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The Nexus of a Husband's Educational Status in Conjunction with Alcohol Consumption on His Tendency to Commit Domestic Violence toward Female Partners in Nigeria, Kyrgyzstan, and Tajikistan

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Abstract

Most studies have shown that when men have higher levels of education they are less likely to beat their wives. Some have also shown that consumption of alcohol tends to be a negative catalyst in provoking inebriated males to commit domestic violence against their intimate partners. Thus, understanding the likely causes and/or associated factors of intimate partner violence with ever more concentrated studies is imperative. Studies in the past have not examined four possible categories of husbands to determine a correlation to intimate partner violence: those that are educated and tend to be alcoholics, those that are educated and tend not to drink alcohol, less-educated individuals who tend to be alcoholics, or those that are less educated and tend to not to be alcoholics. Employing the Demographic and Health Survey data for Nigeria, Kyrgyzstan and Tajikistan, this study has shown the likelihood of each category of husband to perpetrate domestic violence on intimate female parnters in Nigeria, Kyrgyzstan and Tajikistan using the multivariate logistic regression at a 95% confidence interval. From the research it has been found that a husband's educational level in and of itself offers no significant correlation to IPV perpetration in Kyrgyzstan and Tajikistan, whereas in Nigeria, educated men were a little more likely to perpetrate IPV compared to men with less education as seen in the following: AOR 1.14, CI 1.02-1.27; p-value < 0.001. In all, alcoholic men were at least 3 times more likely to commit IPV than non-alcoholic men as suggested in the formula of: CI 3.08-5.56; p-value < 0.001. In Nigeria, men with little or no education, who lived in rural areas and were non-alcoholics were less likely to perpetrate IPV compared to their counterparts in urban areas as suggested by AOR 0.75, CI 0.61-0.93; p-value < 0.01, while alcoholic men with little or no education, who lived in rural areas, showed the strongest proclivity to beat their wives as suggested in AOR 4.37, CI 3.5-5.42; p-value < 0.001. Alcohol seems to outweight the effects of education as an instigator of domestic violence. Its introduction consistently increases the likelihood of IPV and strengthens its statistical significance across sites.

Keywords:

Intimate partner violence; husband; education; alcohol; Nigeria; Kyrgyzstan; Tajikistan

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Introduction

Background Information

Intimate Partner Violence (IPV)[2] against women has continued to undermine the wealth, health, wellbeing, productivity, efficiency and opportunities for female victims worldwide (WHO, 2013). With about 37% of all women 15-49 years old having trouble in their relationships and being subjected to harsh and inhumane treatments of beatings, molestation, intimidation, seclusion, hunger, and sexual abuse by their intimate partners, Africa (sub-Saharan) and Asia are at the top of the list in the prevalence of violence against women in intimate relationships (WHO, 2013). In Nigeria, Africa's most populated country, almost one in every two women in partnerships (45 percent) had experienced some form of abuse or violence in their relationships (NPC & ICF Macro, 2009). Similarly, reports of the prevalence of IPV against women in Eastern Europe and Central Asia (EECA) reveal that "26% of women in Eastern Europe and 23% of women in Central Asia" have suffered some form of sexual and/or physical violence from men with whom they are in intimate relationships. Specific to respective countries, 53.8% of Tajik women and 41.9% of Turkish women all reported instances of IPV from their partners (UNFPA, 2015, p. 2). The report concludes that "… levels of VAWG [Violence Against Women and Girls] remain high throughout the [Eastern Europe and Central Asia] region .... A large proportion of women and girls experience various forms of violence… despite some progress [in this region]" with IPV ranking as the most common form of violence experienced and reported by women (UNFPA, 2015, p. 2, 3).

Findings from several studies such as Yoshikawa et al. (2014) in Nepal, Testa et al. (2012) in the Unites States, Decker et al. (2009) in India, and Antai (2011) in Nigeria, have all posited that more than a woman's independent opinions, attitudes and socio-economic conditions, it is the husband's or male partner's attitudes, controlling behavior, and socio-economic characteristics that often exacerbate the proclivity for committing IPV. While this does not discredit the importance and relevance of findings from studies that focused on understanding IPV dynamics through (abused) women's SES, attempts at balancing that knowledge with insights from the male perpetrator's SES could be a step in the right direction toward understanding and enacting social responses for the purpose of minimizing this behavior. Hence, this is the raison d'être of this study.

From previous studies with similar objectives, a number of factors have been found to increase the likelihood of IPV: husbands or partners being "semi-manual skilled" workers[3], having little education (Hajian et al., 2014) or no education whatsoever (Ackerson et al., 2008), and those actively engaged in alcohol and/or substance abuse (Bellis et al., 2006; Temple et al., 2008; Abramsky et al., 2011; Hajian et al., 2014; Testa, 2012; Ola, 2017). According to Ackerson

[2] Intimate Partner Violence (IPV) is defined as "any behavior within an intimate relationship that causes physical, psychological or sexual harm to those in the relationship." (WHO, 2012). Examples of the types of IPV include physical, sexual, emotional, and economic violence as well as manipulative and controlling behavior against partners. IPV is mostly committed by men against women, although at times it can also be women's violence against men (WHO, 2012). IPV is also common among partners, especially men, in homosexual relationships (Finneran & Stephenson, 2013). However, this study focusses on IPV within heterosexual relationships in three cites: Nigeria (Africa), Kyrgyzstan and Tajikistan (Central Asia).

[3] Semi-skilled manual workers are workers who do not require specialized trainings or special set of skills to perform their task. They often acquire secondary level education but less than a university degree. Semi-skilled manual workers often perform repetitive tasks. (See Ridell, 2017 at https://esub.com/unskilled-semi-skilled-skilled-labor-defined/)

et al. (2008) and Hajian et al (2014) the higher a husband's level of education the less likely he will commit IPV, but according to Abramsky et al. (2011) and Testa (2012) a husband's alcohol consumption behavior presents a much greater risk factor for committing IPV. It is not known what the outcome would be with a highly educated husband who is an alcoholic. If a husband's highest level of education is treated as a dichotomous variable, the terms "high educated" and "less educated" can be rendered successfully without seeming arbitrary notions. However, if treated as an ordinal variable, the conventional rankings of "no education", "primary education", "secondary education" and "higher education" can be rendered (see USAID, 2013, p. 12).[4] As for the husband's alcohol consumption behavior, given the DHS data[5] that is employed, it is not possible to extract data on the frequency of a husband's alcohol consumption[6]. This not withstanding, the result of the interaction of a husband's highest level of education and his proclivity for alcohol consumption provides these possible outcomes: A woman's husband could be (a) "well-educated and alcoholic", (b) "well-educated and non-alcoholic", (c) "low educated and alcoholic", or (d) "low educated and non-alcoholic." But the main question is how the interplay of a husband's highest level of education and his alcohol consumption relate to the likelihood of him perpetrating IPV against his wife.

In addition to measuring a husband's alcohol consumption and his highest level of education, this study has extended the focus to consider the effects of locality or the environment of his residence on the interactions. The reason emphasis is being put on the environment in this study is due to the recent findings of Tranchant and Müller (2017) in their study on domestic and non-domestic interpersonal violence in Ghana in urban and rural locations. According to Tranchant and Müller (2017), the presence of "higher welfare, education and employment outcomes," coupled with "lower alcohol consumption and polygamy" in urban areas has a bearing on domestic and non-domestic violence. It is more likely to occur in rural areas in which social welfare and provisions are less frequent (Tranchant & Müller, 2017). This finding makes rural areas more susceptible for an increased likelihood of IPV experiences. Thus, the next item to be considered is the likelihood of IPV perpetration if a husband is "low educated," alcoholic, and resides in rural areas compared to a husband who is "low educated," alcoholic, and resides in urban areas. It should be noted that residence in urban areas comes with its own potential shortcomings which can become risk factors increasing the likelihood of domestic violence (IPV). For example, due to the neolocal[7] characteristic of urban residence a couple often lives alone in nuclear families (Tranchant & Müller, 2017), isolated from parents, relatives, and other members of the extended family (Lanier & Maume, 2009), whose presence at times acts as timely interventions in mediating domestic matters. Thus, without this cusion parrying a couple's misunderstandings, IPV might be more profound in urban settings (Lanier & Maume, 2009; Tranchant & Müller, 2017).

Thus, this paper will examine the interactive effect of three variables as potential factors in the likelihood of perpetrating IPV against a wife or intimate female partner. These are a husband's alcohol consumption, his highest level of education, and place of residence. The result of the

[4] See the Standard Recode Manual for DHS 6 from USAID. USAID, that is, United States Agency for International Development (USAID) is the body responsible for the funding and management of the DHS program worldwide. Visit manual here: www.dhsprogram.com/pubs/pdf/DHSG4/Recode6_DHS_22March2013_DHSG4.pdfn

[5] Individual Recodes of the Demographic and Health Surveys (Domestic Violence Modules) of Nigeria 2013; Kyrgyzstan 2012 and Tajikistan 2012.

[6] This data weakness confines us into treating alcohol consumption behavior as a dichotomous variable of "Yes" or "No", that is, husband is either "alcoholic" or "non-alcoholic", respectively.

[7] Neolocal residence refers to a residential setting in which couples live alone, separated from the extended family. This is a common characteristic of urban residence.

findings is intended to add to existing literature on a topic which has not been investigated thoroughly—that being a husband or partner's background characteristics on the likelihood of him perpetrating IPV.

Objectives of Study

The aims of this study therefore are to:

1) Estimate the lifetime prevalence of heterosexual intimate partner violence in Nigeria (Sub-Saharan Africa), Kyrgyzstan, and Tajikistan (Central Asia) based on the most recent DHS data available;
2) Identify how a husband's or partner's highest educational level and proclivity for alcohol consumption influence his likelihood of perpetrating IPV against women;
3) Reveal how the result of the interaction of a husband's highest educational level and proclivity for alcohol consumption and residence on IPV can differ based upon it happening in rural and local environments in Nigeria, Kyrgyzstan, and Tajikistan.

