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Women's Decision-Making Autonomy and Experience of Intimate Partner Violence in sub-Saharan Africa
The Role of Partner's Educational Attainment

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Résumé

Les études sur l'autonomie de la femme et la violence conjugale mettent souvent l'accent sur l'éducation de la femme et ses autres caractéristiques individuelles comme facteurs déterminants. Cette étude explore les effets de l'éducation du conjoint sur la prise de décisions des femmes et l'expérience de la violence physique. Les données individuelles provenant de six Enquêtes démographiques et de santé (EDS) sont analysées en utilisant les régressions multivariées. Les pays sont le Kenya, le Mali, le Nigéria, l'Ouganda, le Rwanda et la Tanzanie. En général, l'éducation de la femme semble être plus importante pour prédire les niveaux de l'autonomie décisionnelle plus élevées. Cependant, l'éducation primaire du conjoint était associée avec un risque significatif et élevé de participer à plus décisions au Nigéria. Au Kenya, l'éducation primaire et secondaire du conjoint sont associées avec un risque significatif et élevé de participer à moins de décisions. Par rapport à la violence physique, l'éducation primaire du conjoint est associée avec plus de chance de subir de la violence au Nigéria alors qu'au Kenya, l'éducation du conjoint est associée avec moins de chance de subir de la violence physique. Cependant, l'éducation supérieure de la femme était la plus protective contre la violence physique au Kenya. Finalement, en considérant l'interaction entre l'éducation du conjoint et l'éducation de la femme, cette étude a montré que l'éducation supérieure du conjoint a des effets de substitution ainsi que des effets multiplicatifs dans la prise de décisions des femmes. Globalement, les femmes dont le partenaire a l'éducation supérieure sont plus susceptibles de participer à toutes les décisions peu importe leur propre niveau d'éducation (effet de substitution); les femmes qui vivent avec un partenaire de niveau d'éducation supérieure sont plus susceptibles de participer à toutes les décisions si elles sont elles-mêmes de niveau d'éducation supérieure (effet multiplicatif). En outre, l'interaction nous a montré que l'éducation de la femme pourrait être plus protective contre la violence conjugale, surtout l'éducation supérieure, dans les six pays étudiés. Cette étude souligne l'importance de l'éducation du conjoint dans les études sur l'autonomie des femmes et la violence conjugale.

Mots-clés : Autonomie des femmes, Violence conjugale, Afrique sub-Saharienne, Éducation du conjoint, Éducation de la femme, Enquête démographique et de santé

Abstract

Studies on women's autonomy and experience of intimate partner violence (IPV) often focus on the effects of women's own education and other individual characteristics. This study goes beyond by considering the effects of partner's educational attainment. It used individual data from recent Demographic and Health Surveys in six countries in Sub-Saharan Africa (Kenya, Mali, Nigeria, Rwanda, Tanzania and Uganda). Using multivariate regression analysis, this study shows generally that partner's education has a significant positive effect on women's decision-making. For instance, we found that in Nigeria, even a partner's primary education was associated with a significantly higher risk of women participating in more decisions (compared to partner's having no education). However, in Kenya, partner's primary and secondary education were associated with a higher risk of participating in fewer decisions (in 1-2 decisions vs. all three decisions). In relation to intimate partner physical violence, partner's education level also shows different results. Partner's education at all levels was associated with a significant lower risk of physical violence in Kenya. While in Nigeria, partner's secondary education was associated with a significant higher risk of physical violence. In general, women's own educational attainment appeared to be more significant in predicting higher levels of decision-making autonomy and was the most protective against physical violence in Kenya. These first results, while interesting prevent us from drawing a general picture of the effect of education in this context. Finally, interacting the partner's educational attainment with women's own educational attainment shows that partner's higher education had both multiplicative and substitution effects for women's decision-making autonomy. Overall, women whose partners have higher education were more likely to participate in more decisions regardless of their own educational attainment (substitution effect). Women in couples where both partners have higher education were most likely to participate in more decisions (multiplicative effect). In the case of violence, a more educated partner with a low educated woman was associated with the experience of physical violence, while higher education among women was associated with less violence. The general picture of this study illustrates that women whose partners are highly educated have higher participation in household decision-making but may be subject to violence if her own educational attainment is lower than that of her partner. This study highlights the necessity to challenge the norms surrounding women's participation (in the family and

community) and the need for more advocacy for the inclusion of men in public policy related to women's empowerment.

