

IMPACT OF WOMEN'S EMPOWERMENT ON INTIMATE PARTNER VIOLENCE IN NIGERIA

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Abstract: This study seeks to explore whether there is a unique way in which women's empowerment addresses intimate partner violence (IPV) and to understand the roles that institutions and conflict events play in this relationship. Specifically, it investigates the impact of women's empowerment on IPV in Nigeria, drawing on data from the 2018 Nigerian Demographic Health Survey. The study examines three forms of IPV: sexual violence, physical violence, and emotional violence. The ownership of mobile phones measures women's empowerment. The empirical findings indicate that while the likelihood of sexual violence decreases for women who own mobile phones, this relationship is not statistically significant for physical and emotional violence. Regarding the role of institutions, the study finds that women who own mobile phones and reside in states with established domestic violence laws are less likely to experience sexual and physical violence, though this effect is not statistically significant for emotional violence. Lastly, the study reveals that women who own mobile phones and live in conflict-affected areas face an increased likelihood of experiencing sexual, physical, and emotional violence, but these effects are also statistically insignificant. The study strongly recommends that for the potential protective effects of mobile phone ownership to translate into effective policy interventions, key factors must be considered. These include sustained investment in improving women's access to mobile phones, promoting equitable access to technology, and enhancing ICT skills for women. Additionally, it is crucial to prioritize the passage of domestic violence laws in states that have yet to institutionalize them and to ensure the effective implementation of these laws where they exist.

Keywords: Women's empowerment; intimate partner violence; IPV; Nigeria; sexual violence; ICT skills; technology access; policy interventions.

1. INTRODUCTION

Intimate partner violence (IPV) is a significant global issue affecting millions of women across diverse backgrounds. Despite concerted efforts to combat IPV, it remains alarmingly prevalent. According to the World Health Organization (WHO), approximately one in three women globally have experienced sexual or physical violence from a partner in their lifetime (Bolarinwa et al., 2023). In Africa, particularly in Nigeria, the situation is even more severe, with high percentages of women reporting emotional, physical, or sexual violence at the hands of their partners (Solanke, 2018).

Research has shown that IPV encompasses various forms of abuse, including physical violence, sexual violence, stalking, psychological aggression, and controlling behaviors (Aboagye, 2023). It is a complex issue influenced by individual beliefs and societal norms (Tsai et al., 2017). Studies have highlighted the association between exposure to interparental violence and IPV, emphasizing the need to consider such factors in addressing IPV prevalence (Solanke & Ilevbare, 2017). Additionally, factors like economic stress and low education within families have been identified as relevant in shaping the occurrence of IPV (Abdelnabi, 2024).

Efforts to address IPV require multifaceted strategies that go beyond education, including healthcare provider training, community engagement, and legislative measures aimed at preventing violence against women, especially during vulnerable periods like pregnancy (Seeletse, 2024). Understanding the dynamics of IPV in different contexts is crucial for effective prevention, identification of victims, intervention, and recovery. IPV remains a pressing public health concern globally, with a profound impact on the physical and mental well-being of women. Addressing IPV requires a comprehensive approach that considers individual, relational, community, and societal factors to effectively combat this pervasive issue.

Women's empowerment has been identified as a crucial factor in addressing intimate partner violence (IPV) in Nigeria. The relationship between women's empowerment and IPV is intricate and influenced by various contextual elements (Mukaddas, 2024). Studies have shown that factors such as poverty, unemployment, patriarchy, and cultural norms contribute to making women vulnerable to IPV in Africa (Oduaran & Chukwudeh, 2021). In Nigeria specifically, the prevalence of IPV is high, with studies revealing a significant incidence of wife battery in certain regions (Ilika et al., 2002).

To effectively address IPV in Nigeria, it is essential to consider the roles of institutions and conflict events in shaping the impact of women's empowerment on IPV (Bolarinwa et al., 2022). Additionally, understanding the spatial distribution and predictors of IPV among women in Nigeria can provide valuable insights into developing targeted interventions (Adetutu, 2024). Research has also highlighted the need to explore the mediating influence of IPV on male involvement and maternal healthcare services uptake in Nigeria (Teitelman et al., 2016). Furthermore, addressing IPV requires a multi-faceted approach that considers associated factors such as exposure to childhood sexual abuse, which can impact behavior later in life and contribute to perpetrating IPV (Ojo, 2013, Uwaifo and John-Ohimai, 2020). Studies have emphasized the importance of creating awareness about IPV, promoting peaceful coexistence within families, and providing support from both governmental and non-governmental organizations to combat IPV in Nigerian society. To effectively combat IPV in Nigeria, it is crucial to recognize the complex interplay between women's empowerment, institutional dynamics, conflict events, and associated factors like childhood experiences. By addressing these multifaceted aspects, interventions can be tailored to mitigate IPV and promote a safer environment for women in Nigeria.

