least once in their lifetime in 2019-2020. Analysis base on the frequency of abuse during the last 12 months prior to the 20219-2020 (GDHS) shows that 9 percent of women experienced physical violence while 14 percent and 2 percent experienced emotional and sexual violence respectively. According to the 2019-20 DHS report, almost all currently married women or living with a partner (92 percent) and less formerly married or lived with a partner (7 percent) have experienced IPV. Which is alarming as it depicts that most married women or women living with their partner are suffering from spousal abuse (GBoS and ICF, 2021).

There are several laws and acts enacted in the Gambia to protect women and children against domestic violence and other gender base violence such as Female Genital Mutilation (FGM) and child marriage. These acts include the Women's Act of 2010 and the Domestic Violence Act of 2013 and some of the laws include the prohibition of any form of discrimination based on gender stated in the 1997 constitution and the law against child marriage formulated in 2015 (FIDH, 2005; IHRDA, 2020). Nevertheless, evidence showed that some of these laws do not address issues such as spousal rape but explicitly denounce the need to preserve traditions and customs (FIDH, 2005; IHRDA, 2020). This causes some reservations to most of the conventions and laws ratified against the perpetrators. Among other things, a lot of civil society groups and Non-Governmental Organisations (NGOs) such as the Gambian Committee on Traditional Practices (GAMCOTRAP) and The Gambia Foundation for Research on Women's Health, Productivity and Environment (BAFROW) were created to combat domestic and gender base violence in the country (FIDH, 2005). These associations mainly create awareness and support to victims as and when they reach out, although most of them mainly focus on the fight against FGM. In addition, the government has made it a priority to end domestic violence as noted among the cross-cutting areas of the 2023-2027 Recovery Focused National Development Plan (NDP).

Due to isolation, coupled with job losses, domestic violence escalated during the COVID-19 pandemic. Since women are predominant in the informal sector, job losses have likely affected many women who bear family responsibilities. As is known, for most of these women, being able to take on some of the family's financial responsibilities provides them with a source of power; the absence of which could lead their spouses to perpetrate violence against them (UNFPA, 2020). It is important to identify these factors as they reveal the key areas where stakeholders can intervene to combat intimate partner violence (IPV).

The Gambia is a country that still beliefs in patriarchal norms. In most cases, the voices of the women are not considered by men who are brought up to feel dominant thus, take women for granted. It was shown that about 93 per cent of women whose spouses show many types of controlling behaviours have experienced violence. In addition, women who stated that they observed their fathers beat their mothers (61 %) reported that they experienced violence from their partners compared to those who said their fathers did not beat their mothers. This shows a proof of intergenerational impacts of violence, which has an effect on the recurrence of violence if not addressed (GBoS and ICF, 2021).

However, despite all these laws, strong cultural norms and beliefs affect how women are treated to the extent that women (51 percent) more than men (35 percent) justified wife beating (GBoS and ICF, 2021). This shows how rooted the problem is in our communities. Another inherent problem is the culture of silence, according to the 2019-20 Gambia Demographic and Health Survey (GDHS) report, only about 26

percent of the women who experienced any form of IPV sought help. Women hardly report or seek help to address the problem, most of these women are in fear of being stigmatised or labelled as bad wives (GBoS and ICF, 2021; UNFPA, 2020).

There are no mechanisms in place for screening victims for further assistance in terms of counselling even in the health system (Idoko et al., 2015). This tends to exacerbate the culture of silence which gives more room for perpetrators to repeat abuse. Only 26 percent of the victims sought help to stop the violence according to the 2019-20 DHS survey report. Despite these acts and mechanisms, intimate partner violence is still pervasive in the Gambia even among pregnant women (Idoko et al., 2015).

Studies have shown that among the significant determinants of IPV are the family history of violence and living in a society that believes in patriarchal norms (Murshid & Critelli, 2017; Adjah & Agbemaflle, 2016). The woman's socio-economic factors are also reported to pose a risk of the incidence of abuse by their partners (Tiruye et al., 2020). In some studies, the partner's characteristics are also important in determining the risk of a woman being abused. Such characteristics include but not limited to alcohol consumption, lower educational levels in comparison to their spouses (Simona et al., 2015; Tiruye et al., 2020). Education is particularly presented as a key determinant in the literature on IPV. Education could explain the importance of IPV in Gambia as the level of education of women remains low, especially in terms of higher education. Only about 7% of the women have higher education compared to 44 % with secondary education signifying that many women drop out after secondary education, leaving most of them in informal jobs or worse unemployed (GBoS and ICF, 2021).

Education has the potential to reduce IPV as an educated women is more likely to know her rights, the need to not accept IPV and to contest cultural practices that subject them into marginalization within the society. She is most likely to have a job and a high income which makes her less dependent, more consideration from the partner and reduces tension within the household

This study therefore seeks to examine the effect of higher education on the risk of IPV among women aged 15–49. Specifically, it aims to empirically assess how a woman's level of education affects the risk of being a victim of IPV among ever married women in The Gambia. This paper employed a logistic regression model to examined the effect of a woman's education level in determining intimate partner violence among ever married women in The Gambia using the 2019-2020 Demographic and Health Survey dataset. The study highlights that, women with higher education are less likely to witness IPV. This study provides an important addition to the literature on research on IPV in the country. It provides the first study on a nationally representative sample of women in The Gambia that focused on the effect of education on IPV. Previous studies on IPV in The Gambia have predominantly focused on sub-populations, such as pregnant

women, or looking at socio-economic factors. In using a broader, and more diverse population, which includes married women as they are the victims of IPV, this research will provide a more comprehensive understanding of the effect of education on IPV in the Gambian context. This paper also adds to the literature by examining the effect of a woman's education level on the prevalence of IPV among married women in the country, hence providing new insights to inform academic discussions, and policy and programmatic interventions.

The structure of the rest of the paper is as follows: Section 2 reviews the literature on IPV and domestic violence, section 3 explains the methodology used, data source and the regression technique. Section 4 presents the results, analysing the key findings of the study. section 5 shows the conclusions drawn and recommendations.