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Abbreviations

DHS: Demographic and Health Survey

ICPD: International Conference on Population and Development

IPV: Intimate partner violence

OECD: Organisation for Economic Co-Operation and Development

OR: Odds ratio

RR: Risk ratio

SIGI: Social Institutions and Gender Index

UN: United Nations

UNDP: United Nations Development Program

UNFPA: United Nations Population Fund

WHO: World Health Organization

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Introduction

At the 1994 International Conference on Population and Development (ICPD) in Cairo, women's rights, autonomy and gender equality were placed on the international agenda for the first time (Cohen and Richards 1994). The ICPD Programme of Action contained an entire chapter devoted to women's rights and equality, which also included male responsibility and participation to promote gender equality in all spheres of life (Cohen and Richards 1994).[1] During the past few decades, an emphasis has thus been placed on empowering women as a means to attain the United Nation's development goals (first the Millennium Development Goals and, more recently, the Sustainable Development Goals), especially those pertaining to gender equality and economic development.

Although variations in the definition of autonomy exist, it is most often associated with status, power and ability. Hindin (2000) describes autonomy as: *"the ability – technical, social and psychological – to obtain information and use it as the basis for making decisions about one's private concerns and those of one's intimates"* (Hindin 2000, p. 257).[2] Furthermore, she describes that in this sense equal autonomy indicates equal decision-making power and ability in relation to personal matters (Hindin 2000). This definition will be used in the current study as autonomy will be measured by a woman's ability, or lack thereof, to participate in household decisions pertaining to her own healthcare, major household purchases and her freedom of movement.

As women's empowerment and increased autonomy have been considered as a means to promote economic growth and social development, intimate partner violence (IPV) has been acknowledged as an obstacle in this process (UN Women 1995) as well as one of the most pervasive human rights violations in all societies (Diallo and Voia 2016). The World Health Organization uses the following definition: *"intimate partner violence refers to behaviour by an intimate partner or ex-partner that causes physical, sexual or psychological harm, including physical aggression, sexual coercion, psychological abuse and controlling behaviours"* (WHO

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[1] To find more information about the specific components discussed during the 1994 ICPD in Cairo, see works by Susan A. Cohen and Cory L. Richards (1994) and The UNFPA's Programme of Action adopted at the ICPD in Cairo in 1994: https://www.unfpa.org/sites/default/files/event-pdf/PoA_en.pdf

[2] Hindin (2000) develops this definition based on works of Mason (1987), Dyson and Moore (1983) and Costantina Salfilos-Rothschild (1982)

2017). Intimate partner violence is the most common form of gender-based violence, and a third (30%) of women worldwide ever in union report having suffered some form of violence perpetrated by their intimate partner (WHO 2017). This form of violence has become a serious public health concern as it carries severe consequences to the physical, mental, sexual and reproductive health of the victims (Bowman 2003; Johnson and Das 2009; Kimuna and Djamba 2008). It was during the 1995 Fourth World Conference on Women in Beijing that strategic objectives were included to eradicate violence against women (UN Women 1995). It became recognized as a hindrance to the achievement of objectives related to gender equality, development and peace, as well as a violation of a woman's rights and freedoms (UN Women 1995).

In light of these considerations, it is crucial that we continue to study the implications of women's autonomy and IPV in order to better understand these phenomena and to better develop policies and programs that advance gender equality in all spheres of life. For this reason, the current study aims to analyze the effect of partner's educational attainment on women's decision-making autonomy and experience of violence within the household in six countries in sub-Saharan Africa. The analysis treats decision-making autonomy and experience of intimate partner violence as separate dependant variables.

Partner's characteristics are often overlooked as a variable contributing to women's health and autonomy. However, partner's characteristics have been proven to be significantly related to family planning and fertility. In Zimbabwe, it was found that husband's education level was associated with an increased likelihood of having open discussions with their wives about family planning and the number of desired children (Hindin 2000). It was also found to have a stronger association with the use of modern contraception than women's own education (Hindin 2000). Similar findings have been demonstrated in other parts of sub-Saharan Africa and Asia where partner's secondary education and above was associated with higher modern contraception use, more antenatal care visits and a higher probability of giving birth in the presence of a healthcare professional (Adjiwanou, Bougma and LeGrand 2018). Less is known about how partner's education is associated with a woman's decision-making autonomy and more research is needed in this domain.

Since partners are commonly the perpetrators of violence it is important to better understand how their characteristics are associated with this phenomenon. Existing research in

sub-Saharan Africa and Asia has shown that partner's education level has a strong relation with the experience of intimate partner violence. In other words, as partners education increases the experience of violence decreases (Diallo and Voia 2016; Ghimire, Axinn and Smith-Greenaway 2015; Kimuna and Djamba 2008; Koenig et al 2003; Pandey 2016). However, the interplay between partner's education and both women's autonomy and experience of IPV in relation to women's own educational attainment is understudied.