Women's empowerment has been a subject of interest in relation to intimate partner violence (IPV) in various contexts, including Nigeria. Studies have shown mixed results regarding the association between women's empowerment and the prevalence of IPV. While some research indicates that more empowered women tend to experience less intimate partner violence (Gaha, 2024), other studies suggest that an increase in women's empowerment does not necessarily lead to a decrease in IPV (Ghoshal, 2023). Factors such as women's age, education status, family size, community women empowerment, and wealth status have been identified as significant determinants of IPV (Angaw et al., 2021).

In Nigeria specifically, research has explored the relationship between exposure to interparental violence and women's risk of experiencing IPV (Solanke, 2018). Additionally, the presence of living children has been linked to an increased risk of IPV among women in Nigeria (Solanke & Ilevbare, 2017). Contrary to expectations, a study found that women exposed to IPV had higher odds of using modern contraceptives in Nigeria (Adetutu, 2024). These findings highlight the complex interplay between women's empowerment, family dynamics, and the prevalence of IPV in the Nigerian context. Furthermore, interventions that aim to empower women have been suggested as potential strategies to address IPV. Studies have indicated that when microfinance is combined with complementary programs, it may effectively empower women and help in addressing IPV (Ranganathan et al., 2021). Additionally, the impact of women's financial empowerment on IPV has been investigated in countries like Jordan, emphasizing the need to understand risk and protective factors in combating IPV (Akilova & Marti, 2014). The relationship between women's empowerment and intimate partner violence is multifaceted and influenced by various factors. While empowerment interventions may play a role in reducing IPV, the effectiveness of such initiatives can vary based on the context and specific determinants of IPV prevalent in a given society like Nigeria.

Women's empowerment and its impact on intimate partner violence (IPV) have been studied through two contrasting lenses: economic bargaining theory and male-backlash theory. Economic bargaining theory posits that women's empowerment can reduce IPV by addressing the unequal power dynamics that arise when women rely on their partners for economic support (Iverson et al., 2021). On the other hand, male-backlash theory suggests that female empowerment may lead to an increase in violence against women, as men may use violence to assert control over the distribution of household resources (Bulte & Lensink, 2020).

Studies have shown that as women's empowerment increases, there can be a corresponding rise in intimate partner violence, indicating a potential backlash effect (Kilgallen et al., 2021). This violence backlash effect is particularly pronounced in contexts where patriarchal gender norms prevail (Kilgallen et al., 2021). Additionally, the unintended consequences of gender quotas in politics have been linked to patriarchal backlash, which can amplify gender oppression (Berry et al., 2020). Furthermore, the impact of women's financial empowerment on IPV has been explored in various settings, with evidence suggesting that economic empowerment alone may not always reduce violence within intimate relationships (Akilova & Marti, 2014). This underscores the complexity of the relationship between empowerment and IPV, highlighting the need for a nuanced understanding of the mechanisms at play. The interplay between women's empowerment and intimate partner violence is multifaceted, influenced by economic, social, and cultural factors. While economic bargaining theory offers a pathway to mitigate IPV through empowerment, the existence of male-backlash theory underscores the need for a comprehensive approach that considers power dynamics, societal norms, and individual agency in addressing intimate partner violence.

Women's empowerment and its impact on intimate partner violence (IPV) have been extensively studied, but there are still significant gaps in understanding the specific mechanisms and contextual factors influencing this relationship, especially in the Nigerian context. While existing research has mainly focused on general correlations between empowerment and IPV, there is a need to delve deeper into the roles of institutional frameworks like laws against domestic violence and the effects of conflict on the empowerment-IPV nexus in Nigeria (Benebo et al., 2018).

Studies have shown that factors associated with domestic violence in Nigeria include ethnicity, culture, religious practices, socio-economic dependence, gender inequality, psychological factors, power, and control (Ezelote et al., 2021). Additionally, the prevalence of domestic violence during pregnancy has been reported among women attending antenatal care in Nigeria, highlighting the need to address this issue comprehensively (Ezebialu et al., 2010). In Nigeria, domestic violence is alarmingly prevalent, with various forms of abuse occurring within households. Acts of physical violence against women in Nigeria include pushing, shaking, slapping, punching, kicking, strangling, burning, threatening with weapons, and attacking with weapons (Ademiluka, 2019). This underscores the urgent need to explore the dynamics of domestic violence and its intersection with women's empowerment in the Nigerian context. Furthermore, understanding the associations between domestic violence, women's empowerment, and women household headship is crucial in addressing the complexities of IPV in Nigeria (Ahmed et al., 2017). It has been suggested that preventive, protective, and redress mechanisms are essential to combat domestic violence in the country (Iliyasu et al., 2012). While there is a growing body of literature on women's empowerment and IPV, there is a clear need for more research focusing on the specific contextual factors and mechanisms influencing this relationship in Nigeria. By examining the roles of institutional frameworks, conflict, and other contextual factors, researchers can provide valuable insights into how women's empowerment interacts with IPV outcomes in the Nigerian context.