2. Literature Review

2.1 Conceptual Framework

Several conceptual theories attempt to explain the dynamics of intimate partner violence (IPV), including the Social-Ecological Model, the Power and Control Wheel, the Life Course Theory, and the Social Learning Theory. However, this study adopts the Integrated Feminist Theory developed by (McPhail et al, 2007), as it aligns most closely with the context in The Gambia. While the traditional Feminist Theory emphasizes the role of patriarchal beliefs in fostering IPV, highlighting how people use violence as a tool of control and how socialization entrenches rigid gender roles, the Integrated Feminist Theory expands on this framework. It incorporates an intersectional and multidimensional lens to examine IPV, exploring structural, cultural, and individual factors that interact with gender to contribute to violence or discrimination (Akrimi, 2022). The feminist principle of “the personal is political” underscores that individual experiences of abuse are reflections of broader societal inequalities. Men’s controlling behaviour and intergenerational transmission of violence (e.g., witnessing parental abuse) are examined as manifestations of these patriarchal structures. Looking at the intersectionality, which notes that women’s experiences of IPV are shaped by intersecting identities such as age, education, economic status, and household structure, thus it is expected that women from poor households and women with low educational levels will be more prone to IPV. Thus, the framework in the context of this study posits that women with lower levels of education or no education are more likely to face inequalities, hence will not have power or control and more likely to be victims of intimate partner violence. This is because, women with lower education have limited knowledge of their rights, low economic independence and more exposure to social and cultural inequalities. Henceforth, processes and norms that promote female subordination and male dominance should be discourage by promoting higher education for women (figure 1).

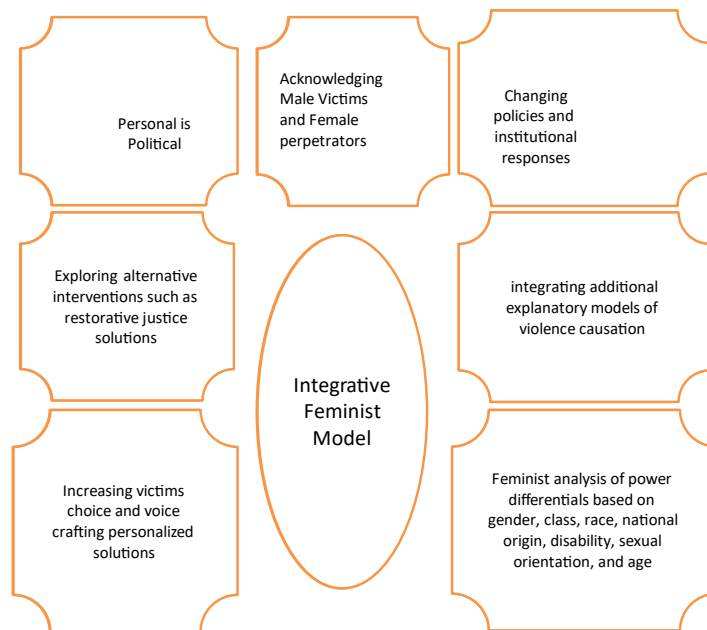


Figure 1: Integrative Feminist Model

2.2: Empirical Review

Empirical studies have explored the determinants of IPV across different contexts, emphasizing the socioeconomic and demographic characteristics of both survivors and perpetrators. A lot of studies have cited the important impact of a woman's characteristics that posed a risk of being a victim.

One can imagine the mental state of the women who experienced IPV, more so the impact of such abuse on women who are already sick. Osinde *et al.* (2011) showed that even HIV infected women using antiretroviral therapy were associated with a high chance of being abuse physically, sexually and psychologically. In contrast, Gust *et al.*, (2017) and Makayoto *et al.*(2013) showed no association between women with HIV status and Intimate partner violence. When one studies the determinants of violence against women who are mostly victims, it is inherent that they also study the factors that most likely influence the men as the perpetrators of such crimes against people they claim to love. In that regard, Simona et al. (2015) and Tiruye et al. (2020) found out that men who drink alcohol or display controlling behaviours are more likely to abuse their spouses.

Domestic violence is also believed to be an issue of family history. Where Adjah & Agbemaflle (2016) showed that women whose mothers' were beaten by their fathers and women whose partners/husbands witness their father's been beaten by their wives had a higher risk of experiencing domestic violence. Similarly, Koenig *et al.* (2006) showed a high risk of domestic violence was associated with communities that had high violent crimes. Thus, this supports the body of literature on the intergenerational transmission of abuse from parents to children (Castro et al., 2017; Tiruye et al., 2020).

Over the years several agencies and civil society organizations were created to raise critical awareness and empower women as a means to curb IPV. In light of that studies gave different conclusions on the effect of empowerment on IPV. Murshid & Critelli (2017) found out that there was a positive link between women who had household decision-making power and lifetime prevalence of IPV, yet a negative link was found between women with economic decision-making power and IPV in the past 12 months in their study in Pakistan. They also found out that this association is mostly found in communities that observe patriarchal norms. In addition, Murshid (2016) showed that women participation in microfinance and non-participation does not have any difference regarding their opinion on IPV justification. This type of behaviour was found even in cases where microfinance access was given to women who were educated and wealthy as shown by Dalal *et al.* (2013) for Bangladesh. As found in some studies (Castro et al., 2017; Paul, 2016) women's employment status does not serve as a protective mechanism against domestic violence.

However, Kim *et al.* (2007) and Ismayilova *et al.* (2018) showed that women empowerment does improve the lives of women as well as lead to a reduction of IPV. Yet Dalal (2011) argued that economic empowerment alone is not enough as a solution to reduce IPV, in that women need to be encouraged to attain higher education as well as address cultural norms that do not favour them.

Looking at the relationship between wealth status of the women and intimate partner violence the body of literature shows contrasting conclusions. As found by Alkan & Ünver, (2021), women's exposure to IPV reduces as their wealth status increases, implying that when women are financially independent their risk of experiencing spousal violence reduces. While Castro et al., (2017) found out that women in the lower wealth index have a lower likelihood of experiencing domestic violence, but are more likely to experience it when they are in the median wealth index. However, they also found out that as the wealth status increases to the richest index their chance of experiencing domestic violence reduces. These inconclusive findings might be link to the different background and cultural practices regarding gender roles in the family.