A partner's education level may affect a woman's autonomy and her experience of violence in two ways. First, a man with more education may support gender egalitarian norms and therefore accept and encourage his partner's autonomy and reject the use of violence to solve issues within the marriage. As a result, higher levels of partner's education lead to higher levels of female autonomy and lower levels of violence (Adjiwanou and N'Bouke 2015). Second, the opposite may occur, where a man with more education may be more inclined to retain the superior position in the household, thus putting his wife in a subordinate role (Adjiwanou and N'Bouke 2015; Heaton, Huntsman and Flake 2005). This could also lead to lower levels of violence if the woman accepts the subordinate role or could lead to higher levels of violence where the woman refuses this role and assumes autonomy (Adjiwanou and N'Bouke 2015). Both conditions have been found in relation to partner's education level and their support or rejection of gender equality and use of violence. In Ghana, men's education, especially higher education, was associated with a decrease in supporting abuse ideologies (Manna and Takyi 2009). Similar results were found in Kenya where men with no education had a higher tolerance of wife abuse than those with more education (Lawoko 2008). In contrast, low education among men in Zambia was associated with a lower tolerance of wife beating in comparison to men having more education (Lawoko 2008). Furthermore, Lawoko (2008) found that men who supported shared decision-making autonomy in the household were less likely to approve of intimate partner violence than men who preferred total male authority in Kenya. However, this was not the case among Zambian men (Lawoko 2008). Education has the power to break down patriarchal norms and the associated gender roles or to reinforce them. Since this is a context specific issue, more research is needed on the role of partners education in women's autonomy and experience of intimate partner violence.

The current thesis is organized in six separate chapters. The first chapter contains the literature review, which will discuss four themes. First, the link between women's autonomy

and intimate partner violence in low income countries, followed by the existing gender norms, women's status and IPV in sub-Saharan Africa. Third, current knowledge of partner's influences on autonomy and IPV will be discussed, followed by women's individual characteristics that are related to their decision-making autonomy and experience of IPV within the household. The chapter will conclude with a discussion of the limits of previous studies. The second chapter presents the conceptual frameworks and research hypotheses of the study. This is followed by the third chapter, which contains the study's context, where I will present the six sub-Saharan African countries considered: Kenya, Mali, Nigeria, Rwanda, Tanzania and Uganda. The fourth chapter will present the data sources, the population of interest as well as the variables and statistical multivariate methods being used. Chapter five will present the results of the study, beginning with the descriptive portraits of the populations under study, followed by the results of the bivariate and multivariate analyses. The final chapter will summarize and put the results in perspective through a discussion.

Chapter 1: Literature Review

1.1 Link between women's autonomy and intimate partner violence in low income countries

Cultural beliefs and traditions often promote patriarchal structures in both public and private spheres in sub-Saharan Africa (McCloskey et al. 2016). This has resulted in many African nations having very high levels of gender inequality present within all platforms of society. The United Nations gender inequality index (GII), which includes data on reproductive health, employment and empowerment, places 27 African countries among the 30 most unequal countries worldwide (McCloskey et al. 2016; United Nations Development Programme, 2013). The prevalence of intimate partner violence is also very high in sub-Saharan Africa with a third (36%) of African women ever suffering violence from an intimate partner (McCloskey et al. 2016). This exceeds the world average of 30% which ranks many African countries as having the highest prevalence of intimate partner violence globally (McCloskey et al. 2016).

The literature devoted to this subject has also stressed the low levels of autonomy that women hold and the high frequency of intimate partner violence that they experience in low income countries. It is often emphasized that the occurrence of violence against women in the family is an indicator of her status within the household (Donta et al. 2016). This is because violence hinders a woman's rights as well as her freedom and disempowers her, diminishing any chance of gaining equality within the relationship or autonomy within the household (Donta et al. 2016). A study conducted in Bangladesh found that nearly one in every four married women had experienced both physical and/or sexual violence during the twelve months preceding the survey (Rahman, Hoque and Makinoda 2011). Similarly, a study in Nepal had found that 28% of married women reported enduring physical or sexual violence from their spouse (Pandey 2016). Furthermore, it was found that 21% of married women had experienced violence from their spouse in a slum community in Mumbai, India (Donta et al 2016). Studies in sub-Saharan Africa have also reported a high prevalence of intimate partner violence and relatively low levels of autonomy. For instance, more than one third of married women in Kenya

have experienced physical violence and one in ten have experienced sexual violence by their husbands (Kimuna and Djamba 2008).