Research Question

From the above, the primary research question of interest is, how the interplay of a husband's highest level of education and his proclivity for alcohol consumption relate to the likelihood of him perpetrating IPV against his wife. This query leads to a matrix of four possible cells as shown in the diagram below:

Table 1: Table matrix of husband's highest educational level and his alcoholic behavior[8]

Husband's alcohol consumption	**Husband's highest educational level**	
	Low education *(No education, Primary / Incomplete Secondary)*	**High education** *(Complete secondary / Higher / Postgraduate)*
No	Low education, non-alcoholic husbands	High education, non-alcoholic husbands
Yes	Low education, alcoholic husbands	High education, alcoholic husbands

One central question to be explored is the likelihood of these four categories on the likelihood of IPV perpetration. And another crucial aspect of this, albeit of lesser importance, is whether the incidents happened more often in rural or uban settings. The study had to determine, for instance, whether women whose husbands have low education, drink alcohol, and reside in rural areas are more or less likely to experience IPV from those husbands than women whose husbands have low education, drink alcohol, and reside in urban areas. The interaction of these three variables chosen for the study (that being the husband's highest educational attainment, his proclivity for alcohol consumption, and his type of place of residence) provides a somewhat complex matrix of categories presented in Table 2 below:

[8] Note, Tables 1 and 2 are for simplified pictorial understanding only and do not necessarily represent the model for detailed descriptive and statistical analyses.

Table 2: Categories of husbands based on highest education, his alcohol consumption behavior and place of residence[9]

Alcohol	Low education *(No education, Primary / Incomplete Secondary)*		High education *(Complete secondary / Higher / Postgraduate)*	
	Urban	**Rural**	**Urban**	**Rural**
Non-alcoholic	Low education, non-alcoholic, urban husband	Low education, non-alcoholic, rural husband	High education, non-alcoholic, urban husband	High education, non-alcoholic, rural husband
Yes alcoholic	Low education, alcoholic, urban husband	Low education, alcoholic, urban husband	High education, alcoholic, urban husband	High education, alcoholic, rural husband

From the above, it can be determined that there are eight categories of husbands.The findings may well extend our knowledge of the complex IPV phenomenon by providing a very real account of Intimate Partner Violence (IPV) through the meaningful interaction of these empirical variables.

Theoretical Underpinning and Hypotheses

There is no single universally accepted understanding of the causes and risk factors of IPV, and most of what is known of the IPV phenomenon is from examining the issue through the perspectives of the women who were the victims. But by using a synthesis of the Biopsychosocial Model of McKenry et al. (1995) and the Social Ecological Framework of Heise (1998), it can be hypothesized how certain fundamental husband-related dynamics could influence acts of IPV against women.

The Biopsychosocial model provides a somewhat holistic explanation for IPV. It posits that IPV occurs based on certain complex interrelationships between biological, psychological, and social factors of the persons involved in the violence. Previous studies have sought to understand the causes of IPV in a less objective perspective in which men who commit these acts and are in fact perpetrators are considered as this perpetrators from the onset of the studies. They focused on biological factors including high levels of testosterone in men, drug abuse, and alcohol abuse (McKenry et al. 1995; p.307; Kyriacou et al., 1999), although several reports have also documented that IPV could sometimes precede alcohol and other forms of substance abuse (Campbell, 2002; Butchart & Mikton, 2014). However, the Psychological perspective argues that certain psychological factors such as aggressive behavior, anti-social behavior, stress (post-traumatic disorders), impulsivity, and suspicion, as some of the more paramount catylists of IPV. Many other studies seem to adduce it as the result of a husband's suspicion of his wife's infidelity (Campbell, 2002, p.1332), or the result of indordinate controlling behavior[10] (Antai, 2011, WHO, 2013, p. 14). Men who manifest controlling behavior reportedly have a higher likelihood of committing IPV against their female partners. Meanwhile, the sociological perspective explains IPV, in relation to social stress such as

[9] Note, Tables 1 and 2 are for simplified pictorial understanding only and do not necessarily represent the model for detailed descriptive and statistical analyses. In Tajikistan and Kyrgyzstan, only two educational categories were possible due to higher number of representatives: Secondary and Higher education.

[10] Controlling behavior here refers to attempts by men to regulate every aspect of their partner's life. They monitor and restrict their freedom of association such as he: "is jealous or angry if she talks to other men", "frequently accuses her of being unfaithful", "does not permit her to meet her female friends", "tries to limit contact with her family" and "insists on knowing where she is at all times".

unemployment, poor negotiation skills when interacting with their partners, declining satisfaction in marriage, weak integration into society, lower incomes, patriarchy or traditional male hegemonic construct, and interactions while under the influence of alcohol (McKenry et al., 1995).

The conjecture of this paper is that higher levels of education reduce the likelihood of a husband or male partner committing domestic violence, and that alcohol usage increases the chances of perpetrating IPV. But how alcohol usage exacerbates IPV amongst males who have higher levels of education is still an issue that is unknown and thus warrants a central focus of this study.

The Social Ecological Model of Heise (1998) provides a basis for understanding how IPV occurrence or perpetration could vary by five[11] embedded level factors with each contributing its share towards the potential occurrence of IPV. The five level factors are the individual, the relationship, the community, and societal and socio-cultural level factors (Heise, 1998). Among these, the first level factors, the personal factors, are of primary interest in the present study. Personal factors such as educational attainment, and proclivity for alcohol consumption, can to a large extent influence an individual's behavior in certain circumstances (See Jejeebhoy, 1995; Hui & Wan, 2007). Both factors have also been shown to correspond with a higher likelihood of committing IPV. While a high level of education was found to have a mitigating effect on IPV perpetration in some studies (Jewkes, 2002), alcohol abuse is always a minatory agent in increasing the likelihood of IPV perpetration irrespective of social status and education (Testa et al., 2012).

Also, environmental factors, such as the varied social economic conditions in which one resides could also influence the likelihood of IPV. According to Tranchant & Müller (2017), both rural and urban residents are prone to commit IPV, albeit for diametrically different reasons. Men in an urban residence of Ghana, for instance, seem to be less likely to manifest higher levels of IPV due to some overlapping factors which include reduced levels of stress and alcohol consumption, better education, and better welfare packages, when compared to their counterparts in the rural areas (Tranchant & Müller, 2017). However, that is not to say that men in urban areas do not experience factors that aggravate tendencies that make them prone to these aggressive acts. Research indicates that urban men were more likely to perpetrate IPV when extended family members were absent as found in the rural areas. The conflation of variables regarding education, alcohol, and residence are dynamics that influence this egregious conduct. As the issue is so complicated a clear nexus of alcohol, environment, and educational attainment does not exist.

Research Hypotheses

The only thing that can be stated categorically is that men who justified IPV (Uthman et al., 2011; Yoshikawa et al, 2014), and drank alcohol (Abramsky et al, 2011; Testa et al., 2012; Ola, 2017) were more likely to beat their wives; and those who had higher levels of education were less likely to perpetrate IPV (Jewkes, 2002; García-Moreno et al., 2005; Tranchant & Müller, 2017). But that which is less known is the effect of a husband's educational level and his proclivity for alcohol consumption in the likelihood of commiting IPV. Also, it is not clear

[11] Originally, Heise (1998) identified four levels – Personal history, Microsystem, Exo-system and Macrosystem (Heise, 1998, p. 5-7); these were made five for sake of simplification and emphasis (see Thomas, 2016 figure www.researchgate.net/publication/309234749_FIGURE_Social_Ecological_Model.

how this nexus varies based upon rural or urban localities. And as to the extent education and alcohol have a bearing on IPV, the following hypothesis addresses this issue.

Hypothesis 1 – Men who have lower levels of formal education[12] but drink alcohol will manifest a higher likelihood of perpetrating IPV against their female partners when compared to their counterparts who have higher formal education but do not drink alcohol.

Hypothesis 2 – Men who drink alcohol, have no formal education, and reside in rural areas will be more likely to perpetrate IPV against their female partners when compared to other categories of men who do not consume alcohol, have no formal education, and are not rural residents.

Methodology

The current study employs the domestic violence module of the Demographic and Health Survey data from Nigeria in sub-Saharan Africa and data from Tajikistan and Kyrgyzstan in Central Asia to elucidate the relationship between the interaction of a husband's highest educational attainment and proclivity for alcohol consumption to his likelihood of committing IPV against women. The DHS is a cross sectional survey conducted in mostly low and middle-income countries (LMIC) with funding from the United Stated Agency for International Development (USAID).

Since 1993, the Nigeria Demographic and Health Survey (NDHS) has been conducted every five years in Nigeria as an ongoing attempt to understand the population of its citizens. Only in the last two surveys of 2008 and 2013 were there any attempts to understand the level of domestic violence that occurred in the country. In the 2013 NDHS, 39,948 women who were 15-49 years old were randomly selected using a three-stage sampling selection process (sampling frame ➔ clusters/PSU's as designed by the last census ➔ households selection from each PSU).[13] Out of these women, 21,196 (76.7% of DV module) reported to have ever been partnered; and it was from this group that information was provided on the frequency of domestic violence.