Hence, studies have shown that among the socio-demographic factors that pose a woman being a victim of IPV include low income, polygamy, high number of children among others. IPV also cited to be an issue of intergenerational family, where women who witness their mums being abuse where more likely to be

victims. Where even in the face of empowerment women in patriarchal societies have a tendency to be victims of IPV. In light of the all the factors, education is seen as a damping factor for women facing IPV, where women with high education levels are less likely to face IPV as highlighted by Alkan & Ünver (2021), (Castro et al, 2017) and (Abramsky1, et al., 2011).

Alkan & Ünver (2021) have shown that, among the social factors that increase the likelihood of physical violence against women in Turkey were low education levels, low income and women in polygamous marriages, an increase in the number of children and living in a rural areas among others. Bazargan-Hejazi *et al.* (2013) also found that age and education are important factors that determine IPV in Malawi; however, they showed that women who cannot read are less likely to report sexual IPV compared to their counterparts. This could be that such women do not know their rights or are intimidated, hence less likely to state or report an abuse from a partner. This serves as ample evidence in support of the social economic factors including the importance of education on women susceptibility to violence.

Currently there is no empirical study in The Gambia that examined the effect of a woman's education on her likelihood of experiencing intimate partner violence to the researcher's best knowledge. Few studies have examined the socio-economic determinants of intimate partner violence in The Gambia. Idoko *et al.* (2015) explored this area among women attending antenatal care at a teaching hospital, with a focus on the burden of intimate partner violence rather than the specific factors associated with the likelihood of abuse. Jabbi *et al.* (2020) similarly examined determinants of IPV more broadly. This study therefore contributes to the existing literature by specifically examining whether and how a woman's level of education influences the likelihood of experiencing intimate partner violence in The Gambia consequently, guiding the relevant authorities in their areas of interventions.

3. Methodology

3.1 Data source

The study used the 2019-2020 GDHS individual woman dataset conducted by Gambia Bureau of Statistics (GBoS) in partnership with the Ministry of Health and Social Welfare (MoHSW) while technical assistance was provided by ICF International. It is the second DHS conducted in The Gambia and data collection was carried out from 21st November 2019 to 30th March 2020 prior to the country undergoing COVID-19 restrictions. A two-stage proportional sampling was employed for the data collection, wherein the first stage involves the selection of the Enumeration Areas (EAs) from the 2013 Census frame followed by a listing of all households in the selected EAs. And the second stage involved the use of equal probability systematic selection to select 25 households in each of the selected EAs for interview. The survey had three questionnaires, the household, men's and women's questionnaire. All women in the selected households per EA were eligible for interview for the women questionnaire while the men questionnaire was administered to men from half of the selected households in the EA.

This study used data from the Women's questionnaire that contained the module on domestic violence module. A total of 11,221 women age 15-49 years were interviewed for the woman questionnaire out of which a total of 2,367 women were selected for the domestic violence module but no privacy was obtained for 48 of the women. Hence, they were not interviewed for the module, resulting in a total of 2,319 successful interviews for the domestic violence module. Therefore, the ever-married women were asked if they ever experienced any form of violence either by a current or former partner/husband or any other person other than an intimate partner; while the never married women were only asked about their experience of violence by anyone. Specific sampling weights were used to make the data nationally representative. Consequently, given that the never married women were not asked about the experience of violence perpetrated by an intimate partner and given the low rate of violence by other parties other than an intimate partner or husband of the women during the survey, the analysis will focus on the spousal violence which is violence caused by a current or former intimate partner/ husband. A final sample of 1,676 women were included in the final analysis. Note that the currently married or formerly married both include living with a partner.

3.2 Description of the variables

Outcome variables

Analysis focused on the social determinants of IPV as a combination of the three types of spousal violence(physical, emotional and sexual) following studies like (Murshid & Critelli, 2017; Tiruye et al., 2020). To ascertain the experience of any IPV by a woman, questions were asked with respect to each form of violence experience by the woman since age 15. If a woman answers yes to any of the questions, then she is recorded to have experience IPV at least once in her life time.

Independent Variables

Main explanatory variable

Since the interest in this study is to look at the effect of women education on intimate partner violence, the main explanatory variable is educational level which ranges from “no education”, primary and secondary education level and higher education level.

Control variables

Control variables including individual, social, household and economic characteristics of the women and their partners were considered in the analysis. Employment status of the woman was categorized based on whether the respondent had worked in the past 12 months (working=1) or had not worked during that period ("not working= 0"). Information on the woman's age is also used to capture the age differences in the likelihood of becoming an IPV victim. Age is categorised into five-year age groups ranging from 15 to 49 representing the age cohort in the sample of women.

The decision-making autonomy variable reflects whether the woman partakes in decision making in certain decision like, person who usually decides on wife's health care, person who usually decides on large household purchases, person who usually decides on household purchases for daily needs, person who usually decides on food to be cooked each day, person who usually decides what to do with money husband earns. Where the woman makes the decision or jointly makes with the husband, she is considered to have decision making autonomy and is coded as 1 but the woman does not have any decision-making power if others in the household decide or husband/partner alone decides for the decisions. The age at first marriage is also captured as early marriage (those who got married before age 18 codes as 1 and above 18-years coded as 0).

The wealth index, a household-level variable, was also considered and divided into five quintiles, from the poorest to the richest, based on an index of various household assets. This was further categorized in to three (poor, middle and rich) households. Religion was recoded as either Muslim or Christian to capture the respondent's faith. Parity was included as a categorical variable reflecting the number of living children: no children coded as 0, 1 to 2 children coded as 1 and three or more children coded as 2. The area of residence of the mother is also included where urban residence is coded as 1 and rural residence as 0, this is to look at the effect of geographical differences on IPV. The type of union of the respondent is also captured, where a woman is in a polygamous marriage if his partner has more than one wife and 0 if he has no other wives.

Husbands' or partners' characteristics were also considered. These included the husband's age, categorized from below 25 years to 65 years and above, and their education level, grouped as "no education," "primary and secondary education," and "tertiary education." The husband's employment status was also included, identifying whether they were employed or not during the survey. The study also looked at the effect on the husband's controlling behaviour on the likelihood of IPV, it is coded such that if the husband exhibits any controlling behaviour like jealousy, insisting to know wife's whereabouts, restrict wife from meeting friends, limit contact with friends, and accusing wife of unfaithfulness. The number of times any of these behaviours occurred was recoded and a variable was generated and recoded as 1 where at least one such behaviour was exhibited and 0 where there was none. All these factors were included to examine how the partner's education, age, behaviour and employment status influence intimate partner violence (IPV).