In terms of the associations between autonomy and violence, it is found that economic autonomy in the form of employment was protective against violence in Uganda (Kwagala et al. 2013). In their study, Donta et al. (2016) found that women with low autonomy (as measured by their participation in household decisions) were more likely to experience violence than those who had higher levels of autonomy in a slum community in Mumbai, India. Similar findings were also reported in Jordan and Bangladesh, where women were more likely to report violence if their husbands had final say in household decisions (Akilova and Marti 2014; Rahman, Hoque and Makinoda 2011).

Although greater autonomy has often been regarded as a means to decrease the experience of violence within the household, there have been many cases in which the opposite effect was supported. This has especially been the case when the focus has been put on a woman's financial autonomy often measured by her working status. For example, women who were working in Bangladesh, India and Burkina Faso were all more likely to experience at least one form of intimate partner violence than those who were unemployed (Dalal 2011; Rahman, Hoque and Makinoda 2011; Wayak Pambè et al 2014). This negative association was also found in relation to participation in household decision-making in Bangladesh, meaning women who participated in more household decisions were also more likely to experience abuse (Koenig et al. 2003; Rahman, Hoque and Makinoda 2011). A study in Nepal found no significant correlation between women's autonomy in household decisions and their experience of intimate partner violence (Pandey 2016). Due to this intricate relationship between autonomy and violence, it is important to explore the factors that affect them together, especially, men's education.

1.2 Gender norms, women's status and intimate partner violence in sub-Saharan Africa

Low women's status and the prevalence of intimate partner violence has been in part explained by the prevailing patriarchal gender norms that exist in many sub-Saharan African societies. The presence of these gender norms often equate masculinity with power and

dominance in both public and private spheres (Moore 1994). In the private sphere and, more specifically the household or marriage, is where women are often considered to occupy lower positions (Bowman 2003). The use of violence against women in a relationship is often regarded as an accepted form of expression of male dominance and control within the household (Bowman 2003; Diallo and Voia 2016; Kimuna and Djamba 2008). This acceptance of male dominance and violence has also been found to be common among women because of socio-cultural traditions that preserve their inferior positions (Diallo and Voia 2016). An example of this was found in a study of 17 sub-Saharan African countries by Uthman, Lawoko and Moradi (2010), who found that women were more likely to justify violence against women than men in most of the countries studied. Furthermore, women living in regions where gender inequality is high and where violence against women is widely accepted may also be more likely to experience lower levels of autonomy. For example, in their study of four countries in sub-Saharan Africa, Adjiwanou and LeGrand (2015) found that women living in areas where violence against women was widely accepted were more likely to have low decision-making autonomy than those living in areas with less acceptance of violence.

In some African societies, a shift has begun that is moving away from the traditional patriarchal society, which is generating numerous social changes and new cultural values including those related to gender norms and relations (Kaye et al. 2005). These changes include women becoming more autonomous and independent as they attend school and seek paid employment outside of the household (Kaye et al. 2005). Furthermore, these changes also translate into the household as women gain better knowledge about their resources, opportunities and abilities to negotiate with their husband or partner. However, it is in this context, where women are starting to transgress their conservative gender roles that may put them at higher risk of experiencing violence (Jewkes 2002). This transgression is often considered as unacceptable because it is believed that women are not supposed to be in superior positions or have equal or higher status than men (Mogale, Burns and Richter 2012). This may cause a man to question his identity and feel as if his power has been threatened, which he may resolve with the use of violence to re-establish his power within the relationship (Jewkes 2002). A comparative study of men from Kenya and Zambia observed this point when they found that the most common reasons for justifying violence in the two countries were associated with

issues of challenging a husband's authority and women's transgression from normative domestic roles (Lawoko 2008).

1.3 Effects of partner's education on women's autonomy and experience of intimate partner violence

The variable of partner's education in studies on women's decision-making autonomy and experience of intimate partner violence is often ignored. This is especially true when considering its associations with female autonomy in the household. Many more studies have included this as a control variable while studying intimate partner violence.

In general, partner's educational attainment has been found to have a negative association with women's experience of violence, often defined as physical and/or sexual abuse. Men having no education was found to be positively associated with the experience of violence as reported by women in most of the 16 countries studied in sub-Saharan Africa by Diallo and Voia (2016). A similar result was also found in Bangladesh where men having no education or primary education were more likely to report using violence against their wives or partners than those having secondary or higher levels (Johnson and Das 2009). In Ghana, it was reported that women whose husbands had higher education were less likely to experience all forms of intimate partner violence (physical and sexual) (Owusu Adjah and Agbemafle 2016) whereas in Nepal, only husband's secondary education served as a protective factor against physical violence (Pandey 2016). In Kenya, women whose husbands had no education were more likely to suffer from sexual abuse (Kimuna and Djamba 2008).