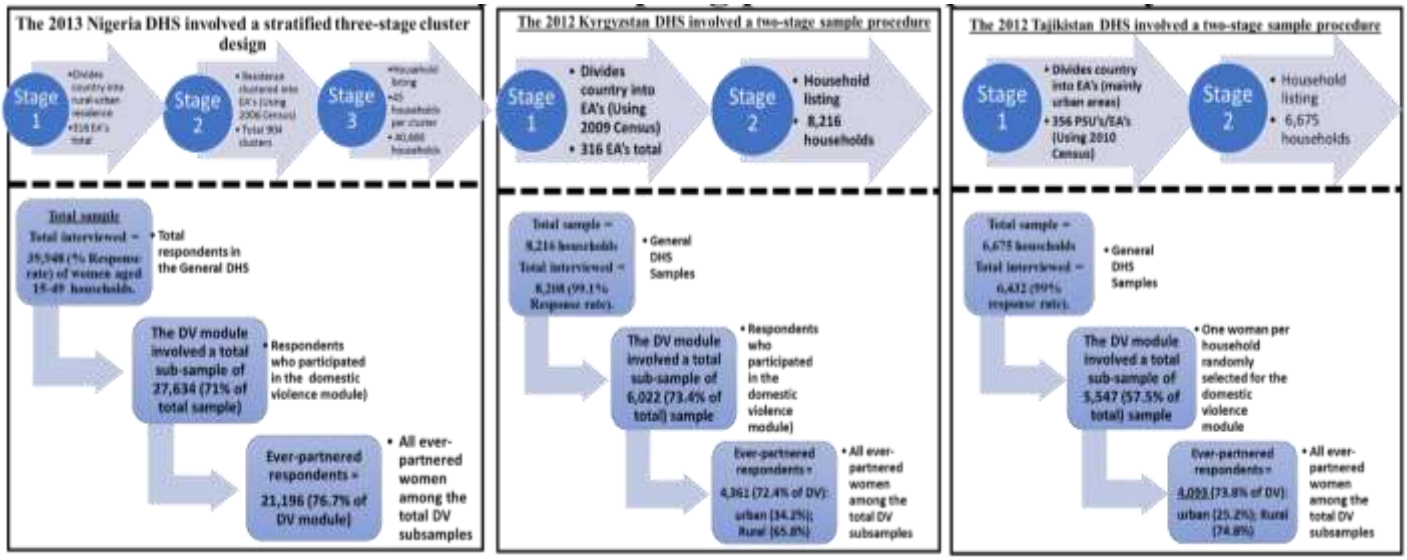
The 2012 Tajikistan Demographic and Health Survey (TjDHS) involved a two-stage sample selection process based on a master sample of enumeration areas created for the 2010 Population Census. This resulted in a total sample of 6,674 households, from which 6,432 households were successfully interviewed, yielding a household response rate of 99 percent – 98% and 99% response rates in urban and rural settlements, respectively (SA, MoH & ICF International, 2013). From a total of 9,794 eligible women, 9,656 were successfully interviewed – a 99% response rate (99% in urban, 98% in rural residences (SA, MoH & ICF International, 2013). The domestic violence module was successfully completed by a total of 5,547 (57.5% of total sample) women who were nationally selected. Out of these, 4,093 women reported being in a relationship (25.2% urban, and 74.8% rural) (SA, MoH & ICF International, 2013). This was useful in providing data for the analysis of IPV in Tajikistan that is employed in this study.

[12] By "Lower levels of education", we aim to show how progression in educational attainment level influences the likelihood of IPV perpetration. We systematically analyze a progression under findings. However, detailed information about coding is presented under the section with variable coding.

[13] (sampling frame ➔ clusters/PSU's as designed by the last census ➔ households selection from each PSU)

The 2012 Kyrgyzstan Demographic and Health Survey (KgDHS) involved a total of 8,208 households that were randomly selected nationally using a similar 2-stage approach. The PSU questionaires that were used were based on the 1999 Population and Housing Census (NSC, MoH & ICF International, 2013). Of these, 8,208 women were interviewed, giving a response rate of 99.1%. The domestic violence module involved a total sub-sample of 6,022 (73.4% of total) women who were 15-49 years old, among whom 4,361 (72.4%) had were partnered. 34.2% of these women were from an urban residence, and 65.8% were from rural areas (NSC, MoH & ICF International, 2013).

Figiure 1: Summary of sampling procedure per country



In each of the DHS questionnaires, as those that are above, informed consent was obtained from the respondents by specially trained interviewers before proceeding to administer them in consonance with the WHO-proposed research ethical standards (WHO, 2001). The DHS questionnaire was internationally standardized with minor adjustments to reflect local conditions. It was screened, and approved by the ICF (SA, MoH & ICF International, 2013; NSC, MoH & ICF International, 2013; NPC and ICF International, 2014).

Measurements and Coding of Variables

Violence against women was measured in each of the DHS – 2012 KgDHS, 2012 TjDHS, and 2013 NDHS surveys using the Conflict Tactics Scale (Strauss, 1990). The scale measures experiences of three forms of violence: physical violence (less to more severe), and sexual violence and emotional violence (SA, MoH & ICF International, 2013; NSC, MoH & ICF International, 2013; NPC and ICF International, 2014). Physical violence against women from a husband or partner ranges from less severe violence (pushing, slapping, etc.) to severe attacks (i.e. deliberately attempting to choke or burn.). Manifestations of emotional violence include humiliating a female partner in front of others, threatening to harm her or her loved ones, etc. Finally, sexual violence includes being physically forced to have sexual intercourse with the husband or partner, or being coerced into performing sexual acts against her volition.

Dependent Variable

The dependent variable in the current study is a *Woman's Experience of IPV*. In the current paper, in conformity with international standards of measuring total IPV (SA, MoH & ICF International, 2013; NSC, MoH & ICF International, 2013; NPC and ICF International, 2014), a

woman is said to have experienced IPV if she has ever experienced any physical, sexual or emotional violence from her current or most recent partner.[14] Any report of experience of IPV is coded "1". Otherwise, it is "0". In the current study, IPV that has been analyzed is that which took place throughout many years because of the mistreatment of a partner or spouse. It will be referred to as lonterm IPV.

Measuring IPV

IPV[15] (Life time) = Women who have experienced less severe physical violence + Severe physical violence + Sexual violence + Emotional violence

Independent Variables

A husband's characteristics play a prominent role in the variables that influence IPV

1. A husband's highest educational attainment: Two measures of a husband's educational attainment were employed in this study due to wide differences in educational attainment in each of these three countries. Given the fact that very few men in Kyrgyzstan and Tajikistan have "No education" or only "Primary education" – only less than 1 percent of total respondents16 in Kyrgyzstan for instance have not attained up to secondary school level – this study uses three sets of categorization of education. First, two categories of a husband's educational levels are used across the three countries. These are secondary education = 1, and higher Education = 2. The second categorization is necessitated by the fact that the 2013 Nigeria DHS data showed a large number of respondents whose husbands had no formal education or had a primary education. This allowed for possible statistical analysis with these categories used as well in reference to Nigeria.
2. Husband's alcohol consumption: Women whose husband drinks alcohol was coded "1", and those who did not drink alcohol were coded as "0".[17]
3. Husband's Residence: It is assumed that the respondents share the same residence as their spouses or partners; hence, residence in urban environments is coded as "1" and in the rural environment it is referred to as "2". The referent category therefore is the "Urban" residents.

Statistical Model Fit

For this study three binary multiple regression models with interaction terms were fitted to measure the interactive effects of a husband's alcohol consumption, a husband's highest educational attainment, and place of residence.[18] on the proclivity of perpetrating IPV.

That which is presented here is a selection of qualitative explanations of variables controlled for regression[19].

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[14] I employ the lifetime experience of IPV from husband or partner rather than within the 12 months in other to derive a more robust estimate of the lifetime conditions and correlates of IPV in the three countries.

[15] IPV here refers to lifetime experience of IPV among ever-partnered women aged 15-49 years.

[16] Weighted number.

[17] It is not possible to reflect the frequency or degree of husband's alcohol consumption behavior from the current data.

[18] See the Appendix.

[19] The models are specified in order under the Appendix.

Binary Logistic Regression Models

Models One

A simple binary logistic regression was done involving the interaction of a husband's educational level and alcohol consumption without any main effects.[20] This helps in showing the crude relationship between the different variables: the husband's highest educational attainment combined with his alcohol consumption behavior to ascertain the likelihood of him perpetrating IPV against his female partner. The first model is very practical and applicable to the Nigerian context as previously explained[21]. However, a multiple binary logistic regression model (involving a controlfor some potential IPV factors such as respondent's *residence*, *wealth index* or *level of poverty*, geographical national *region* resided in, and individual *norms* or traditional attitude towards IPV) was further conducted. Such a secondary check helps in ascertaining the consistency of the found relationship andreduces the author's chances of arriving at a spurious conclusion.

Model Two

For comparative reasons, the study also used a common measure of an educational level applicable to three countries. Here another simple binary logistic regression was conducted with a different educational category.

Here "*Secondary education*" entailed no education, primary education, and secondary education. The educational level of the husband was interacted with his alcohol consumption to see its proclivity on perpetration of IPV against women. Further, a secondary check entailing other potential IPV risk factors itemized in Model One above was further conducted.

Models Three and Four

Tests were done on the complex interaction of three variables of interest: the husband's highest level of education, his alcohol consumption behavior, and his place of residence[22] to ascertain their influence on IPV. In model 3, the classical educational category was used for Nigeria but in model 4, the second category (already stated in Model Two) was used across all countries.

In all models, the results are presented in Odds Ratios (OR) and Adjusted Odds Ratios (AOR)[23]. The significant levels thatwere employed for all models were 0.05 or 95% confidence interval.

Conceptual Framework Model Fitted: IPV and Types of Husbands or Partners

Figures 1 to 2 provide a complex framework of the interactions of a husband's socio-cultural, behavioral and demographic characteristics in their connection to potential IPV against women. These are pictorially presented in the diagrams presented below.

[20] Svy: logistic Total_IPV husband_educ#husband_alcohol

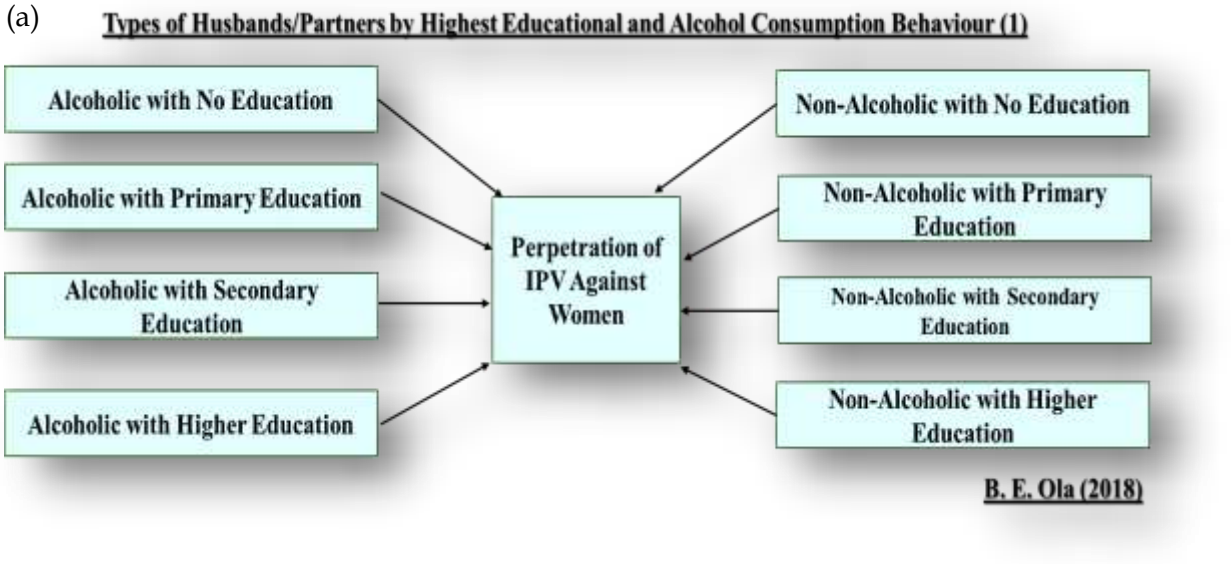
[21] In Nigeria, the variable *education* takes four categories with the first used as the referent category is "***No education***", "***Primary***", "***Secondary***" and "***Higher*** (tertiary) education".