3.3 Socio-demographic characteristics of the women in the study

In order to better understand the effect of women education on IPV, it is critical to understand the characteristics of the women in the study. The table below provides descriptive statistics of the characteristics of the 1,676 women employed in the study. Majority of the women are 25-29 (21.42%) years of age with most of them (56.38%) married before the age of 18. More than half of the women (74.88) have three or more children while 10.92 percent have no children and about 76.89 percent have a husband who is age 30 years or above. Looking at their occupational status, around 71.91 percent of the women reported to be working, 95.45 percent had a working husband. Yet 53.40%percent of the women come from middle-income households. The majority of the women are educated 46.90% with primary or secondary education and 4.65 per cent with higher education, but 57.19 percent had an illiterate spouse. In terms of their religion, about 97 percent are Muslims while approximately 3 per cent are non-Muslims. Geographically, about 47.49 percent of the women lived in the rural areas. And about 67.96 percent of the women had decision making autonomy for most personal and household decisions, while more than half (53.88%) of the women have a spouse who exhibits at least one controlling behaviour.

Table 1: Background characteristics of the respondents and their spouses

Variables	Count	Percentage Distribution (N=1,676)
Violence (life time)		
No	1,013	60.44

Yes	663	39.56
Total	1,676	100
Woman's education		
No education	812	48.45
Primary education	314	18.74
Secondary education	472	28.16
Higher education	78	4.65
Total	1,676	100
Woman's age in 5-year groups		
15-19	100	5.97
20-24	243	14.50
25-29	359	21.42
30-34	331	19.75
35-39	295	17.60
40-44	210	12.53
45-49	138	8.23
Total	1,676	100
Woman's employment status		
Not employed	470	28.04
Employed	1,206	71.96
Total	1,676	100
Early marriage		
No	731	43.62
Yes	945	56.38
Total	1,676	100
Household wealth		
Poor	346	20.64
Middle	895	53.40
Rich	435	25.95
Total	1,676	100
Religion		
Christian	48	2.86
Muslim	1,628	97.14
Total	1,676	100
parity		
No child	183	10.92
One to two children	464	14.20
3 or more children	1,029	74.88
Total	1,676	100
Residence		
Rural	796	47.49
Urban	880	52.51
Total	1,676	100
Polygamy		
No	1,073	64.02
Yes	603	35.98
Total	1,676	100
Age of husband		
Below 25	16	1.03
25-34	344	22.08
35-44	511	32.80
45-54	405	25.99
55-64	194	12.45
65+	88	5.65
Total	1,558	100
Husband's employment status		
None	70	4.55
Employed	1,467	95.45
Total	1,537	100
Husband's education level		
No education	891	57.19
Primary or secondary	534	34.27
Higher education	133	8.54
Total	1,558	100
Decision making autonomy		
No	537	32.04
Yes	1,139	67.96
Total	1,676	100
Woman witness inter-parental Violence		
No	1,444	86.16
Yes	232	13.84
Total	1,676	100
Husband has controlling behaviour		
No	773	46.12
Yes	903	53.88
Total	1,676	100

Chi-square Results

The results on Table 2 show significant association between a woman's age and experience of IPV among the women. There was an association between women who saw their father beating their mother on IPV. In terms of education, about 41 percent of the women who experienced IPV were reported to be not educated though the relation is only significant at 10 per cent significance level. Looking at the wealth status, the results show that IPV is highest among the women from poor (43.91%) households. (Table2). A significant association is also found between a woman's employment status and IPV and also the husband's age which is significant at 10 per cent significance level. The results also show that 57.05 Percent of the women in polygamous marriages do not experience IPV as shown in table 2 below.

Table2: Characteristics of the respondents and reported intimate partner violence n (%)

Variables	Categories	Experienced Intimate Partner Violence (life time)		P-value
		Yes, n (%)	No, n (%)	
Woman's education	No education	333(41.01)	479(58.99)	0.083
	Primary-secondary education	308(39.19)	478(60.81)	
	Higher Education	22(28.21)	56(71.79)	
Woman's age	15-19	21(21)	79(79)	0.002
	20-24	89(36.63)	154(63.37)	
	25-29	153(42.62)	206(57.38)	
	30-34	141(42.6)	190(57.4)	
	35-39	122(41.36)	173(58.64)	
	40-44	89(42.38)	121(57.62)	
	45-49	48(34.78)	90(65.22)	
Woman's employment status	Not employed	158(33.62)	312(66.38)	0.002
	Employed	505(41.87)	701(58.13)	
Husband's Age	Below 25	4(25)	12(75)	0.073
	25-34	118(34.3)	226(65.7)	
	35-44	220(43.05)	291(56.95)	
	45-54	167(41.23)	238(58.77)	
	55-64	69(35.57)	125(64.43)	

	65+	32(36.36)	56(63.64)	
Husband working	Yes	575(39.2)	892(60.8)	0.917
	No	27(38.57)	43(61.43)	
Decision making autonomy	Yes	441(38.72)	698(61.28)	0.306
	No	222(41.34)	315(58.66)	
Polygamy	Yes	259(42.95)	344(57.05)	0.033
	No	404(37.65)	669(62.35)	
Husband has controlling behaviour	Yes	492 (54.49)	411(45.51)	0.000
	No	171(22.12)	602(77.88)	

Table2: Characteristics of the respondents and reported intimate partner violence n (%)-cont.