Partner's education has also shown patterns with attitudes towards the use of violence against women in some countries. In their study of Ghana, Mann and Takyi (2009) found that higher education in particular was associated with reduced acceptance of abuse supporting ideologies. This was also found in Kenya, where men having no education were more tolerant of violence against women (Lawoko 2008). However, in Zambia this relationship was in the opposite direction, where men having no education were less supportive of violence against women (Lawoko 2008). Lawoko (2008) ascribed this discrepancy to the general character and cultural differences as well as the fact that there could be a variation in education structures and curriculum between the countries. This meaning that education may be both a source of

encouragement for abandoning traditional gender roles and promoting female status as well as a source of reinforcement of traditional gender roles and perceptions of masculinity.

Less has been explored pertaining to the role of partner's education and women's decision-making autonomy in the home. A study in Ghana found that education was a major factor that shaped men's and women's attitudes towards gender equality (Mann and Takyi 2009). This was especially significant among men and women having higher education, as it was this group that was the least likely to justify the use of abuse in any situation (Mann and Takyi 2009). Additionally, it was found in Ghana and Kenya that when men expressed that women were equally able to take part in household decisions or make decisions on their own, they were less likely to justify any of the reasons for intimate partner violence (Lawoko 2008; Mann and Takyi 2009). This puts forward the notion that when men perceive their partners as being equal and having autonomy within the household they may also be less likely to believe that violence is a suitable form of expression (Mann and Takyi 2009). However, these associations were not present in Zambia, showing that having or believing in having equal say in household decisions may not be protective against violence in all societies (Lawoko 2008). These attitudes that either support or reject gender equality in a relationship may be influenced by education.

1.4 Other factors associated with women's decision-making autonomy and experience of intimate partner violence

Most of the literature has analyzed the associations between women's individual characteristics and their autonomy and experience of intimate partner violence within the household. The most commonly used variables are age, educational attainment, marital status, employment status, rural or urban residence, household economic status, number of children ever born and religion.

A women's age has been found to have significant associations with her autonomy and experience of intimate partner violence. In a slum community in the city of Mumbai in India, younger women were less likely to participate in household decisions and were more restricted in terms of their freedom of movement (Donta et al. 2016). A similar finding was reported in Burkina Faso where older women were more likely to participate in all decisions, except those

pertaining to their freedom of movement which was also restricted (Wayak Pambè et al. 2014). The relationship between women's age and experience of intimate partner violence was less consistent. Age was found to have a negative relationship with experience of intimate partner violence in Bangladesh, as age increased experience of all forms of violence decreased (Rahman, Hoque and Makinoda 2011). This relationship was also observed in Mexico, where younger women were more likely to experience physical violence than their older counterparts (Castro, Brindis and Casique 2008). Moreover, in Burkina Faso, younger women were more likely to report psychological violence than physical, sexual or emotional violence (Wayak Pambè et al. 2014). However, older women were more likely to say they had experienced sexual or emotional violence than younger women (Wayak Pambè et al. 2014). It is possible that in some societies women gain more authority as they age and therefore the youngest women would be the most disadvantaged in terms of their autonomy (Wayak Pambè et al. 2014).

Higher educational attainment among women has been highlighted as one of the most important factors that both increases women's autonomy in the household and protects women from violence. Women's empowerment is often promoted by education as it enables them to gain the necessary abilities to find and use information and resources that are available to them in a society (Jewkes 2002). Educational attainment among women as well as men has also been linked to improving self-confidence, negotiation skills and wealth status (Jewkes 2002). In general, it is expected that women who have higher levels of education are more likely to derive benefit from higher levels of autonomy in the household. This assumption holds true in Burkina Faso, where women with more education were more likely to participate in all decisions studied (health, household purchases, visits to family and friends) (Wayak Pambè et al. 2014). Similarly, Adjiwanou and LeGrand (2015) found that in Ghana and Kenya women who attained secondary or higher education were more likely to have higher decision-making autonomy within the household. As was the case with women's age, the relationship between educational attainment and intimate partner violence is less clear.

Although education seems to promote women's autonomy in the household it does not necessarily always protect them from experiencing violence. This also serves as a contradiction similar to those I briefly discussed previously between autonomy and intimate partner violence. Higher educational attainment among women served as a protective factor against intimate partner violence in Senegal, Ghana, Benin, Nepal, Bangladesh and Tanzania (Diallo and Voia

2016; Ghimire, Axinn and Smith-Greenaway 2015; Koenig et al. 2003; McCloskey, Williams and Larsen 2005; Pandey 2016). As well as in Kenya, however only completing secondary or higher education was observed as being a protective factor and only against physical abuse (Kimuna and Djamba 2008). Kimuna and Djamba (2008) expressed their feeling of surprise when they observed no significant differences in prevalence of sexual abuse among women with no education and those with secondary or higher. Moreover, educated women in Burkina Faso were more likely to report both physical and emotional abuse (Pambè, Gnoumo/Thiobiano and Kaboré 2014).