Women's empowerment encompasses various dimensions, particularly in the economic realm. Research has identified key components such as savings, cash transfer programs, property ownership, and decision-making power as crucial aspects of women's economic empowerment (Asaolu et al., 2018). Additionally, indicators like women's labor force participation, household decision-making, contraception use, and education are essential in measuring women's empowerment at the household level (Phan, 2015).

Literature highlights the correlation between women's economic empowerment and outcomes like household income, economic growth, healthcare utilization, and poverty reduction (Nabimanya, 2024). Strategies promoting women's economic empowerment through financial inclusion have been shown to enhance overall empowerment (Kumar, 2024). Constructs such as economic empowerment, family health, civic empowerment, social empowerment, and educational empowerment are key dimensions of women's empowerment, with training playing a crucial role in enhancing these aspects (Tiwari & Malati, 2023).

Women's economic empowerment is a vital component of overall empowerment and significantly contributes to achieving development goals. By comprehensively measuring and understanding the various dimensions and indicators of women's economic empowerment, policymakers and stakeholders can develop more effective interventions to advance gender equality and women's empowerment.

Conclusively, both the theoretical nor empirical literature has not reached an agreement on the relationship between women's empowerment and intimate partner violence. However, inferences drawn from the literature review show that the contrasting views on the dynamics hinged on the infinite description of the concept of women's empowerment, thus, it is important to understand the measures for women's empowerment linked with existing theoretical underpinnings. For instance, both theories discussed have a common ground in terms of describing economic empowerment as monetary income and financial stability. Monetary income might be exact in measurement, however, financial stability has no exact measure as it could mean employment status, education attainment, etc. Further, the literature has emphasized the importance of identifying contextual circumstances that affect the individual, household, community, and state response to increased women's economic empowerment (Qin et al., 2019). Women's access to resources operates differently in each country as explained by Vyas et al. (2015) and the variations of intimate partner violence are peculiar to an individual country (Oduro et al., 2015). Therefore, the context has been stressed as a critical factor in whether economic empowerment increases or decreases the risk of IPV.

This study is poised to contribute to the existing literature by examining the nuanced effects of women's empowerment on intimate partner violence in Nigeria, with a specific focus on the roles of institutional support and conflict. By addressing these research gaps, the study will offer valuable insights that can inform more effective policies and interventions aimed at reducing IPV in Nigeria. The findings are expected to highlight the importance of context-specific strategies in the fight against gender-based violence.

2. METHODOLOGY

To achieve the study's objectives, a combination of data sources will be utilized, specifically the Armed Conflict Location and Event Data (ACLED) and the 2018 Nigeria Demographic Health Survey (NDHS). The NDHS is a nationally representative, cross-sectional household survey that provides detailed information on the population and health of Nigerian households. It includes individual interviews with women and men aged 15-49. Variables related to women's empowerment, its characteristics, and household demographic information are derived from the NDHS data. The sample dataset used in this study is sourced from the 2018 Women's Recode (IR) file, which contains comprehensive information on women aged 15-49 across various topics, including demographic characteristics, social and economic factors, fertility, marriage, sexual activity, work, decision-making, partner characteristics, gender-based violence, and healthcare awareness in the media. The surveys cover a nationally representative sample, including both urban and rural areas and all states in Nigeria. Utilizing a three-stage stratified and multistage cluster sampling design, the 2018 NDHS wave included 41,821 women. For the analysis, 10,678 women identified as experiencing partner violence and 28,888 women who were currently married or living with a partner at the time of the survey were included. To ensure accurate identification and address potential misidentification issues, women who had never been in a union or who were not living with a partner at the time of the survey were excluded from the empirical analysis.

Additionally, the 2018 conflict dataset is sourced from the Armed Conflict Location and Event Data (ACLED) and is focused on the collection, analysis, and mapping of disaggregated conflict data. ACLED records the dates and locations of all reported conflicts in over 150 countries, providing real-time data on the specific locations, dates, actors involved, fatalities, and reported incidents of political violence. This includes events that occur during civil wars, periods of instability, regime breakdowns, and protest movements across regions such as Africa, South Asia, Southeast Asia, the Middle East, Central Asia, the Caucasus, Latin America and the Caribbean, and Southeastern and Eastern Europe, including the Balkans. The dataset includes detailed conflict event reports from all African countries, covering the period from 1997 to 2019.

Moreover, the geographic data from the NDHS, which is separate from the main dataset, includes precise information about the locations of each sample cluster, with geographical coordinates for each surveyed site. This geospatial data allows for the integration of the NDHS data with the ACLED conflict dataset, which also contains exact GPS coordinates. This integration facilitates a spatial analysis to examine the role of conflict in influencing the relationship between women's empowerment and intimate partner violence.