Variables	Categories	Experienced Intimate Partner Violence (life time)		P-value
		Yes, n (%)	No, n (%)	
Witness inter-parental Violence	Yes	142(61.21)	90(38.79)	0.000
	No	521(36.08)	923(63.92)	
Early marriage	Married before age 18	406(42.96)	539(57.04)	0.001
	Married after age 18	257(35.16)	474(64.84)	
Religion	Non-Muslim	16(33.33)	32 (66.67)	0.371
	Muslim	647(39.74)	981(60.26)	
Household Wealth	poor	393(43.91)	502(56.09)	0.000
	Middle	118(34.10)	228(65.9)	
	Rich	152(34.94)	283(65.06)	
Residence	Urban	319(36.25)	561(63.75)	0.004
	Rural	344(43.22)	452(56.78)	
Husband's education	No education	350 39.28	541 60.72	0.928
	Primary-secondary education	210 39.33	324 60.67	
	Higher Education	50 37.59	83 62.41	
Living children	No child	37(20.22)	146(80)	0.000
	One -two children	169 (36.42)	295(63.58)	

	Three or more children	457 (44.41)	572(55.59)	
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3.3 Model specification

This study employed the logistic regression model developed by Cox (1958). It is a binary regression model for a response variable between 0 and 1. The choice of the model is based on the nature of dependent variable used in the study which is a binary variable (IPV).

It is usually difficult to interpret logit models and given that the data used in this study is cross-sectional in nature, it is recommended to use odd ratios instead of risk estimates (Grace-martin, n.d.; Kleinbaum & Klein, 2010). Therefore, interest in this study lies in finding the odds of a woman being exposed to intimate partner violence compared to non-exposure. Hence a standard logistic equation is presented as follows:

logistic equation is presented as follows:

$$\lambda(X) = \frac{e^{\beta' X}}{1+e^{\beta' X}} \quad (1)$$

Thus, the probability of a woman being a victim of IPV is $y=1 =$

$$\lambda(X) = \frac{e^{\beta' X}}{1+e^{\beta' X}} \quad (2)$$

And the probability of the woman not being a victim is $y=0$ is;

$$1 - \lambda(X) = 1 - \frac{e^{\beta' X}}{1+e^{\beta' X}} \quad (3)$$

Therefore, the odds ratio which is the ratio of probability of being a victim by the probability of not being a victim is noted below:

$$\text{Odds Ratio} = \frac{\lambda(X)}{1-\lambda(X)} = \frac{\frac{e^{\beta' X}}{1+e^{\beta' X}}}{1 - \frac{e^{\beta' X}}{1+e^{\beta' X}}} \quad (4)$$

Involving a bit of calculation will yield odds ratio as $e^{\beta' X}$. Finally, an odds ratio below one indicates lower odds of experiencing IPV and an odds ratio above one indicates a higher odd of experiencing IPV.

Moreover, to be able to examine the determinants of IPV which is binary, the researcher will assume the error term of the equation below follows a logistic cumulative distribution function. Thus, the model is specified as follows:

$$IPV_i = \Lambda + \beta X_i + \varepsilon_i \quad (5)$$

Where IPV= intimate partner violence and is =1 where the woman experienced violence and zero otherwise;

Λ = a constant variable

β = the coefficients representing the odds

X = a vector of exogenous variables adopted from the literature and including women education

ε_i is the error term

i = the i th individual in the sample

3.4 Pre Estimation Test

The correlation matrix shows the correlation among the variables is low, which means that there is no multicollinearity. This is indeed good for our model as correlation between the explanatory variables should ideally be low while the correlation between the explanatory variables and the dependent variable should be high.

3.5 Post Estimation Test

The Pearson goodness-of-fit test will be conducted to determine the meaningfulness of the model. A model specification test was also conducted as well as a correlation of all the variables to determine correlation among the variables.

4. Results

4.1 Logistic Regression Results

Table 3 shows the logistic regression results for the effect of women education on intimate partner violence among ever married women in The Gambia. The control variables used in the analysis include age, and religion, place of residence, parity and wealth index to mention a few.

The results show that a woman who has attained higher education is less likely to experience IPV than a woman who has no education (Odds ratio: 0.516, $P < 0.045$), similar result was found by Alkan & Ünver (2021), Castro et al. (2017) and Abramsky1 et al. (2011). This is because women who are highly educated are more likely to know their rights and will stand at a better chance to fight for their rights. While Bazargan-Hejazi *et al.* (2013) found significant but contrasting result, in that women who could not read were less likely to witness IPV compared to those who could read. The results show that women with primary and secondary education have a lesser likelihood of being a victim of IPV compared to women without education, the effect is statistically significant at 10% level.

An association is also found between women employment status and IPV. A woman who is working is also more likely to experienced IPV (Odds ratio: 1.392, $P < 0.018$) compared to a woman who is not working. This can be explained by the fact that there is already friction between the wife and the husband in terms of household chores and care of the children where the wife is working compared to a woman who is not working and is always ready to cater for the demands of the husband. A similar finding is found by Paul (2016) and Castro et al. (2017).

The results also show that a woman from a poor household is more likely to be a victim of IPV at least once in her lifetime than a woman from a middle-income household (Odds ratio: 1.467 $P < 0.037$). A woman who has one or two children is also more likely to experience IPV (Odds ratio: 1.670, $P < 0.044$) at least once in her lifetime than a woman who has no child. Similarly, a woman who has three or more children is more likely to experience IPV (Odds ratio: 2.294, $P < 0.001$) at least once in her lifetime than a woman who has no child.

In terms of controlling behaviours, women who reported that their husbands have at least one controlling behaviour are more likely to experience IPV (Odds ratio: 4.218, $P < 0.001$) in their lifetime compared to women who did not report any controlling behaviour from their spouses. In addition, a woman who reported to have witnessed inter-parental violence is more likely to experience IPV (Odds ratio: 3.043, $P < 0.000$) at least once in their lifetime than women who did not witness their fathers beating their mothers. This is more likely where women who witness it from their parents might tend to accept it more than those who did not witness any sought of violence from their parents as underscored by the Integrative Feminist Theory. (Castro et al , 2017) and (Abramsky1, et al., 2011) also found the same in their study.