Since the relationship between women's educational attainment and their experience of intimate partner violence appears to be inconsistent, further insight may be gained by including partner's characteristics. Specifically, taking into account their education levels and how they may either promote or protect against violence. For example, a study which focused on the association between couples' education levels and intimate partner violence concluded that the lowest prevalence of violence was found in couples where both partners had higher education (Rapp et al. 2012). Accordingly, the highest prevalence of violence was found among couples in which both partners had no or very low levels of education (Rapp et al. 2012). Perhaps, one of the most interesting findings from this study was that a discrepancy in educational attainment between spouses was related to a higher prevalence of intimate partner violence (Rapp et al. 2012). This was irrelevant of gender, meaning couples where the wife or the husband was more educated were more likely to experience violence compared to equally educated couples (Rapp et al. 2012). Educational assortative mating may influence results in certain contexts. Which is defined as the propensity of people to marry someone of similar educational attainment to their own (Borkotoky and Gupta 2016). The interaction between women's and men's educational attainment will be considered in the analysis of the current study. This will allow us to observe how the effects of partner's educational attainment change in relation to the woman's own educational attainment.

Whether couples were officially married, or cohabiting did not seem to have significant associations with autonomy or intimate partner violence in any of the studies. An association was only found in Mexico where cohabiting women were more likely to experience violence than married women (Castro, Brindis and Casique 2008).

Whether a woman is employed or not has shown to have effects on her level of decision-making autonomy within the household. For instance, Adjiwanou and LeGrand (2015) found that in Ghana and Uganda, women who were unemployed were significantly less likely to participate in household decisions than those who were working. Similar results were found in Rwanda, where working women had higher levels of autonomy than non-working women (Musonera and Heshmati 2017). In relation to intimate partner violence a woman who was employed was associated with being more likely to experience violence than those who were unemployed in Bangladesh and India (Dalal 2011; Rahman, Hoque and Makinoda 2011). In contrast, women who were employed in Uganda had lower odds of experiencing physical violence than women who were unemployed (Kwagala et al. 2013).

In general, women residing in rural areas were less likely to participate in household decisions and more likely to experience any form of intimate partner violence than those residing in urban areas (Diallo and Voia 2016; Rahman, Hoque and Makinoda 2011; Wayak Pambè et al. 2014). This may be due to the fact that women residing in urban areas often have more access to educational and employment opportunities than those in rural areas (Heaton, Huntsman and Flake 2005). Urban areas are also more likely to be open to social change and variations in social relationships and roles (Heaton, Huntsman and Flake 2005). In terms of intimate partner violence, the opposite relationship was noted in Ghana, as urban women experienced more violence than those in rural areas (Owusu Adjah and Agbemafle 2016). However, the researchers ascribed this observation to having a lower socioeconomic status as people living in urban areas are likely to live in slum or poor neighbourhoods (Owusu Adjah and Agbemafle 2016). Even though generally poverty and lower socioeconomic status have been associated with higher levels of intimate partner violence (Diallo and Voia 2016; Rahman, Hoque and Makinoda 2011; Jewkes 2002; Kiss et al. 2012; Kwagala et al. 2013), belonging to a higher wealth class does not necessarily grant an exemption (Rahman, Hoque and Makinoda 2011). For instance, the wealthiest women in Burkina Faso were the most likely to experience psychological violence (Wayak Pambè et al. 2014), while women in Nepal were equally likely to experience both physical and sexual abuse irrespective of their wealth status (Pandely 2016). In going with the general consensus, I expect that women living in rural areas and belonging to a lower socioeconomic status will experience less decision-making autonomy and more intimate partner violence.

Overall, parity has illustrated a positive relationship with the experience of intimate partner violence, as the number of children increases the more likely a woman is to suffer from abuse (Diallo and Voia 2016; Kimuna and Djamba 2008; Kwagala et al. 2013). Less is known about the relationship between parity and decision-making autonomy, however in some societies more respect is rendered to women who have children (Musonera and Heshmati 2017). There may also be a contradictory effect as on one hand, women who have larger families may have less time for other activities such as work and school which may decrease her autonomy (Heaton, Huntsman and Flake 2005). While on the other hand, women who have large families will have more people with whom she can share domestic tasks and therefore, will have more time to participate in other activities which may increase her autonomy (Heaton, Huntsman and Flake 2005). However, women who have more children may be at a higher risk of abuse because of divided attention due to childcare and the amount of emotional and economic pressure and conflict that numerous children may bring into the household (Kwagala et al. 2013). I predict this relationship will also be observed in the current study.