The economic empowerment of women is fundamental for achieving broader development objectives such as economic growth, poverty reduction, and enhanced welfare. Scholars have developed indices like the Cumulative Economic Empowerment Index (CEEI) to measure economic empowerment, considering factors such as assets, income, savings, and control over resources (Mengstie, 2022). Women's empowerment is defined as the capacity of women to be economically

self-sufficient, make decisions affecting their lives, and be free from violence, underlining the importance of economic independence and decision-making autonomy (Khanum & Mahadi, 2016).

Table 1: Descriptive Statistics

Variable	Obs.	Mean	Standard Deviation
Outcome variables			
physical violence (=1 if yes)	8,349	0.087	0.281
Sexual violence (=1 if yes)	8,349	0.073	0.260
Emotional violence (1= if yes)	8,349	0.322	0.467
Women Empowerment Variables			
Owner of phone (=1 if yes)	28,888	0.527	0.499
Moderating Role Variables			
Institutions (=1 if a state has laws against violence)	28,888	0.785	0.410
Conflict (number of fatalities due to conflict)	28,888	186.43	405.76
Control Variables			
Wealth index (=1 if Poor)	28,888	0.191	0.393
Employment (=1 if yes)	28,888	0.701	0.458
Education (=1 if yes)	28,888	0.560	0.496
Wife Financial Inclusion (=1 if yes)	28,888	0.101	0.301
Husband cut wife from family (=1 if yes)	8,347	0.438	0.496
Woman Age (in year)	28,888	31.888	8.831
Household size (in number)	28,888	6.555	3.753
Earn same as partner (=1 if yes)	17,307	1.027	0.389
Wife makes financial decision (=1 if yes)	17,677	0.886	0.540
Monogamous family structure (=1 if yes)	28,888	0.696	0.460
Residence is rural (=1 if yes)	28,888	0.640	0.480
Number of living children	28,888	3.469	2.306
Christianity (=1 if yes)	28,888	0.424	0.494
Islam (=1 if yes)	28,888	0.568	0.495
Exposure to violence (=1 if yes)	7,887	0.120	0.324
Awareness about violence (=1 if yes)	1,864	0.182	0.386

Table 1 shows the descriptive statistics of the series in the study. The summary statistics show that on average 8.7 percent of women in the 2018 survey have experienced physical violence, 7.3 percent of women have experienced sexual violence from their partner, and 32.2 percent have experienced emotional violence. Also, the result indicates that 52.7 percent of women own mobile phones. The summary statistics also show that on average 78 percent of the states in Nigeria have institutionalized laws against domestic violence. Further, on average Nigeria experienced 186 deaths in 2018 due to conflicts. More so, on average 70.1 percent of the women are currently employed during the 2018 survey interview. The education variables are measured if the woman is educated or not educated; the result shows that on average, 56 percent of the women have a level of education, primary, secondary or higher. Furthermore, the descriptive statistic result shows that on average; 19.1 percent of the women live in a poor household while on average 10.1 percent of women in the survey are financially included i.e own a bank account either with financial institutions or non-financial institutions. Also, the table shows that 43.8 percent of the women have been cut off from families and friends from their husbands, whereas, 102 percent earn the same wage as their partners.

Also, the result shows that the average age of the women in the survey is approximately 32 years, and the average household size is seven. On average, 88.6 percent of women make decisions about their earnings, and about 69.6 percent of women are the only wife of their partner; implying they are in a monogamous family structure. Likewise, the table presents that on average about 64 percent of women live in the rural residential area. Further, the result shows that on average a woman has three living children, 12 percent are exposed to conflict and about 18 percent of the women confirmed awareness about violence. The result explains that 42 percent of the women in the survey are Christians, 56.8 percent are Muslims, and 24

percent of the women's partners drink alcohol. More so, the result of the standard deviation for most variables is large relative to their respective means; this implies a high variability among characteristics of women in the survey.

Therefore, the probit and logit regression models are conducted on the empirical model due to the dichotomous nature of the two dependent variables; sexual, physical, and emotional intimate partner violence. These estimation approaches are used when the dependent variable is binary. The probit and logit regression is generally classified as a binary response model. It is a non-linear function, however, the errors follow the standard normal distribution.

The probit regression model estimated for this study is specified as shown in equation 1:

$$Y_i = \beta_0 + \beta_1 \text{Womanempowerment}_i + \beta_2 X_i + \varepsilon_i \quad (1)$$

Where Y_i the variable intimate partner violence captures the probability of a woman i experiencing physical, sexual, and emotional intimate partner violence. The main independent variable is the woman empowerment measures as women's ownership of the mobile phone. X_i captures the control variables such as the working status, education of the woman in the household, age of the wife, number of children, household wealth index, residence area, number of co-wives, awareness about domestic violence, exposure to domestic violence as a child (mother being abused), women have decision-making power over earnings, women earn more than their husbands, financial inclusion, husband hinders the wife from communicating with family and friends. While ε_i represents the error term.