[22] Svy: logistic Total_IPV husband_educ#husband_alcohol#Residence

[23] The Odds ratios report the result of simple binary logistic regression without The Adjusted Odds Ratios show the result of the regression analysis after control for other possible husband's socio-cultural factors such as residence, region, age and household wealth index.

Figure 1: Relationship between IPV experience and interaction of husband's highest educational attainment and alcohol consumption behavior in Nigeria(a) and in Nigeria, Kyrgyzstan and Tajikistan combined (b)

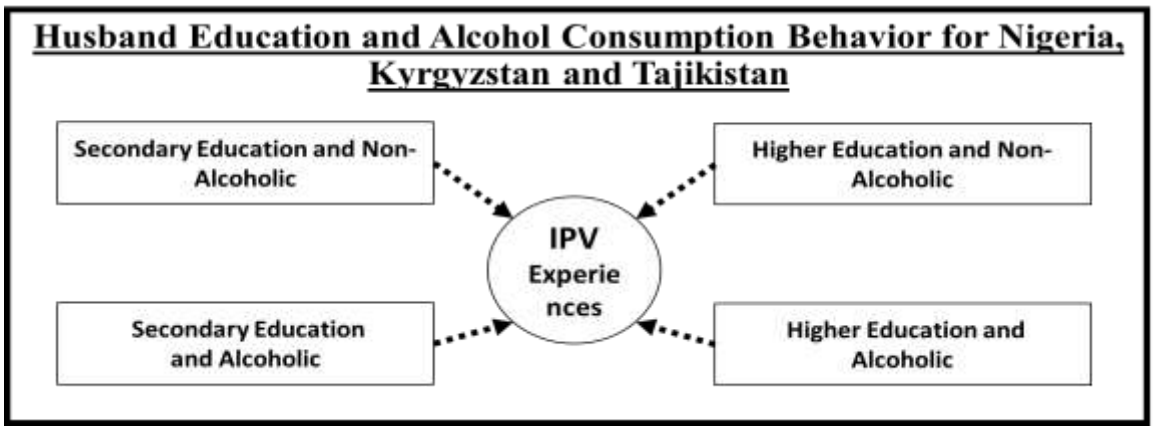
(a)



The diagram in Figure 1 presents eight (8) first sets, types or categories of husbands or partners – using the interaction between their alcohol consumption behavior and their respective highest level of education in Nigeria (a) and (b) differed based on Education Category[24].

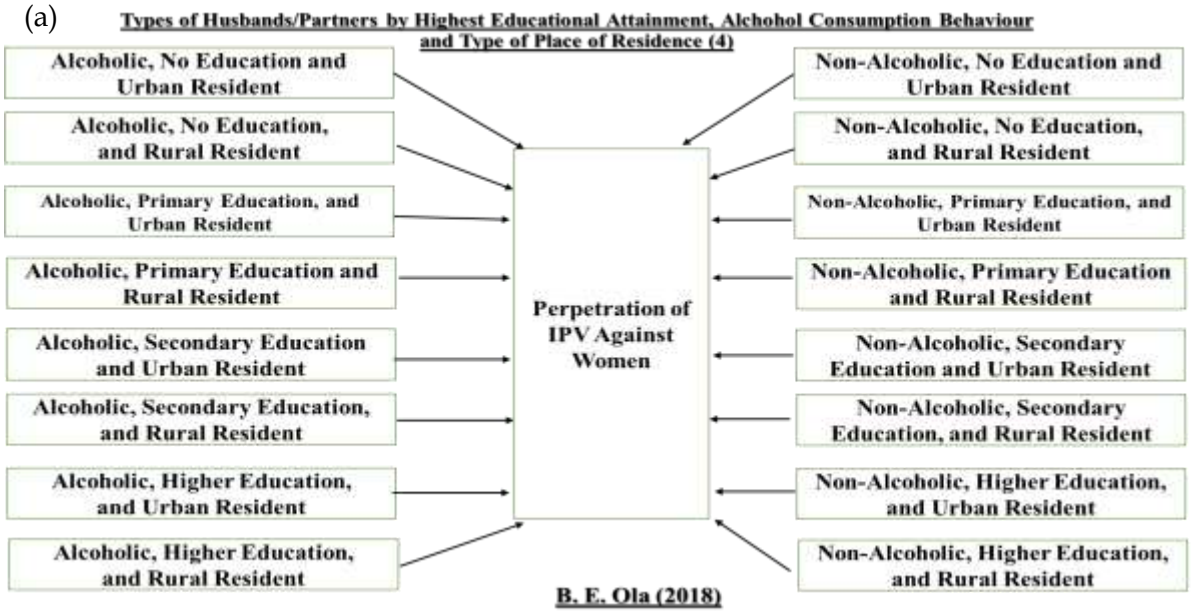
Figure 2: Relationship between IPV experience and interaction of husband's highest educational attainment, alcohol consumption behavior, and type of place of residence in Nigeria(a) and in Nigeria, Kyrgyzstan and Tajikistan combined (b)

(b)

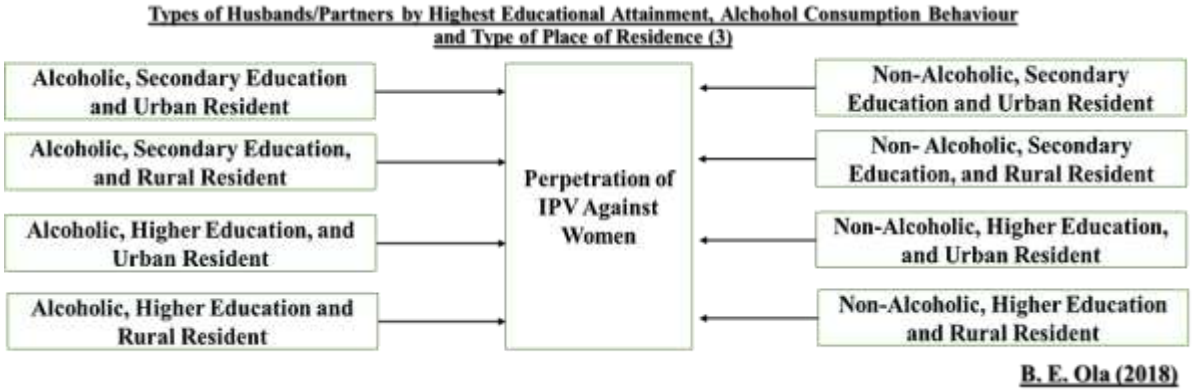


[24] The two model reflects the current situations of educational attainment in the countries. Nigeria has a relatively higher representation of husbands or partners with No Education or Primary Education only.

(a)



(b)



Results and Findings

Lifetime prevalence of intimate partner violence against women

Interestingly, both Nigeria and Tajikistan share an equal lifetime prevalence of IPV at 24.5% which means that about one-fourth of the women in both countries have experienced some form of IPV. Kyrgyzstan showed a higher prevalence rate at 28% lifetime prevalence. Although, as expected, there are variations in the prevalence rate of IPV, it is interesting to note that sexual violence is the lowest form of IPV reported by the respondents across all countries, and it ranged from 4.0% in Kyrgyzstan to 4.7% in Nigeria. Meanwhile in Kyrgyzstan and Tajikistan, physical violence is the most reported form of IPV, with amounts as high as 25.0% and 19.5% respectively, while emotional violence was the most reported form of IPV in Nigeria at 19.2%.

A bivariate (descriptive) statistical analysis test[25] shows that women with a secondary education were the most likely to report IPV in Kyrgyzstan (28.9%) and Tajikistan (25.3%),

[25] This does not include test for significance

while in Nigeria, women with a primary education were most likely to report incidents of IPV. 32.7% of women with a primary education reported these crimes, but only at a slightly higher percentage than those Nigerian women who had a secondary education in which 31.2% reported the crime. Women whose husbands drank alcohol were more likely in all the three countries to report violence or abuse from husbands or partners (Kyrgyzstan – 44.1%, Nigeria – 49.4%, Tajikistan – 47.1%).

Surprisingly, women who resided in urban areas were consistently more likely to report IPV across the three countries than women in rural areas. In Kyrgyzstan it was 44.1%, in Nigeria it was 49.4%, and in Tajikistan it was 47.1%. Expectedly, women who displayed tolerance of IPV by justifying it as "somewhat justified or "very justified" were more likely to report IPV as compared to women who refused to agree that IPV was justified for any reason[26]. Interestingly, women who proved non-committal by answering that they did not know on the survey were also more likely to report experiencing IPV from partners or husbands, with the exception of Nigeria in which there was a 0.5% difference. These tentative relationships are described in Table 3 as seen below.