Finally, in regard to the main religious ideologies currently observed in much of sub-Saharan Africa, these being Islam, Christianity, Catholicism and Traditional African religions, no general relationships have been cited. However, both Muslim and Christian based religions tend to relegate women to domestic roles associated with reproduction and nurturing, while traditional African religions generally do not impose restrictions on the role of women (Njoh and Akiwumi 2012). Therefore, women are expected to be active in both private and public spheres (Njoh and Akiwumi 2012). In some instances, the Muslim religion has been associated with lower female autonomy and higher prevalence of violence (Koenig et al. 2003; Njoh and Akiwumi 2012), while in others being Christian was associated with higher levels of intimate partner violence than in other religions (Kimuna and Djamba 2008).

1.5 Limits of previous studies

While the existing literature has made considerable contributions to the understanding of the determinants related to women's autonomy and intimate partner violence, it is important to highlight some of the limits. First, there is an inconsistency with the definitions being used to define both the concepts of autonomy as well as intimate partner violence. This inconsistency is also apparent in the variables constructed to measure both of these variables respectively.

Some studies have used women's education level and employment as proxy variables for their level of autonomy (Hindin 2000), although these have been proven to be inadequate measures as working and educated women may be more likely to experience violence (Dalal 2011; Rahman, Hoque and Makinoda 2011; Wayak Pambè et al 2014). Furthermore, it has been advised that both women's educational attainment and employment status should not be used as proxies for autonomy, but rather as some of its determinants (Heaton, Huntsman and Flake 2005). In relation to decision-making autonomy, this is also the case, with inconsistencies in which decisions are deemed suitable to measure a woman's autonomy. For instance, a few studies included financial decisions based on the woman's control over her own or her spouse's income (Akilova and Marti 2014; Kwagala 2013; Pandey 2016) while others excluded these measures (Dalal 2011; Rahman, Hoque and Makinoda 2011). However, in general there seems to be an emphasis placed on a woman's participation in decisions concerning her own healthcare, financial decisions pertaining to household purchases and her freedom of movement (Adjiwanou and N'Bourke 2005; Donta et al. 2016; Pandey 2016). These variables encapsulate important dimensions within the household pertaining to health, finance and movement, therefore these will also be the measures used in the current study.

The definitions of intimate partner violence also had irregularities. For example, a few studies defined intimate partner violence as physical violence only (Adjiwanou and N'Bourke 2005; Castro, Brindis and Casique 2008; Ghimine, Axinn and Smith-Greenway 2015; Kwagala et al. 2013; Rapp et al. 2012), while other studies defined it as physical and sexual violence (Kimuna and Djamba 2008; Pandey 2016; Rahman, Hoque and Makinoda 2011). In their study of Burkina Faso, Wayak Pambè, Gnoumou-Thiobiano and Kaboré (2014) defined intimate partner violence as physical, sexual, emotional and psychological violence as intimate partner violence, while giving them all a separate analysis. Since I believe that all of these forms of violence are important and may differ in their relationships with partner's education, I will adopt these same variables in the current study. In addition, a study in Bangladesh used data other than DHS data and didn't have specific questions for violence, it was interpreted by the respondent as to what constitutes intimate partner violence (Koenig et al. 2003). These inconsistencies make it difficult to make effective comparisons between countries, I plan to contribute to the literature by conducting a multi-country analysis, while taking these limitations into consideration.

With respect to the partner's level of education, there has not been a lot of focus on its associations with either female autonomy or intimate partner violence. A few studies used this as a control variable in their analyses of intimate partner violence, but much less is known about its association with female autonomy within the household. While many researchers have emphasized the importance of including men in the discussion of intimate partner violence and in the development of intervention programs and policies, less have analyzed the role of men in women's autonomy. Since men are most often the perpetrators of gender-based violence and can both empower and disempower a woman in the household, I believe it is important to include them in the study of these phenomena. Moreover, while studying gender equality and relations, it is important to include both partners as improving women's status by increasing education and employment alone is not enough to protect them from violence (Hindin 2000). This is because women cannot be fully protected from intimate partner violence unless men become accepting and aware of their equal rights (Rahman, Hoque and Makinoda 2011).