Also, to answer the second research question on the moderating role of institutions, this study includes the institution variable in the model. This institution measure is captured by a dummy variable; coded 1 for states that have institutionalized the law on gender-based violence and 0 otherwise. This variable is represented as $Institutions_i$ which denotes the institutionalization of gender-based laws in states in Nigeria. The moderating role is captured by interacting with the institution variable; $Institutions_i$ with woman empowerment, denoted as $\text{Womanempowerment}_i * Institutions_i$ in the model shown in equation 2.

$$Y_i = \beta_0 + \beta_1 \text{Womanempowerment}_i + \beta_2 \text{Institutions}_i + \beta_3 (\text{Womanempowerment}_i * \text{Institutions}_i) + \beta_4 X_i + \varepsilon_{ij} \quad (2)$$

Further, this study considers the moderating role conflict plays in the impact of women's empowerment on intimate partner violence in Nigeria. To examine that the study explores the continuous form of conflict by exploring the conflict intensity. The moderating role is captured by interacting with the conflict variable; $\text{conflictintensity}_i$ with woman empowerment. The model to be estimated for this objective is specified in equation 3:

$$Y_i = \beta_0 + \beta_1 \text{womanempowerment}_i + \beta_2 \text{conflictintensity}_i + \beta_3 (\text{womanempower}_i * \text{conflictintensity}_i) + \beta_4 X_i + \varepsilon_i \quad (3)$$

3. RESULT AND DISCUSSION

The table above shows the result of the probit¹ estimation approach for the three measures of intimate partner violence explored in the study. Table 2 presents the result to achieve the first objective; the effect of women's empowerment on intimate partner violence. The first column shows the effect of women's empowerment on sexual violence. The empirical result shows that ownership of mobile phones reduces the likelihood of women experiencing sexual intimate partner violence by 0.056 (5.6 percent) and it is found to be 10% statistically significant. This result collaborates with the findings of Pesando (2022) that ownership of mobile phones reduces the odds of experiencing sexual violence. The mechanisms of this effect are explained that ownership of mobile phones is positively linked with the decision-making power of women and improves the attitudes of the man against intimate partner violence. Furthermore, the study controlled for other variables such as education status, working status, the decision-making power of women, women earning more than their husbands, women's financial inclusion, husbands forcing wives to cut contact with families, living in the rural residence area, family structure (monogamous), awareness about domestic violence, exposure to domestic violence as a child, household wealth index level, age of the wife, and the total number of living children.

¹ For the purpose of interpretation, the marginal effects of the probit estimation was reported in the tables below. Also, the logit estimation approach was used, however, the result is not significantly different, thus, and tables are reported in the appendix.

More so, the results indicate that the probability of sexual violence reduces by 0.052 (5.2 percent) for women who attained any level of education compared to women who are not educated and the marginal effect as shown is statistically significant at 10% level. This implies that a woman who has any level of education; primary to higher education qualification has a less probability of experiencing sexual violence compared to women who are not educated. Further, the results show that for employment, there is no statistically significant marginal effect of employment on sexual intimate violence. This implies that although the involvement of women in economic activities has a positive effect on sexual violence, it is not statistically significant. This finding contradicts the study of Gage and Thomas (2017) who establish that women’s involvement in economic activities has a significant effect on sexual intimate partner violence.

Table 2: Effect of women's empowerment on intimate partner violence

VARIABLES	Sexual Violence	Physical Violence	Emotional Violence
Own phone	-0.056* (0.032)	-0.012 (0.030)	-0.004 (0.043)
Education	-0.052* (0.034)	0.030 (0.029)	0.048 (0.045)
Employment	0.045 (0.053)	-0.094 (0.071)	0.023 (0.087)
Decision making	0.006 (0.021)	-0.013 (0.020)	-0.037 (0.029)
Earn more	-0.047 (0.030)	0.020 (0.028)	0.017 (0.041)
Financial inclusion	0.344 (0.031)	-0.054** (0.025)	-0.149*** (0.039)
Cut contact	0.138*** (0.041)	0.140*** (0.417)	0.315*** (0.041)
Rural residence	0.001 (0.026)	-0.056** (0.025)	0.003 (0.036)
Monogamous family	-0.059* (0.032)	-0.007 (0.029)	-0.084** (0.041)
Violence awareness	-0.001 (0.030)	0.076** (0.033)	0.245*** (0.039)
Mother Abused	0.026 (0.030)	0.060* (0.033)	0.181*** (0.041)
Wealth index	0.041 (0.332)	-0.028 (0.288)	0.135*** (0.044)
Age	-0.003 (0.002)	-0.002 (0.002)	0.002 (0.003)
Number of children	0.014* (0.007)	0.026*** (0.007)	0.022** (0.010)
Observations	1,095	1,095	1,095