Table3: Logistic Regression results of the determinants of IPV

VARIABLES	(1) Odds ratio
Woman's education (ref: no education)	
Primary or secondary	0.770* (0.105)
Higher education	0.512** (0.169)
Woman's age(ref:15-19)	
20-24	1.524 (0.504)
25-29	1.628 (0.569)
30-34	1.757 (0.674)
35-39	1.800 (0.722)
40-44	1.880 (0.789)
45-49	1.912 (0.858)
Woman's employment status (ref: Not employed)	
Employed	1.389** (0.193)
Early marriage (ref: no)	
Yes	1.160 (0.155)
Household wealth (ref: middle)	
Poor	1.461** (0.267)
Rich	0.978 (0.182)
Religion (ref: Christian)	
Muslim	1.293 (0.506)
Parity (ref: no child)	
One to two children	1.673** (0.424)
Three or more	2.619*** (0.715)
Place of residence (ref: rural)	

Urban	0.911 (0.150)
Polygamy (ref: no)	
Yes	1.134 (0.156)
Age of husband (ref below 25)	
25–34	0.693 (0.448)
35–44	0.792 (0.523)
45–54	0.572 (0.387)
55–64	0.445 (0.307)
65+	0.457 (0.331)
Husband's employment status (ref: Not employed)	
Employed	0.858 (0.241)
Man's education (ref: no education)	
Primary or secondary	1.216 (0.172)
Higher education	1.298 (0.303)
Decision making autonomy (ref: no)	
Yes	0.927 (0.126)
Woman witness inter-parental Violence (ref: no)	
Yes	2.914*** (0.491)
Husband has controlling behaviour (ref: no)	
Yes	4.222*** (0.519)
Constant	0.0633*** (0.0528)
Observations	1,537

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Other variables with expected signs but no significant association to the odds of experiencing IPV include the woman's ability to make autonomous decisions in the household, as well as being in a polygamous or monogamous marriage. The residence and religion of a woman does not determine her likelihood of being abused. Perhaps the best explanation is that IPV is across the board irrespective of the area of residence and religion the woman belongs.

For robustness of the results, the education of the husband as well as the religion of the woman was removed to see if there will be any significant change in the variable of interest. Table 3.1 in the appendix shows that a woman with higher education is less likely to be a victim of IPV compared to a woman without education. Primary and secondary also showed that a woman with primary or secondary education has less likelihood of experiencing IPV compared to a woman without education though not statistically significant. The analysis also included running on a sample of rural households where only the variable primary or secondary education was significant and not higher education. The same analysis was done on an urban sample but none of the education categories were significant. This could be as a result of more women in the urban areas having higher education levels (both primary/secondary and higher) than the women in the rural areas. Another reason could be that Education often reduces IPV indirectly by increasing women's employment opportunities, economic independence, decision-making power, and awareness of legal rights. In urban areas, these mediating factors may already be more widespread, even among women with lower educational attainment. Moreover, urban women are less exposed to social and cultural norms that favour women discrimination and IPV. Hence when the analysis is done on only the urban sample there is not much difference to account any significance in relation to the likelihood of IPV. In the same vein, in the rural areas where there are significant proportions of women without education compared to women with higher education, there was significant result in that women with primary or secondary education have lesser chance to become victims. This shows that not only having education is important but also being given the chance to pursue higher levels of education could create a difference in the fight against IPV in The Gambia. (see appendix 3 table 3.2).

A bivariate recursive model was also conducted to address the presence of any potential unobserved variables that explain both IPV and woman's education in the specified model, causing endogeneity problems. The results in table 3.3 in the appendix shows that the atanhrho is not significant, suggesting that both models could be ran separately using a simple logit or probit. The higher education sign is significant as well as the mean education of the women in a cluster which was used as the instrument. Given the limitation of finding good instruments, the mean education of the women in the cluster was used as an instrument, in this case it highly correlates with woman's education and does not have any effect on IPV, which makes it a valid instrument.

4.2 Post Estimation Test Results

The result from Pearson goodness-of-fit test indicates that the model is meaningful and is of good fit (see appendix 1). Similarly, the result from the linktest showed that the model has no misspecification.

4.3 Discussion

The results show that the woman's education, work status, household wealth status, parity, experience of intergenerational violence, differences in the household head, and husband having controlling behaviour are found to significantly determine the likelihood of a woman experiencing intimate partner violence.

Higher educational attainment is significant in determining the likelihood of being abused by a spouse. Interestingly, the result shows that as a woman who has a higher educational status is less likely to experience intimate partner violence. While women with primary or secondary education have lesser likelihood of being victims compared to women who are not educated, the magnitude is not statistically significant. This shows that a minimum level of education is required for women in The Gambia to free themselves from patriarchal and cultural norms in the society that pose women being victims of IPV. This finding is similar to that of Castro *et al.*, (2017) and (Abramsky1, et al., 2011) .

The results further show that a woman from a middle-income household is less likely to experience IPV than one from a poor household. This is because women in these households have sufficient financial resources to take care of their needs and, in some instances, support their spouse to meet some of their financial obligations; this renders less room for naivety, submissiveness, and manipulation and rather more financial independence (UNFPA, 2020). This finding supports Alkan & Ünver (2021) findings in Turkey. However, Castro et al., (2017) found out that in Peru, women in the lowest and richest wealth index have lesser odds of experiencing IPV, while women in the middle wealth index had higher odds of being abused. The difference in these findings could be as a result of cultural differences between the study groups.

Another interesting result is how parity plays a role in IPV, as shown by the results; a woman with one or more children is more likely to experience IPV, similar to Alkan & Ünver, (2021) and Awang & Hariharan (2011). Interestingly, (McCloskey et al., 2005) also found that women in Moshi, Tanzania, with five or more children, are more likely to experience IPV. This is because a woman with more children is more likely to have less time allocated to her spouse because of child care, chores, including more cooking, and more children to feed and care for. Another interesting explanation of the results is that most of these women might not leave their abusive marriage because of the children; especially where the woman is not working, she will have to depend on the spouse for financial upkeep.

A husband's controlling behaviour also shows evidence of patriarchal beliefs in society. A woman with a spouse who has a controlling behaviour also determines the likelihood of experiencing IPV in The Gambia, as the results show that a woman with a spouse who exhibit at least one controlling behaviour is more likely to be abused by her spouse. This is a great concern, given that most of the women (53.88%) reported that their husbands exhibit at least one controlling behaviour such as being jealous if the wife talks with other men, trying to limit wife's contact with family, insisting on knowing their whereabouts and so on.