Table 3: Women experience (%) of forms of IPV by husband's characteristics in Kyrgyzstan, Nigeria and Tajikistan

Characteristics	Kyrgyzstan				Nigeria				Tajikistan			
Husband / Partner's Background	**Physical Violence**	**Sexual Violence**	**Emotional Violence**	**Physical, Sexual or Emotional Violence**	**Physical Violence**	**Sexual Violence**	**Emotional Violence**	**Physical, Sexual or Emotional Violence**	**Physical Violence**	**Sexual Violence**	**Emotional Violence**	**Physical, Sexual or Emotional Violence**
Education												
No education	17.5	0.0	2.6	20.1	7.2	3.5	12.6	15.4	4.2	1.5	1.5	4.2
Primary	25.5	0.0	19.3	25.5	20.9	6.2	25.5	32.7	12.7	1.3	15.5	18.2
Secondary	25.5	4.7	14.1	28.9	20.5	5.6	23.3	31.2	20.1	4.9	12.6	25.3
Higher	24.4	3.1	14.0	26.8	13.7	4.5	21.2	25.8	19.7	3.6	9.2	23.8
Alcohol												
No	12.7	1.8	6.9	15.5	9.4	3.6	14.6	18.9	15.2	3.1	8.0	19.0
Yes	44.1	7.5	25.4	47.5	36.8	9.6	39.6	49.4	37.6	9.8	25.3	47.1
Residence												
Urban	26.2	2.7	13.9	28.2	16.3	3.9	21.4	27.4	21.4	3.7	13.3	25.8
Rural	24.4	4.6	14.2	27.9	13.3	5.2	17.9	22.9	18.2	4.6	10.7	24.0
Attitude towards IPV												
Not justified	20.45	2.8	11.8	22.4	12.4	3.1	16.3	21.0	17.0	2.6	12.6	23.08
Somewhat justified	30.8	4.5	18.3	36.7	17.8	6.7	24.3	30.9	19.7	5.8	12.6	25.7
Very justified	31.4	6.3	12.9	34.2	18.0	8.2	24.8	30.9	21.7	4.6	10.2	25.3
Don't know	30.4	6.4	20.3	33.4	14.0	2.7	13.1	20.5	18.3	5.5	10.3	23.3
Total (%)	**25.0**	**4.0**	**14.1**	**28.0**	**14.4**	**4.7**	**19.2**	**24.5**	**19.5**	**4.4**	**11.4**	**24.5**
Observation	**4,348**	**4,348**	**4,348**	**4,348**	**20,851**	**20,851**	**20,851**	**20,851**	**4,068**	**4,068**	**4,068**	**4,068**

Note: IPV forms *measured here are experiences as reported by women who have suffered from intimate partner violence (some from the age of 15) providing a cursory insight into the societal prevalence of violence against -partnered women of the ages between 15-49 years categorized according to the respective countries*

[26] Women were asked five hypothetical questions about wife beating. They were required to respond a "Yes" or a "No" to each question. They were asked if they believed it was justifiable if a man beats his wife if she – (i) goes out without telling him, (ii) neglects the children, (iii) argues with him, (iv) refuses to have sex with him, (v) burns the food? The women's responses were taken to indicate their "attitude towards wife beating". A single response of "Yes" to any of the five questions signaled a woman's tolerance for wife beating. Answering "Yes" two times or three times out of five indicated that a woman "somewhat justified" or "very justified" wife beating, respectively.

Measurements of IPV:
Physical IPV involves both "Less severe"forms (pushing, shaking, slapping, etc.) and more "Severe"forms (burning, choking, etc.)
Sexual IPV includes physically forcing a woman to have sexual intercourse, or to perform any sexual acts that she does not want to engage in.
Emotional IPV involves humiliating a woman in front of others, insulting her, or threatening to hurt her or her loved ones. (WHO, 2012).

Multiple Binary Logistic Regression Result

The following summarizes the findings of this study:

1. ***The Relationship between a Husband's Highest Educational Attainment, His Alcohol Consumption Behavior, and the Likelihood of IPV Perpetration***

Hypothesis 1 – Men who have lower levels of formal education, but drink alcohol will manifest a higher likelihood of perpetrating IPV against their female partners compared to men who have a higher formal education and do not drink alcohol.

Table 4: Women's experiences of IPV and profile of the highest education and alcohol consumption behavior of husbands in Nigeria

Dependent Variables	**Woman's Experience of IPV**	
Independent Variables: *Husband's Education and Alcohol Interacted*	Unadjusted Odds Ratio (OR)	Adjusted Odds Ratios (aOR)
Non-Alcoholic with No Education [RF]	1.000	1.000
	[1 - 1]	[1 - 1]
Alcoholic with No Education	6.752***	3.566***
	(5.494 - 8.299)	(2.775 - 4.583)
Non-Alcoholic with Primary Education	2.059***	1.735***
	(1.846 - 2.297)	(1.528 - 1.971)
Alcoholic with Primary Education	7.115***	4.618***
	(6.223 - 8.135)	(3.871 - 5.509)
Non-Alcoholic with Secondary Education	2.019***	1.570***
	(1.834 - 2.222)	(1.383 - 1.782)
Alcoholic with Secondary Education	6.060***	3.742***
	(5.403 - 6.796)	(3.188 - 4.393)
Non-Alcoholic with Higher Education	1.719***	1.286**
	(1.527 - 1.936)	(1.101 - 1.503)
Alcoholic with Higher Education	4.974***	3.362***
	(4.175 - 5.926)	(2.701 - 4.184)
Constant	0.157***	0.316***
	(0.147 - 0.167)	(0.242 - 0.412)
Observation	21,963	20,698

*ciEform in parentheses; *** p<0.001, ** p<0.01, * p<0.05*
RF – Referent category

In Nigeria, it was possible to test the hypothesis due to higher representation of female respondents whose husbands or partners had "No education". The Hypothesis (1) is accepted but it should be remembered that compared to husbands who have no education and do not drink alcohol,[27] husbands who have "No education but drink alcohol"[28] are about six times more likely (OR 6.75) to abuse their partners. And with Reduced Odds Ratios there is a three times higher likelihood of an AOR of 3.57 after taken into account (controlling for) the possible

[27] Non-Alcoholic with No Education
[28] Alcoholic with No Education

effects or influence of other potential variables such as household wealth index, region, residence, and attitudes towards IPV in the regression model.

In both models,[29] presented in Table 4 that is above, husbands who drank alcohol and only had a Primary education manifested the highest likelihood of perpetrating IPV against their intimate partners at OR 7.12, *p*-value < 0.001 among the eight categories presented in Figure 1(a). When taken into account (or controlled for) the effects of other variables mentioned earlier, the likelihood of men who only had a primary education and were not alcoholics of committing domestic violence was reduced; but for men who had a primary education and were alcoholics they consistently had the highest threat of perpetrating IPV (about four times more likely at AOR 4.62, *p*-value < 0.001).

Men who had a higher education and were non-alcoholic were considerably less likely to perpetrate IPV when compared to the other categories of husbands provided earlier. Only men with no formal education and who did not drink alcohol, according to the empirical data of the study, had the least likelihood of committing IPV against their female partners.

In comparing alcoholics with non-alcoholics, and low educated and high educated husbands in Nigeria, it can be seen that alcohol consumption was associated with increased likelihood of IPV in all categories of husbands, while men with higher levels of education beyond the primary school were found to have a reduced likelihood of perpetrating IPV (OR 2.02; AOR 1.74, *p*-value < 0.001) although their likelihoods of perpetrating IPV were considerably higher than those who had no formal education. Those who had a Secondary education had an OR 2.02; AOR 1.57, *p*-value < 0.01; and for those with a higher education it was (OR 1.72; AOR 1.29, *p*-value < 0.001). Thus, while alcohol consumption seems to increase the likelihood of IPV, an increase in the educational level above the primary school level, in this part of the study, seems to decrease IPV.[30]

Table 5, as seen below, shows a similar result obtained in Kyrgyzstan and Tajikistan as well as in Nigeria, with little difference in categorization. Across the three countries men who have secondary education and are non-alcoholic (the referent category) have the least likelihood of perpetrating IPV against their female partners; although in both Kyrgyzstan and Tajikistan men's educational level alone is statistically not significant in its relation to IPV perpetration at *p*-value < 0.05 especially when we test (or control for) the effects of other potential variables in the model. Where men drink alcohol (*alcoholic*), the likelihood of IPV is heightened and the relationship becomes strongly significant even at *p*-value < 0.001.

Table 5: Women's Experience of IPV in Kyrgyzstan, Nigeria and Tajikistan by Husband's Highest Educational Attainment and Alcohol Consumption Behavior

	Kyrgyzstan		**Nigeria**		**Tajikistan**	
Dependent variables	Experience of IPV		Experience of IPV		Experience of IPV	
Independent variables: Husband Education and Alcohol Consumption Behavior	Unadjusted Odds Ratio (OR)	Adjusted Odds Ratios (AOR)	Unadjusted Odds Ratio (OR)	Adjusted Odds Ratios (AOR)	Unadjusted Odds Ratio (OR)	Adjusted Odds Ratios (AOR)
Secondary Education and Non-Alcoholic (RF)	1.000 [1 - 1]	1.000 [1 - 1]	1.000 [1 - 1]	1.000 [1 - 1]	1.000 [1 - 1]	1.000 [1 - 1]
Secondary Education and Alcoholic	5.079*** (4.231 - 6.098)	4.785*** (3.938 - 5.815)	4.460*** (4.116 - 4.833)	2.674*** (2.409 - 2.968)	4.220*** (3.434 - 5.186)	3.313*** (2.654 - 4.134)

[29] Simple and multiple binary logistic regression models.

[30] It is instructive to note that we do not claim causality as we employ cross sectional surveys, instead we show associations between IPV and potential variates.

Dependent variables	Kyrgyzstan		Nigeria		Tajikistan	
	Experience of IPV		Experience of IPV		Experience of IPV	
Independent variables: Husband Education and Alcohol Consumption Behavior	Unadjusted Odds Ratio (OR)	Adjusted Odds Ratios (AOR)	Unadjusted Odds Ratio (OR)	Adjusted Odds Ratios (AOR)	Unadjusted Odds Ratio (OR)	Adjusted Odds Ratios (AOR)
Higher Education and Non-Alcoholic	0.909 (0.732 - 1.128)	0.982 (0.780 - 1.238)	1.181** (1.060 - 1.316)	0.883 (0.778 - 1.002)	1.013 (0.844 - 1.215)	1.066 (0.881 - 1.289)
Higher Education and Alcoholic	4.320*** (3.535 - 5.280)	4.171*** (3.358 - 5.182)	3.417*** (2.890 - 4.042)	2.199*** (1.811 - 2.670)	3.173*** (2.450 - 4.109)	2.620*** (1.992 - 3.446)
Constant	0.190*** (0.166 - 0.217)	0.0264*** (0.0144 - 0.0482)	0.228*** (0.219 - 0.238)	0.458*** (0.356 - 0.589)	0.234*** (0.210 - 0.261)	0.201*** (0.126 - 0.321)
Observation	4,816	4,807	21,963	20,698	4,380	4,365

*ciEform in parentheses; *** p<0.001, ** p<0.01, * p<0.05*

It should be noted that, in the Nigerian study, men who have a secondary education and a tendency to drink alcohol were, at least between Confidence Interval (CI) 2.41-2.97 (adjusted OR 2.68) and/or CI 3.43-5.19 (unadjusted OR 4.22) were more likely to perpetrate IPV when compared to men who have secondary education and do not have a tendency to drink alcohol. In Kyrgyzstan and Tajikistan, men who have a secondary education, but drink alcohol, were also more likely to perpetrate IPV. However, it should be noted that the likelihood of this happening is reduced substantially with the attainment of ever more education. For instance, in Nigeria, the Odds ratio (adjusted) of likelihood is reduced from 2.68 for those with a secondary education and are alcoholic to 2.20 for those with a higher education and are alcoholic. In Kyrgyzstan this goes from OR 4.79 to 4.17 and in Tajikistan it goes from OR 3.31 to 2.62, all strongly significant at *p*-value< 0.001.