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

The result in the table shows that women who experienced their mother being abused, and are aware of intimate partner violence have an increased probability of experiencing sexual violence, however, the effect is not significant. Also, women living in rural residences are more faced with sexual violence, although the effect is found not to be significant. While women that earn more have a reduced probability of experiencing sexual violence, however, not statistically significant. More so, financial inclusion and wealth index shows positive effects but have no statistical significance. Whereas, the result shows that the likelihood of sexual violence reduces by 0.059 (5.9 percent) for women whose husbands have only one wife (i.e monogamous) compared to women living with more than one wife. This implies that a monogamous family structure

likely reduces the risk of sexual violence, intuitively, as there will be no unnecessary comparison which could lead to pressure to make the other wife submit. This finding aligns with the conclusion of Balogun and Fawole (2012) that the structure of the family is critical and women in monogamous marriages are less likely to experience intimate partner violence.

Also, women whose husbands successfully cut them off from families and friends are more exposed to the risk of sexual intimate violence by 13.8 percent compared to women who still maintain close contact with their families and friends. This finding is found to be statistically significant at a 1% level. This implies that husbands who aggressively advocate for their wives to cut contact with their immediate families are potential abusers. This has been proven in numerous cases exposed, the first method of an abusive husband is to reduce communication of the woman with families and friends that could help intervene or successfully bring the woman out of the abusive relationship. Likewise, the result explains that the larger the total number of living children increases the exposure to sexual intimate violence of women. This implies that women with more children are more likely to face and continue to endure sexual intimate violence compare to women with less number of children. This aligns with the conclusion of Oyediran and Feyisetan (2017) that the number of living children borne by a woman in Nigeria is a critical factor in the issue of acceptance of domestic violence.

In addition, the second and third columns show the effect of physical and emotional violence, respectively. The study finds that women who own mobile phones are less likely to be exposed to physical and emotional violence as shown in the table, however, the result is not statistically significant. The results above indicate that attaining a level of education as a woman increases the likelihood of the risk of physical and emotional intimate partner violence but is shown to be statistically insignificant. Similarly, the results show that for employment, there is no statistically significant effect of employment on physical and emotional intimate violence. Also, the table indicates that women earning more than their husbands, power to make decisions about earnings, and age have no statistically significant effect on both physical and emotional intimate partner violence. In another light, the probability of physical and emotional violence reduces by 0.054 and 0.149, respectively, for women who own either a traditional or non-traditional bank account. This explains that women who own a financial account either in traditional or non-traditional banks are less likely to experience intimate partner violence compared to women who have no financial account. In the same vein, the table indicates that women whose husbands successfully cut them off from families and friends are more exposed to the risk of physical and emotional intimate violence by 12.9 and 13.2 percent, respectively compared to women who still maintain close contact with their families and friends. This finding is found to be statistically significant at a 5% and 1% level for physical and emotional violence, respectively.

Likewise, living in a rural residence reduces the probability of women experiencing physical intimate partner violence by 0.056, however, it is not statistically significant for emotional intimate partner violence. Unexpectedly, awareness about intimate partner violence significantly increases the risk of both physical and emotional intimate violence. As expected women whose mothers were abused by their fathers are more likely to experience both physical and emotional intimate partner violence by 6 and 18.1 percent, respectively. Likewise, women who live in poor households are more likely to be faced with the risk of emotional intimate partner violence compared to women who live in non-poor households. Similarly, women with a larger number of children are more likely to experience both physical and emotional intimate partner violence than women will a lesser number of children.

Furthermore, to achieve the second objective, this study explores the moderating role of institutions and policies against gender-based violence instituted in the states across Nigeria. The first column shows the effect of women's empowerment on sexual violence. The result shows the probability of sexual violence decreases for women who have mobile phones compared to women who do not own a mobile phone, however, it is not statistically significant. Likewise, the marginal effect of institutions was shown not to be statistically significant. Nonetheless, the variable of interest which is the interaction between mobile phone ownership and institution captures the moderating role of the institution in the effect of phone ownership on sexual violence. The table presents that the probability of sexual violence reduces by 0.134 (13.4 percent) for women who own mobile phones and live in a state where institutions against domestic violence are passed and assented; it is statistically significant by a 5% level. In comparison with the previous table (Table 2) where the role of the institution has not been captured the probability of sexual violence was explained to likewise reduce; however, the magnitude of the marginal effect is larger (0.134) in the model where the institution is captured compared to the model without institution (0.056). By implication, the probability of reduced sexual violence is higher in states where laws against domestic violence are institutionalized. This finding further strengthens the conclusion of Aizer, (2010) and Luke and

Munshi (2011) that the effect of women empowerment on intimate partner violence can be more pronounced in a patriarchal male-dominated society.