There is ample evidence of inter-generational experience of violence and women experience of IPV (Castro et al., 2017; Owusu Adjah & Agbemaflle, 2016; Tiruye et al., 2020), it is evident that women who reported to have seen their father's beat their mothers are more likely to be subjected to spousal violence. One explanation for this could be that such women might have experienced their mothers being quiet about it and made to believe that such treatment is acceptable, thus tend to accept it.

5. Conclusion and Recommendations

Intimate partner violence affects women globally. There is evidence of higher education of women reducing IPV. And Patriarchal beliefs such as husband's controlling behaviour on IPV experience. Witnessing parental violence, and having one or more kids have higher odds of experiencing IPV in The Gambia. While lesser odds of experiencing IPV are associated with living in a female headed household, belonging to the median income household. Religion, residence, type of union of the woman, woman's and husband's age and husband's employment are not significant in determining the likelihood of experiencing IPV among ever married women in The Gambia.

Policy recommendations should be centred on promoting female education as a woman's education is positively associated with lesser odds of IPV. Women should be encourage to study more by investing in higher education programmes for females as well as providing more scholarships for female students at senior and higher levels of education especially. This will encourage more girls to continue their education by reducing the financial burden of school expenses on both parents and children. Another recommendation would be to reform school curricula by introducing education on women's rights. Such reforms could amplify the positive effect of education in reducing IPV. Investments in girls' education; particularly beyond secondary school, can play a transformative role in reducing IPV by enhancing women's knowledge of their rights, increasing their economic independence, and shifting social norms.

Marriage counselling to both intending couples and married couples should also be highly encouraged. These could be done by first, creating awareness of the importance of marriage counselling in strengthening marriages and in enabling a peaceful atmosphere at home. Children should also be educated to learn to treat

opposite sexes with respect, love and honour. Religious leaders need to educate the congregations on the tenets of abusing a spouse, as both Islam and Christianity frown at the act of IPV. These will gear towards addressing the existence of inter-generational violence and controlling behaviours towards spouses. Women empowerment and entrepreneurship needs to be highly promoted by the government and development partners to enable women to be independent especially financially. The results will go a long way in providing empirical evidence towards the fight against intimate partner violence in the Gambia.

6.Limitation

Given the cross-sectional nature of the data, it is not enough to ascertain the full effect of education on IPV. Longitudinal data would have shown more casual evidence. There was no data on men's experience of spousal violence to provide more insights as to the cause of IPV. Another limitation is that the results obtained are specific to Gambia and could not be generalized to all countries as there are significant differences between countries in terms of IPV and women's education. Other studies could generalize the results obtained to the whole of Africa, for example by using a broad panel of countries in the analyses.

7.Ethics approval and consent to participate

Not applicable for this study.

8.Competing interests

The author declares no competing interest.

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Appendix

1: Post Estimation Tests Result

1.1: Logistic model for violence (lifetime experience of IPV), goodness-of-fit test

Goodness-of-fit test after logistic model

Variable: Violence

Number of observations = 1,537

Number of covariate patterns = 1,449

Pearson $\chi^2(1417) = 1457.00$

Prob > $\chi^2 = 0.2245$

1.2 Model specification test for lifetime experience of IPV

Number of obs = 1,537

LR chi2(2) = 302.63

Prob>chi2=0.0000

Pseudo R2=0.1471

Violence	Coefficient	Std. error	z	P>z	[95% conf. interval]	
hat	1.020	0.082	12.370	0.000	0.858	1.181
hatsq	0.023	0.056	0.400	0.690	-0.088	0.133
cons	-0.014	0.071	-0.190	0.848	-0.153	0.126

2: Pre- Estimation Test

Table 2: Correlation matrix

Variables	Violence for a life time	Violence for the past year	Woman's age	Woman education	Woman working	Household head	Early marriage	Household wealth	Religion	parity	Residence	polygamy	Age of husband	Husband working	Husband education	Decision autonomy	Witness parental Viol.	Husband cont. behaviour
Violence for a life time	1.000																	
Violence for the past year	0.588	1.000																
Woman's age	0.050	-0.046	1.000															
Woman education	-0.069	0.014	-0.165	1.000														
Woman working	0.077	0.021	0.263	-0.033	1.000													
Household head	-0.085	-0.091	0.023	0.096	0.009	1.000												
Early marriage	0.071	0.035	-0.058	-0.309	0.028	-0.073	1.000											
Household wealth	-0.021	0.007	0.114	0.197	0.065	0.052	-0.181	1.000										
Religion	0.034	-0.006	-0.072	-0.113	-0.034	-0.052	0.124	-0.124	1.000									
parity	0.157	0.020	0.543	-0.178	0.198	-0.085	0.159	-0.003	0.048	1.000								
Residence	-0.092	0.011	0.044	0.264	-0.046	0.105	-0.187	0.152	-0.138	-0.043	1.000							
polygamy	0.048	-0.004	0.275	-0.177	0.101	0.038	0.093	-0.020	0.076	0.184	-0.103	1.000						
Age of husband	0.015	-0.057	0.708	-0.223	0.178	-0.021	0.075	0.022	-0.049	0.445	-0.002	0.379	1.000					
Husband working	0.003	0.014	-0.106	0.031	-0.008	-0.057	0.017	-0.058	0.061	-0.014	-0.002	-0.049	-0.144	1.000				
Husband education	-0.009	0.048	-0.056	0.424	-0.006	0.127	-0.268	0.184	-0.149	-0.140	0.239	-0.225	-0.188	0.009	1.000			
Decision autonomy	-0.020	0.004	0.121	0.081	0.203	0.052	-0.048	0.047	0.000	0.055	0.097	-0.012	0.060	-0.019	0.075	1.000		
Witness parental Viol.	0.178	0.149	-0.065	0.005	-0.017	0.021	0.007	-0.059	-0.004	-0.047	-0.030	-0.008	-0.047	0.024	0.022	-0.082	1.000	
Husband cont. behaviour	0.314	0.259	-0.083	0.117	-0.033	-0.007	0.001	0.010	0.000	0.003	0.019	-0.008	-0.075	0.023	0.081	-0.019	0.080	1.000