Note the footnote[31].

2. *Relationship between Husband's Highest Educational Attainment, His Alcohol Consumption Behavior, Type of Place of Residence, and Likelihood of IPV Perpetration*

Hypothesis 2 – Men who drink alcohol, have no formal education, and reside in rural areas will be more likely to perpetrate IPV against their female partners when compared to all other categories of men who do not share the three features

[31] The author conducted several tests both simple and multiple logistic regressions on the relationship between woman's experience of IPV and husband's education status in Kyrgyzstan and found that when husband's highest education attainment level is treated as dichotomous variable comprising *Low education* (no education, primary and incomplete secondary) and *High education* (complete secondary and higher), we found that the relationship becomes statistically significant at *p*-value < 0.05. The result shows that men who have *High education* were less likely (AOR 0.79, CI 0.64 - 0.96; *p*-value 0.02) to perpetrate IPV. Thus, we may conclude that increasing levels of education beyond primary school level, up to secondary or higher educational level reduces the likelihood of IPV perpetration among men whether or not they drink alcohol. While alcohol consumption heightens the likelihood, education reduces it. Previous studies by Gilman et. al (2008) and Crum, Helzer & Anthony (1993) have shown that high (complete college) educated men are less likely to develop alcohol *dependence* compared to men who have low levels of education. In tandem, we find that measuring education as dichotomous variable (high and low) rather than as ordinal (No education, primary, secondary, higher) might conceal certain great deal of useful information such as the influence of increased or increasing levels of education from Primary to Secondary and to Higher education. For instance, this study finds that men who drink alcohol and have only primary education were more likely to perpetrate IPV when compared to men who have either secondary or higher education as well as men who have *No (*formal) *education* altogether. Further studies are needed however to understand why men who have no education and are non-alcoholic manifest the least likelihood of perpetrating IPV among othercategories of men.

Table 6: Nigeria: Women's Experience of IPV by Husband's Highest Education, Alcohol Consumption Behavior and Type of Place of Residence in Nigeria

Dependent Variables (Non-alcoholic)	**Woman's Experience of IPV**		**Dependent Variables (Alcoholic)**	**Woman's Experience of IPV**	
Independent Variables: *Husband's Education and Alcohol Interacted*	Unadjusted Odds Ratio (OR)	Adjusted Odds Ratios (AOR)	Independent Variables:	Unadjusted Odds Ratio (OR)	Adjusted Odds Ratios (AOR)
No Education, Non-Alcoholic, Urban (RF)	1.000 [1 - 1]	1.000 [1 - 1]	No Education, Alcoholic, Urban	6.093*** (4.120 - 9.012)	4.473*** (2.787 - 7.178)
No Education, Non-Alcoholic, Rural	1.047 (0.871 - 1.259)	0.981 (0.797 - 1.208)	No Education, Alcoholic, Rural	7.484*** (5.596 - 10.01)	3.312*** (2.359 - 4.651)
Primary Education, Non-Alcoholic, Urban	2.548*** (2.043 - 3.179)	2.273*** (1.777 - 2.908)	Primary Education, Alcoholic, Urban	6.847*** (5.369 - 8.732)	5.764*** (4.341 - 7.652)
Primary Education, Non-Alcoholic, Rural	1.934*** (1.578 - 2.370)	1.536*** (1.226 - 1.924)	Primary Education, Alcoholic, Rural	7.894*** (6.257 - 9.960)	4.139*** (3.150 - 5.440)
Secondary Education, Non-Alcoholic, Urban	1.860*** (1.526 - 2.266)	1.662*** (1.328 - 2.081)	Secondary Educ., Alcoholic, Urban	5.799*** (4.684 - 7.181)	4.384*** (3.417 - 5.624)
Secondary Education, Non-Alcoholic, Rural	2.375*** (1.951 - 2.890)	1.613*** (1.293 - 2.012)	Secondary Educ., Alcoholic, Rural	6.933*** (5.569 - 8.632)	3.470*** (2.683 - 4.488)
Higher Education, Non-Alcoholic, Urban	1.753*** (1.421 - 2.162)	1.396** (1.099 - 1.773)	Higher Education, Alcoholic, Urban	5.393*** (4.126 - 7.049)	4.377*** (3.224 - 5.943)
Higher Education, Non-Alcoholic, Rural	1.857*** (1.462 - 2.360)	1.332* (1.021 - 1.738)	Higher Education, Alcoholic, Rural	4.841*** (3.540 - 6.621)	2.566*** (1.795 - 3.670)
Constant (Unadjusted OR)		0.151*** (0.127 - 0.179)	Constant (Adjusted OR)		0.233*** (0.180 - 0.302)
Observation	21,963	20,698	Observation	21,963	20,698

*ciEform in parentheses; *** p<0.001, ** p<0.01, * p<0.05*

Table 5 (Nigeria), which is provided above and Table 6 (Nigeria, Kyrgyzstan and Tajikistan) that is shown below reveal the results of a multiple logistic regression model involving a complex interaction of a husband's highest level of education, his alcohol consumption behavior, and the type of place of residence in relation to women's experience of IPV in Nigeria, Kyrgyzstan and Tajikistan.

In Nigeria, when compared to women whose husbands have no education, do not tend to drink alcohol, and reside in urban areas (Referent category), women whose husbands have no education, do not tend to drink alcohol, and reside in rural areas were not significantly different at *p*-value < 0.05. However, women whose husbands drink alcohol but have no education were significantly more likely to perpetrate IPV both in urban (OR 6.09, CI 0.77-0.96, *p*-value < 0.001; AOR 4.47, CI. 2.79 - 7.18, *p*-value < 0.001) and in rural (OR 7.48, CI 5.6 - 10.01, *p*-value < 0.001; AOR 2.36 - 4.65, *p*-value < 0.001) environments. Whereas, increases in educational levels reduce the overall likelihood of committing IPV, residence in rural areas increases likelihood if men have received primary or secondary education and drinking alcohol consistently has a strong effect as an agent that is responsible for increasing the likelihood of IPV perpetration. For the purpose of emphasis, men who have only a primary education, drink alcohol and reside in rural areas manifest the highest likelihood of perpetrating IPV (AOR 4.14, CI.3.15-5.44, *p*-value <0.001), compared to men in the referent category.

Surprisingly, when compared to men who had no education, did not have a tendency to drink alcohol, and resided in urban areas (Referent category), men who had higher education, were not alcoholics, and resided in urban areas manifested a higher likelihood of perpetrating IPV against their female partners (AOR 1.4, CI 1.10-1.77). Similarly, compared to the same referent category, urban men who had a Higher education but drank alcohol manifested a higher likelihood of perpetrating IPV (OR 4.38, CI 3.22-5.94) than their counterparts in rural areas

(OR 4.38, CI 3.22-5.94). Thus, men who have a higher education but drink alcohol in urban areas are more likely to perpetrate IPV than their counterparts in rural areas.

Compared to women in the referent category,[32] women whose husbands had a secondary education, did not drink alcohol, and resided in rural areas seem to have the lower likelihood of experiencing IPV than women whose husbands had only a secondary education, did not drink alcohol, and resided in urban centers. However, both categories of women were more likely to experience IPV compared to women in the referent category. It is a salient point that, in Nigeria, this relationship only has a statistical significance of 0.05 (See Table 7 below).

It should be reiterated that the relationship found in Hypothesis 1 is corroborated by the results of the second hypothesis. In Tajikistan and Kyrgyzstan, albeit not in Nigeria, men's level of education is not statistically significant in its relationship to the likelihood of IPV perpetration unless conflated with alcoholism.[33] However, men who drink alcohol, irrespective of their level of education, and reside in urban areas manifest less of a likelihood of perpetrating IPV against their female partners when compared to men who drink alcohol and reside in rural areas.[34] But the reverse holds true in Kyrgyzstan.