Meanwhile, the result shows that women whose husbands successfully cut them off from families and friends are more exposed to the risk of sexual intimate violence by 0.139 (13.9 percent) compared to women who still maintain close contact with their families and friends. This finding is found to be statistically significant at a 1% level. This implies that husbands who aggressively advocate for their wives to cut contact with their immediate families are potential abusers. This has been proven in numerous cases exposed, the first method of an abusive husband is to reduce communication of the woman with families and friends that could help intervene or successfully bring the woman out of the abusive relationship. Likewise, the result explains that the probability of sexual violence increases by 0.014 (1.4 percent) for women with more children compared to women with less number of children. This implies that women with more children are more likely to face and continue to endure sexual intimate violence compare to women with less number of children. This aligns with the conclusion of Oyediran and Feyisetan (2017) that the number of living children borne by a woman in Nigeria is a critical factor in the issue of acceptance of domestic violence.

Table 3: The role of institutions on the effect of women's empowerment on IPV

VARIABLES	Sexual Violence	Physical Violence	Emotional Violence
Own phone	-0.041 (0.052)	-0.141* (0.077)	-0.070 (0.082)
Institution	0.031 (0.042)	0.021 (0.045)	-0.011 (0.071)
Ownphone*institutions	-0.134** (0.064)	-0.129** (0.060)	0.081 (0.088)
Education	-0.055 (0.034)	0.020 (0.029)	0.032 (0.045)
Employment	0.051 (0.052)	-0.093 (0.071)	0.032 (0.088)
Decision making	0.010 (0.021)	-0.018 (0.020)	-0.037 (0.029)
Earn more	-0.044 (0.030)	0.012 (0.028)	0.009 (0.041)
Financial inclusion	0.033 (0.031)	-0.053** (0.025)	-0.153*** (0.039)
Cut contact	0.139*** (0.041)	0.135*** (0.042)	0.317*** (0.040)
Rural residence	-0.001 (0.026)	-0.054** (0.025)	0.006 (0.036)
Violence awareness	-0.011 (0.030)	0.094*** (0.035)	0.253*** (0.040)
Mother Abused	0.022 (0.031)	0.062* (0.033)	0.179*** (0.041)
Wealth index	0.039 (0.033)	-0.020 (0.029)	0.146*** (0.043)
Age	-0.003 (0.002)	-0.002 (0.002)	0.003 (0.003)
Number of children	0.014** (0.007)	0.025*** (0.007)	0.022** (0.010)
Observations	1,095	1,095	1,095

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

Additionally, the second and third columns of table 3 show the marginal effects of the measures of women empowerment on physical and emotional violence, respectively. The empirical result shows that women who own a mobile phone are less likely to be exposed to physical violence by 0.141 (14.1 percent). The marginal effect is statistically significant by a 10% level. This finding aligns with the study of Pesando (2022) that ownership of mobile phones significantly reduces the odds of experiencing physical intimate partner violence. However, as shown in the table, the results indicate that ownership of a mobile phone has no statistically significant marginal effect on emotional violence. Further, the variable capturing the moderating role of the institution on the effect of ownership of mobile phones on intimate partner violence shows a statistically significant marginal effect for physical violence but not for emotional violence. The table indicates that the probability of physical intimate partner violence reduces by 0.129 for women who own mobile phones and live in a state where institutions against domestic violence are passed and assented. This implies that in states where laws against domestic violence are institutionalized, the probability of women experiencing physical violence is reduced. However, a statistically significant marginal effect was not established for emotional violence. This could be attributed to the fact that emotional violence might be difficult to report due to the inability to gather tangible evidence for prosecution purposes.

Whereas, the empirical result shows that institution has no significant marginal effect on both physical and emotional violence. Further, the results above indicate that attaining a level of education as a woman increases the likelihood of the risk of physical and emotional intimate partner violence but is shown to be statistically insignificant. Similarly, the results show that for employment, there is no statistically significant marginal effect of employment on physical and emotional intimate violence. This result is not in alignment with the conclusion of Tandrayen-Ragoobur (2018) that women who earn have a 19% higher chance of abuse compared to women not earning. However, the study aligns with Vyas et al., (2015) that women who are empowered are at higher risk of experiencing intimate gender violence, whereas, no significant association. Also, the results indicate that women earn more than their husbands, the power to make decisions, and age have no statistically significant marginal effect on both physical and emotional intimate partner violence. This likewise contradicts other studies in Nigeria that women who control the larger proportion of the household earnings are at greater risk of experiencing physical intimate partner violence than women with lower or the same earnings as their partners (Antai, 2011; Kaukinen, 2004).