3: Robustness Test

3.1: Sample without husband's education and woman's religion

VARIABLES	(1) Odds ratio
Woman's education (ref: no education)	
Primary or secondary	0.807 (0.107)
Higher education	0.556* (0.178)
Woman's age(ref:15-19)	
20-24	1.517 (0.502)
25-29	1.624 (0.568)
30-34	1.772 (0.679)
35-39	1.806 (0.724)
40-44	1.904 (0.798)
45-49	1.942 (0.871)
Woman's employment status (ref: Not employed)	
Employed	1.390** (0.193)
Early marriage (ref: no)	
Yes	1.142 (0.152)
Household wealth (ref: middle)	
Poor	1.417* (0.257)
Rich	0.996 (0.184)
Parity (ref: no child)	
One to two children	1.680** (0.425)
Three or more	2.604*** (0.709)
Polygamy (ref: no)	
Yes	1.110 (0.151)
Age of husband (ref below 25)	
25-34	0.700 (0.451)
35-44	0.788 (0.518)
45-54	0.571 (0.384)
55-64	0.430 (0.296)
65+	0.432 (0.312)
Husband's employment status (ref: Not employed)	
Employed	0.862

	(0.242)
Decision making autonomy (ref: no)	
Yes	0.937 (0.127)
Woman witness inter-parental Violence (ref: no)	
Yes	2.922*** (0.491)
Husband has controlling behaviour (ref: no)	
Yes	4.243*** (0.521)
Constant	0.0887*** (0.0652)
Observations	1,537

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 3.2: Urban and rural sample estimates

VARIABLES	Urban sample Odds ratio	Rural sample Odds ratio
Woman's education (ref: no education)		
Primary or secondary	0.826 (0.160)	0.716* (0.143)
Higher education	0.552 (0.206)	0.496 (0.405)
Woman's age(ref:15-19)		
20-24	1.426 (0.808)	1.431 (0.618)
25-29	1.442 (0.830)	1.765 (0.851)
30-34	1.452 (0.895)	2.149 (1.150)
35-39	1.467 (0.944)	2.085 (1.153)
40-44	1.332 (0.887)	2.275 (1.329)
45-49	2.539 (1.807)	1.354 (0.845)
Woman's employment status (ref: Not employed)		
Employed	1.194 (0.229)	1.550** (0.325)
Early marriage (ref: no)		
Yes	1.368 (0.264)	0.956 (0.185)
Household wealth (ref: middle)		
Poor	1.317 (0.301)	1.897* (0.623)
Rich	0.866 (0.173)	1.405 (1.088)
Religion (ref: Christian)		
Muslim	1.319	0.409

	(0.539)	(0.556)
Parity (ref: no child)		
One to two children	1.331 (0.450)	2.331** (0.930)
Three or more	2.014* (0.729)	3.746*** (1.628)
Polygamy (ref: no)		
Yes	1.090 (0.215)	1.200 (0.239)
Age of husband (ref below 25)		
25-34	0.318 (0.287)	1.600 (1.821)
35-44	0.543 (0.499)	1.163 (1.346)
45-54	0.413 (0.389)	0.841 (0.990)
55-64	0.321 (0.312)	0.648 (0.771)
65+	0.232 (0.239)	0.865 (1.061)
Husband's employment status (ref: Not employed)		
Employed	0.783 (0.312)	0.966 (0.389)
Man's education (ref: no education)		
Primary or secondary	1.535** (0.301)	0.952 (0.205)
Higher education	1.596 (0.490)	1.040 (0.408)
Decision making autonomy (ref: no)		
Yes	1.132 (0.235)	0.785 (0.148)
Woman witness inter-parental Violence (ref: no)		
Yes	2.182*** (0.515)	3.881*** (0.988)
Husband has controlling behaviour (ref: no)		
Yes	3.756*** (0.660)	4.931*** (0.881)
Constant	0.126** (0.132)	0.0637 (0.119)
Observations	783	754

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 3.3: Biprobit Recursive Regression estimates

VARIABLES	Violence Odds ratio	Education Odds ratio	(3) Odds ratio
Primary or secondary	-0.223 (0.206)		
Higher education	-0.444* (0.262)		
20-24	0.272 (0.197)	-0.277 (0.191)	
25-29	0.315 (0.209)	-0.250 (0.209)	
30-34	0.360 (0.231)	-0.441* (0.235)	
35-39	0.359 (0.244)	-0.818*** (0.247)	
40-44	0.381 (0.257)	-0.968*** (0.261)	
45-49	0.391 (0.272)	-0.870*** (0.282)	
Woman working	0.193** (0.0831)	-0.0995 (0.0886)	
Early marriage	0.0813 (0.0854)	-0.397*** (0.0861)	
Wealth:Poor	0.214* (0.110)	-0.154 (0.114)	
Wealth:Rich	-0.0145 (0.114)	0.244** (0.121)	
Religion: islam	0.139 (0.228)	-0.0165 (0.281)	
One to two children	0.299** (0.147)	-0.0893 (0.150)	
Three or more	0.573*** (0.159)	0.0387 (0.166)	
urban	-0.0485 (0.0992)	-0.233** (0.107)	
polygamy	0.0801 (0.0829)	-0.0287 (0.0905)	
Husbands age :25–34	-0.204 (0.390)	-0.203 (0.408)	
35-44	-0.136 (0.398)	-0.262 (0.420)	
45-54	-0.324 (0.409)	-0.575 (0.429)	
55-64	-0.470 (0.416)	-0.294 (0.439)	
65+	-0.465 (0.437)	-0.432 (0.464)	
Husband working	-0.0923 (0.169)	0.145 (0.192)	
Husband edu-pri/sec	0.135 (0.0948)	0.461*** (0.0872)	
Higher education	0.168 (0.152)	0.787*** (0.166)	
Decision making autonomy	-0.0433 (0.0822)	0.157* (0.0884)	
Woman witness inter-parental Violence	0.651*** (0.102)	-0.0231 (0.113)	
Husband has controlling behaviour	0.876*** (0.0742)	0.258*** (0.0778)	
Mean education		2.263*** (0.165)	
atanhrho_12	.040 (.130)		
Constant	-1.633***	-0.512	

	(0.515)	(0.545)
Observations	1,537	1,537
Standard errors in parentheses		
*** p<0.01, ** p<0.05, * p<0.1		