Table 7: Relationship between experience of ipv against women and husband/partner's educational attainment, alcohol consumption behaviour and type of place of residence

Dependent Variables	**Kyrgyzstan**		**Nigeria**		**Tajikistan**	
	Experience of IPV		Experience of IPV		Experience of IPV	
Independent variables:	**Odds Ratio (OR)**	**Adjusted Odds Ratios (AOR)**	**Odds Ratio (OR)**	**Adjusted Odds Ratios (AOR)**	**Odds Ratio (OR)**	**Robustness Check (OR)**
Secondary Education, Non-Alcoholic in Urban Areas	1.000 [1 - 1]	1.000 [1 - 1]	1.000 [1 - 1]	1.000 [1 - 1]	1.000 [1 - 1]	1.000 [1 - 1]
Secondary Education, Non-Alcoholic in Rural Areas	1.114 (0.805 - 1.543)	1.311 (0.890 - 1.930)	0.815*** (0.746 - 0.891)	0.834** (0.742 - 0.938)	1.021 (0.771 - 1.352)	0.869 (0.634 - 1.191)
Secondary Education, Alcoholic in Urban Areas	4.879*** (3.358 - 7.089)	4.281*** (2.885 - 6.354)	3.525*** (3.115 - 3.989)	2.735*** (2.370 - 3.156)	5.655*** (3.571 - 8.957)	4.610*** (2.875 - 7.393)
Secondary Education, Alcoholic in Rural Areas	5.785*** (4.192 - 7.984)	6.560*** (4.450 - 9.669)	4.219*** (3.740 - 4.758)	2.179*** (1.871 - 2.537)	3.986*** (2.890 - 5.497)	2.628*** (1.848 - 3.737)
Higher Education, Non-Alcoholic in Urban Areas	1.232 (0.852 - 1.782)	1.244 (0.845 - 1.832)	1.005 (0.871 - 1.160)	0.836* (0.714 - 0.980)	1.068 (0.752 - 1.518)	1.193 (0.832 - 1.710)
Higher Education, Non-Alcoholic in Rural Areas	0.79 (0.539 - 1.157)	1.024 (0.662 - 1.584)	1.065 (0.886 - 1.280)	0.822 (0.669 - 1.010)	1.01 (0.739 - 1.380)	0.901 (0.643 - 1.262)
Higher Education, Alcoholic in Urban Areas	4.329*** (3.032 - 6.182)	3.964*** (2.724 - 5.768)	3.092*** (2.483 - 3.851)	2.506*** (1.964 - 3.197)	3.609*** (2.276 - 5.722)	3.169*** (1.969 - 5.101)
Higher Education, Alcoholic in Rural Areas	5.107*** (3.574 - 7.296)	5.871*** (3.865 - 8.917)	2.775*** (2.112 - 3.647)	1.478* (1.085 - 2.014)	3.022*** (2.045 - 4.464)	2.111*** (1.399 - 3.186)
Constant	0.175*** (0.131 - 0.233)	0.0337*** (0.0210 - 0.0539)	0.263*** (0.244 - 0.283)	0.379*** (0.312 - 0.459)	0.230*** (0.179 - 0.297)	0.133*** (0.0867 - 0.205)
Observation	**4,816**	**4,807**	**21,963**	**20,698**	**4,380**	**4,365**

*ciEform in parentheses; *** p<0.001, ** p<0.01, * p<0.05*

[32] Referent category: Women whose husband has No education, does not drink alcohol and resides in urban centers (Referent category)

[33] However, when we treated *education* as a dichotomous variable – low and high education, the relationship became significant in Kyrgyzstan. However, the reliability of such categorization could face challenges in practice.

[34] A separate background check intended to understand the independent relationship between type of place of residence reveals that women whose husband reside in rural areas of Kyrgyzstan were more likely both to justify IPV as accepted and to also perpetrate it (Kyrgyzstan – OR 1.4, CI 1.3-1.9, *p*-value < 0.05)

One striking detail seen in Table 7 is that in all the countries that are the focus of this study there is hardly any relationship that is statistically significant[35] between non-alcoholic men who have a higher education, whether they reside in urban or rural areas, to that of men who have only a secondary education, are equally non-alcoholic and reside in urban areas. It is also important to note that the most significant difference between men in Kyrgyzstan and Tajikistan is manifested in their use of alcohol. Husbands who do not drink alcohol are not statistically different from their counterparts (See and compare Tables 5 and 7).

Of the categories of husbands, seen in Table 7, only in Nigeria amongst men who have secondary education, do not drink alcohol, and reside in rural areas are they significantly less likely to perpetrate IPV compared to their counterparts in urban areas (Referent category).

Summary and Discussion of Findings

This study investigates the complex relative and net effects of the nexus between a husband's highest educational attainment, alcohol consumption, and living environment on the likelihood of perpetrating violence against an intimate female partner with the purpose of addressing policy recommendations. Although the topic that is investigated is not new, the interactions in the current study are very rare in a modern study of domestic or intimate partner violence. Our findings, consistent with some of the findings from previous studies (see Yoshikawa et.al, 2014; Abramsky et. al, 2011; WHO, 2006; Leonard, 2005; Cunradi, Caetano, Clark, & Schafer, 1999), reveal that alcohol consumption has a strong correlation to male to female intimate partner violence. In Nigeria, increased levels of education among men attenuates the likelihood of IPV perpetration, to a small degree, but the relationship is not linear. From the study, men who have only a primary education and a tendency to drink alcohol[36] were the most likely to perpetrate IPV against their female partners when compared with all other categories. But when alcoholic men attained a secondary education, the likelihood is reduced. This is somewhat consistent with findings in Abramsky et. al (2011) where attaining secondary education was associated with a lower likelihood of IPV across some of the study sites (Abramsky et. al, 2011, p.4). Attaining education beyond the secondary education level by alcoholic men further reduces the likelihood of IPV perpetration despite the use of alcohol. This relationship is consistent even after taking into account other variables such as household wealth index (measuring poverty), age, and geographic region of a given resident.

In Kyrgyzstan and Tajikistan, there is no strong statistically significant relationship between increased or decreased levels of education if men do not drink alcohol.[37] In all, men of the study who drank alcohol were more likely to perpetrate IPV against their female partners. Although the relationship between alcohol consumption and IPV against women has been contested (Klostermann & Fals-Stewart, 2006), alcohol use has been directly linked to weakened "cognitive and physical function" making negotiations in stressed situations almost impossible (WHO, 2018, p.2). This tends to suggest the suspension not only of cognition and an inability to understand various perspectives of an issue but faulty assessment irrespective of levels of educational attainment. In Kyrgyzstan and Tajikistan, absence of alcohol consumption did have some bearing on the incidents of IPV perpetration

[35] Except in Nigeria, if we do not control for other variables.

[36] According to the [Nigeria] National Policy on Education, Primary education is "the education given in institutions for children aged 6 to 11 plus" (NPE, 2006). It lasts for 6 years from classes 1 to 6.

[37] This should be taken with caution and could be as a result of coding categories we employed. Different models could yield differing outputs.

against women (see Table 4). This notwithstanding, findings by Kantor and Straus (1987) suggest that the relationship between alcohol use and violence against women are also cumbered by a variety of other social problems (Kantor and Straus, 1987, p.1). Some of these include encouraging misogynist attitudes and violence against women amongst men who were blue collar employees.

In this study there were inconsistent findings when compared across sites. In rural areas of Nigeria, non-alcoholic men who had a secondary education were clearly found to be less likely to perpetrate IPV against their female partners when compared to their counterparts in urban areas. None of the categories yielded any significant correlations in Kyrgyzstan and Tajikistan when the men were found to not drink alcohol, suggesting a large association between alcohol consumption and IPV perpetration in all countries. At secondary school levels, Kyrgyzs men who drank alcohol in urban areas were found to be less likely to commit IPV when compared to their counterparts in rural areas. The reverse was the case in Nigeria and Tajikistan. Consistently, at higher educational levels, this same relationship is observed. Whereas alcoholic men of Kyrgyzstan living in urban areas were less likely to perpetrate IPV against their female partners, alcoholic men in urban areas of Nigeria and Tajikistan were more likely to perpetrate IPV against their female partners. The inconsistencies in the relationships suggest the effects of differences across socio-cultural settings as well as the complexity of the IPV phenomenon.

Important studies have been made to understand these extra variables that could influence the likelihood of IPV. Tranchant & Müller (2017) identified certain urban as well as rural factors that could either heighten or mitigate the likelihood of instances of IPV in urban and rural centers.

Conclusions and Recommendation

The findings in this study are a conclusion that IPV likelihood is directly related to a husband's highest educational attainment, alcohol consumption behavior, and the environment that he resides in. There are variations across national lines and socio-cultural backgrounds; but the one thing that is categorical is that alcohol consumption among men is consistently associated with higher likelihood of perpetrating IPV against a female partner. In Nigeria, having only a primary education and being an alcoholic is a combination of factors that pose the greatest risk of IPV perpetration, especially in urban areas. In all, having a husband who has higher levels of education is not a guarantee of a reduced likelihood of IPV, although in combination with other main factors it does have bearing on its occurrence; and although these factors are culpable, this does not exclude lesser variables from having bearing on the choice and culpability of perpetrating IPV.

Thus, it is recommended that an active public policy be enacted that decries the abusive consumption of alcohol in both rural and urban spheres. It is suggested that there be an increase in both governmental and non-governmental campaigns fostering the elimination of IPV, domestic violence, and all forms of violence against women in Africa and Central Asia.

Limitations of the Study

There are five main shortcomings that exist in the current study. First, it is difficult to know the frequency of alcohol consumption of each man who contributed to this study, so the occasional social drinker might be less inclined to commit IPV than a heavy drinker. Frequency of consumption (*never, rarely, sometime, often*, etc.) is also combined with the degree

of the alcohol consumption (*heavy drinking, moderate drinking, light drinking, none*, etc). Secondly, it is quite difficult to get studies involving such interactions assessed through comparative analysis. Thus, further studies oriented at understanding and explicating the nexus of alcohol consumption levels, highest educational attainment, and type of place of residence, among other variables, are needed to present a fuller account of IPV in households and intimate relationships. The third main shortcoming is that the study could be said to be one-sided, accounting only for husbands, thus, male to female partner violence, without explicating the behavior of females on the males that possibly could have influenced such reactions or in addressing violent incidents that females occasionally perpetrate on males. Studies involving both sides of the relationship, such as the one done byAbramsky et. al (2011) are needed. Again, due largely to data limitations, this study does not claim causality, but associations through cross-sectional data. Finally, attempting to compare findings through independent studies and surveys of the three different countries of Nigeria, Kyrgyzstan and Tajikistan, using DHS domestic violence data could suffer inherent challenges as sometimes terms used across DHS surveys might have been tailored to reflect local needs and were not standardized across all the respective countries, thus weakening the strength of the comparative attempts. These notwithstanding, the study provides novel and heuristic insights that complement previous intimate partner violence research, and provides a basis for further investigations.

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References

Ackerson, L. K., Kawachi, I., Barbeau, E. M. & Subramanian, S. V. (2008). Effects of individual and proximate educational context on intimate partner violence: A population-based study of women in India. *American Journal of Public Health*, *98*(3), 507-514.

Antai, D. (2011). Controlling behavior, power relations within intimate relationships and intimate partner physical and sexual violence against women in Nigeria. *BMC public health*, *11*(1), 511.

Bellis, M. A., Hughes, K. & Hughes, S. (2006). *Intimate partner violence and alcohol*. Geneva, Switzerland: World Health Organization.

Butchart, A. & Mikton, C. (2014). *Global status report on violence prevention, 2014*.