Also, the likelihood of physical and emotional violence decreases by 5.3 percent and 15.3 percent, respectively for women who are financially included compared to women who are not. This explains that women who own a financial account either in a traditional or non-traditional bank are less likely to experience intimate partner violence compared to women who have no financial account to their name. Therefore, it shows that it is not enough for women to be educated, and to be actively involved in economic activities, thus, to escape the woes of intimate partner violence, women must own and control their financial accounts. In the same vein, the table indicates that women whose husbands successfully cut them off from families and friends are more exposed to the risk of physical and emotional intimate violence by 13.5 and 31.7 percent, respectively compared to women who still maintain close contact with their families and friends. This finding is found to be statistically significant at a 1% level.

More so, the probability of physical violence reduces by 0.054 for women living in rural residence areas compared to women in urban cities. However, the result is not statistically significant for emotional intimate partner violence. Surprisingly, awareness about intimate partner violence significantly increases the risk of both physical and emotional intimate violence. This can be attributed to the fact that knowledge about domestic violence might not be enough to reduce the risk of violence for women. As expected, the probability of physical and emotional violence increased by 6.2 percent and 17.9 percent for women who experienced their mother being abused compared to women who had no abusive father. Likewise, the likelihood of emotional violence increases by 0.146 (14.6 percent) for women who live in the poor household compared to women in non-poor households. This finding aligns with the study of Oduro et al, (2015) that women living in wealthy households are associated with a lower probability of exposure to emotional violence in Ghana. Additionally, women with a larger number of children are more likely to experience both physical and emotional intimate partner violence than women with a lesser number of children.

Finally, the role of conflict on the effect of women's empowerment on intimate partner violence is examined. The first column shows the effect of women's empowerment on sexual violence. The empirical result shows that the probability of sexual violence reduces by 8 percent (0.080) for women who own mobile phones compared to women without mobile phones, and it is found to be 5% statistically significant. Also, the study explains that the probability of sexual intimate

partner violence reduces by 0.0001 for women who live in conflict areas. This marginal effect is statistically significant by a 5% level. However, the probability of not facing sexual violence is marginal. This study contradicts the findings of Ekhatior-Mobayode et al., (2020); Falb et al., (2018) that women who live in conflict-affected areas are more likely to experience sexual intimate partner violence. Also, for the interaction used in the study for the measure of women empowerment and conflict; the table presents that conflict plays an accelerating role in the effect of women empowerment on sexual intimate violence however it is not statistically significant. This finding is established by Swaine et al., (2019) and Kelly, (2018) that conflict increases women's risk of experiencing intimate partner violence and violent controlling behaviors from their partners. Nonetheless, for the case of this present study, the sign is correct but not statistically significant as found in the mentioned studies.

More so, the study control for other variables such as education, working status, the decision-making power of women, women earning more than their husbands, institutions, women's financial inclusion, husbands subjecting wives to cut contact with families, living in the rural residential areas, awareness about domestic violence, exposure to domestic violence as a child, household wealth index level, age of the wife, and the total number of living children. The empirical result in the table shows that attaining a level of education as a woman decreases the likelihood of the risk of sexual violence by 0.081 (8.1 percent) and the marginal effect as shown is statistically significant at a 5% level. Further, the results show that for employment, there is no statistically significant effect of employment on sexual intimate violence. This implies that although the involvement of women in economic activities has a negative marginal effect on sexual violence, it is not statistically significant. Similarly, the table shows that institutions, decision-making power, financial inclusion, earning more than a partner, awareness about violence, rural residence, abused mother, wealth index, and age have no statistically significant marginal effect on sexual intimate partner violence.

Also, the result shows that the probability of sexual violence increases by 0.136 (13.6 percent) for women who cut contact with families and friends compared to women who still maintain close contact with their families and friends. This finding is found to be statistically significant at a 1% level. Likewise, the result explains that the larger the total number of living children increases the exposure to sexual intimate violence of women by 1.3 percent. This implies that women with more children are more likely to face and continue to endure sexual intimate violence compare to women with less number of children.

4. CONCLUSION

Women are more likely to use mobile phones as a tool to report instances of intimate partner violence by accessing online services and connecting with online communities and support networks. This increased access to resources and support can potentially lower the risk of experiencing sexual intimate partner violence. Consequently, the study recommends that several critical factors must be addressed to ensure that the protective benefits of mobile phone ownership translate into effective policy measures. These factors include investing in initiatives that sustain and enhance women's access to mobile phones, as well as ensuring equitable access to technology and providing ICT skill development for women. Additionally, it is crucial to push for the enactment and enforcement of domestic violence laws in states that have not yet institutionalized such regulations and to establish the necessary structures for their implementation. Furthermore, the study highlights that the likelihood of intimate partner violence decreases when women are financially empowered. Therefore, policies and programs aimed at promoting women's financial inclusion should be established and rigorously implemented, given their significant role in reducing the prevalence of intimate partner violence.

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