Cunradi, C. B., Caetano, R., Clark, C. L. & Schafer, J. (1999). Alcohol-related problems and intimate partner violence among White, Black, and Hispanic couples in the US. *Alcoholism: Clinical and Experimental Research*, *23*(9), 1492-1501.

Crum, R. M., Helzer, J. E. & Anthony, J. C. (1993). Level of education and alcohol abuse and dependence in adulthood: a further inquiry. *American Journal of Public Health*, *83*(6), 830-837.

Decker, M. R., Seage III, G. R., Hemenway, D., Raj, A., Saggurti, N., Balaiah, D. & Silverman, J. G. (2009). Intimate Partner Violence Functions as Both a Risk Marker and Risk Factor for Women's HIV Infection: Findings From Indian Husband-Wife Dyads. *JAIDS Journal of Acquired Immune Deficiency Syndromes*, *51*(5), 593-600.

Department of Health (1998). *South Africa Demographic and Health Survey 1998*. Pretoria. Department of Health, Republic of South Africa.

Finneran, C. & Stephenson, R. (2013). Intimate partner violence among men who have sex with men: a systematic review. *Trauma, Violence, & Abuse*, *14*(2), 168-185.

Friedman, W., Kremer, M., Miguel, E. & Thornton, R. (2011). *Education as liberation?, Technical report*. National Bureau of Economic Research.

Gilman, S. E., Breslau, J., Conron, K. J., Koenen, K. C., Subramanian, S. V. & Zaslavsky, A. M. (2008). Education and race-ethnicity differences in the lifetime risk of alcohol dependence. *Journal of Epidemiology & Community Health*, *62*(3), 224-230.

Hajian, S., Vakilian, K., Najm-abadi, K. M., Hajian, P. & Jalalian, M. (2014). Violence against women by their intimate partners in Shahroud in northeastern region of Iran. *Global journal of health science*, *6*(3), 117.

Hui, T. K. & Wan, D. (2007). Factors affecting Internet shopping behaviour in Singapore: gender and educational issues. *International Journal of Consumer Studies*, *31*(3), 310-316.

Jejeebhoy, S. J. (1995). Women's education, autonomy, and reproductive behaviour: Experience from developing countries. *OUP Catalogue*.

Kantor, G. K. & Straus, M. A. (1987). The "drunken bum" theory of wife beating. *Social Problems*, *34*(3), 213-230.

Klostermann, K. C. & Fals-Stewart, W. (2006). Intimate partner violence and alcohol use: Exploring the role of drinking in partner violence and its implications for intervention. *Aggression and Violent Behavior*, *11*(6), 587-597.

Kyriacou, D. N., Anglin, D., Taliaferro, E., Stone, S., Tubb, T., Linden, J. A., ... & Kraus, J. F. (1999). Risk Factors for Injury to Women from Domestic Violence. *New England Journal of Medicine*, *341*(25), 1892-1898.

Lanier, C. & Maume, M. O. (2009). Intimate partner violence and social isolation across the rural/urban divide. *Violence Against Women*, *15*(11), 1311-1330.

Leonard, K. E. (2005). Alcohol and intimate partner violence: when can we say that heavy drinking is a contributing cause of violence?. *Addiction*, *100*(4), 422-425.

National Statistical Committee of the Kyrgyz Republic (NSC), Ministry of Health [Kyrgyz Republic], and ICF International (2013). *Kyrgyz Republic Demographic and Health Survey 2012*. Bishkek, Kyrgyz Republic, and Calverton, Maryland, USA: NSC, MOH, and ICF International.

National Population Commission (NPC) [Nigeria] and ICF Macro (2009). *Nigeria Demographic and Health Survey 2008*. Abuja, Nigeria: National Population Commission and ICF Macro.

Ola, B. E. (2017). *Inter-regional comparison of intimate partner violence (IPV) prevalence and its relative risk factors among women in Nigeria*. Conference paper report at the 9th Valentey Memorial Conference "Demography and population studies in universities" Lomonosov Moscow State University Conference. Moscow.

Pierotti, R. S. (2013). Increasing rejection of intimate partner violence: Evidence of global cultural diffusion. *American Sociological Review*, *78*(2), 240-265.

Statistical Agency under the President of the Republic of Tajikistan (SA), Ministry of Health [Tajikistan], and ICF International (2013). *Tajikistan Demographic and Health Survey 2012*. Dushanbe, Tajikistan, and Calverton, Maryland, USA: SA, MOH, and ICF International.

Strauss, M.A. 1990. *Measuring intra-family conflict and violence: the conflict tactics scale. In physical violence in american families: risk factors and adaptation to violence in 8,145 families.* New Brunswick, New Jersey: Transaction Publications.

Testa, M., Audrey Kubiak, M. A., Quigley, B. M., Houston, R. J., Derrick, J. L., Levitt, A., ... & Leonard, K. E. (2012). Husband and wife alcohol use as independent or interactive predictors of intimate partner violence. *Journal of Studies on Alcohol and Drugs*, *73*(2), 268.

Temple, J. R., Weston, R., Stuart, G. L. & Marshall, L. L. (2008). The longitudinal association between alcohol use and intimate partner violence among ethnically diverse community women. *Addictive Behaviors*, *9*(33), 1244-1248.

Tranchant, J. & Müller, C. (2017). *Gendered experience of interpersonal violence in urban and rural spaces: the case of ghana*. Institute of Development Studies. MPRA Munich Personal RePEc Archive.

United Nations Population Fund (UNFPA) (2015). *Combatting violence against women and girls in Eastern Europe and Central Asia. An Issue brief 6, 2015*. UNFPA Regional Office for Eastern Europe and Central Asia.

World Health Organization (WHO) (2001). *Putting women first: ethical and safety recommendations for research on domestic violence against women*. Geneva, Switzerland: World Health Organization, Department of Gender and Women's Health

World Health Organization (2012). *Understanding and addressing violence against women*. Retrieved from http://apps.who.int/iris/bitstream/handle/10665/77432/WHO_RHR_12.36_eng.pdf;jsessionid=FE0466124D4606DD33CACB15E26418B8?sequence=1

World Health Organization. (2013). *Prevalence & health effects of intimate partner violence and non-partner sexual violence.* Italy: WHO publication.

World Health Organization (2018). *Intimate Partner Violence and Alcohol Fact Sheet*. Retrieved from http://www.who.int/violence_injury_prevention/violence/world_report/factsheets/ft_intimate.pdf

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

Appendix

Models One:

For Nigeria:

Model 1: $\ln (P/1-P) = \beta_0 + \beta_{1.\text{No Education \# Yes Alcohol}} + \beta_{2.\text{Primary\#No\_Alcohol}} + \beta_{3.\text{Primary\#Yes\_Alcohol}} + \beta_{4.\text{Secondary\#No\_Alcohol}} + \beta_{5.\text{Secondary \#Yes Alcohol}} + \beta_{6.\text{Higher education \# No Alcohol}} + \beta_{7.\text{Higher \#Yes Alcohol}} + \text{Error term}$

****Note: Model 1 Referent Category: Men who have "No formal education" and who "do not drink alcohol".*

Model Two:

For Nigeria, Kyrgyzstan & Tajikistan:

Model 2: $\ln (P/1-P) = \beta_0 + \beta_{1.\text{Pre-Secondary Education \#Yes Alcohol}} + \beta_{2.\text{Secondary\#No\_Alcohol}} + \beta_{3.\text{Secondary \#Yes Alcohol}} \beta_{4.\text{Higher education \# No Alcohol}} + \beta_{5.\text{Higher \#Yes Alcohol}} + \text{Error term}$

****Note: Model 2 Referent category: Men who have "Only Pre-Secondary education" and who "do not drink alcohol".*

[For Kyrgyzstan, Nigeria and Tajikistan – Education category adjusted]

Models Three:

For Nigeria:

Model 3: $\ln(P/1-P) = \beta_0 + \beta_{1.\text{No Education \#No Alcohol \#Rural}} + \beta_{2.\text{No Education \#Yes Alcohol \#Urban}} + \beta_{3.\text{No Education \#Yes Alcohol \#Rural}} + \beta_{4.\text{ Primary \#No Alcohol \#Urban}} + \beta_{5.\text{ Primary \#No Alcohol \#Rural}} + \beta_{6.\text{ Primary \#Yes Alcohol \#Urban}} \beta_{7.\text{ Primary \#Yes Alcohol \#Urban}} + \beta_{8.\text{ Secondary \#No Alcohol \#Urban}} + \beta_{9.\text{ Secondary \#No Alcohol \#Rural}} + \beta_{10.\text{ Secondary \#Yes Alcohol \#Urban}} + \beta_{11.\text{ Secondary \#Yes Alcohol \#Urban}} + \beta_{12.\text{ Higher \#No Alcohol \#Urban}} + \beta_{13.\text{ Higher \#No Alcohol \#Rural}} + \beta_{14.\text{ Higher \#Yes Alcohol \#Urban}} + \beta_{15.\text{ Higher \#Yes Alcohol \#Rural}} + \text{Error term}$

****Note: Model 3 Referent Category: Men who have "No formal education, do not drink alcohol and reside in urban areas".*

Models Four

For Nigeria, Kyrgyzstan & Tajikistan:

Model 4: $\ln(P/1-P) = \beta_0 + \beta_{1.\text{Pre-Secondary Education \#No Alcohol \#Rural}} + \beta_{2.\text{ Pre-Secondary Education \#Yes Alcohol \#Urban}} + \beta_{3.\text{ Pre-Secondary Education \#Yes Alcohol \#Rural}} + \beta_{4.\text{ Secondary \#No Alcohol \#Urban}} + \beta_{5.\text{ Secondary}}$

#No Alcohol #Rural + $\beta_{6.}$ Secondary #Yes Alcohol #Urban + $\beta_{7.}$ Secondary #Yes Alcohol #Urban + $\beta_{8.}$ Higher #No Alcohol #Urban + $\beta_{9.}$ Higher #No Alcohol #Rural + $\beta_{10.}$ Higher #Yes Alcohol #Urban + $\beta_{11.}$ Higher #Yes Alcohol #Rural + Error term

****Note: Model 4 Referent Category: Men who have only "Pre-secondary education, do not drink alcohol and reside in urban areas".*