Chapter 2: Conceptual Frameworks and Research Hypotheses

This chapter presents two theories of intimate partner violence causation, the first by Heise (1998) and the second by Jewkes, Levin and Penn-Kekana (2002). This will be followed by the theory explaining the mechanisms behind partner's education and how it can affect women's autonomy in the household. The theory developed by Rodman (1972) explains this relationship between partner's education level, status and marital power. These theories have been cited most often in the literature and allow us to better understand the complexities of intimate partner violence and women's autonomy and their causes, as well as how education can play a role in these processes. These theories may apply differently to individual countries therefore, the following section of this chapter presents a typology in which the countries can be classified based on the relationships found between women's decision-making autonomy and experience of intimate partner violence (Adjiwanou and N'Bouke 2015). The typologies help us to better place the theories into context and were also used as a basis for the selection of the countries in the current study. Finally, the research questions and hypotheses are presented.

2.1 An Integrated, Ecological Framework by Lori L. Heise (1998)

Heise's Ecological Framework has been proven to be useful for explaining the multifaceted phenomenon of intimate partner violence. It incorporates views from a multitude of disciplines in order to capture the complexities of this phenomenon and its intertwined components. The theory aims to not only explain why some men use violence to resolve conflict, but why women are most often the victims. An ecological framework conceptualizes the interactions between several levels of the social ecology including, personal, situational and sociocultural factors. Heise illustrates the framework with the use of four interconnected circles that each represent a different system present within a society and which affect an individual's actions. The inner most circle represents an individual's personal history, which includes all individual or ontogenic factors. This is surrounded by the microsystem circle and then the exosystem circle and finally the macrosystem circle.

Figure 1.   Heise's (1998) Ecological Framework of Violence

Personal History

o Witnessing martial violence as a child
o Being abused oneself as a child
o Absent or rejecting father

Microsystem

o Male dominance in the family
o Male control of wealth in the family
o Use of alcohol
o Marital/verbal conflict

Exosystem

o Low socioeconomic status/unemployment
o Isolation of woman and family
o Delinquent peer associations

Macrosystem

o Male entitlement/ownership of women
o Masculinity linked to aggression and dominance
o Rigid gender roles
o Acceptance of interpersonal violence
o Acceptance of physical chastisement

Source: Heise, L.L. (1998). Violence Against Women: An Integrated, Ecological Framework. *Violence Against Women* 4(3): 262-290

An individual may become violent depending on their personal experiences and on their interactions with the societal norms and beliefs that surround them. An individual may use violence based on an unhealthy personal family history, which is most often characterized by witnessing marital violence as a child, being abused as a child or having an absent or rejecting father. A child who grew up in a violent home may be more likely to be violent when they have reached adulthood as they may have learned this to be an appropriate response to marital conflict. This process has also been defined as an intergenerational transmission of violence (Pollack 2004). A man who grew up in a violent home will often be more likely to use violence himself (Pollack 2004). Furthermore, a woman who witnessed marital violence as a child may be more likely to stay with a violent partner (Pollack 2004). She may believe that violence is a natural element of marriage and does not constitute a reason to leave or initiate a divorce.

The microsystem is an individual's immediate surroundings, which is also the context where the abuse is often taking place, including the family and the household. Factors related to violent behaviour in this sphere are male dominance in the family, male control of wealth in the family, use of alcohol and marital or verbal conflict. A man who takes authority in all household

decisions is often a strong predictor of violent behaviour compared to men who share decisions with their partners.

The exosystem refers to both formal and informal social structures that influence a person's behaviour and are often referred to as the by-products of changes taking place within the larger social environment. Variables associated with violence within this milieu are low socioeconomic status and unemployment, isolation of the woman and family and delinquent peer associations. A woman who is isolated or has restrictions placed on her movement, for example, visits to family and friends, is more likely to suffer from violence.

The final circle which englobes all the other systems is the macrosystem. The macrosystem concerns all the cultural values and beliefs that inform the other three levels of the social ecology. These values and beliefs transfer notions of masculinity that are linked to dominance, toughness and honour in the family, rigid and traditional gender roles, sense of male entitlement and ownership over women and approval of physical punishment of women. The punishment of women is often approved of and accepted in many societies, which is justified normally by a woman's transgression from a rigid gender role, such as by disobeying a husband, failing to prepare meals on time or sexual infidelity.

2.2 Causation of Intimate Partner Violence by Jewkes, Levin and Penn-Kekana (2002)

Jewkes, Levin and Penn-Kekana offer another model for understanding the causation of intimate partner violence. This is a result of the findings from their South African study supporting some, but not all of the factors described in Heise's (1998) ecological framework. Their model includes parts of the ecological framework, while also adding new components. They describe that intimate partner violence is caused by a web of intermediating factors and processes, which are essentially influenced by notions of masculinity, the position of women in a society and beliefs about the use of violence and its acceptance. Therefore, emphasis is placed on ideologies of male superiority which is placed at the centre of the model.

Figure 2.   Causation of Intimate Partner Violence
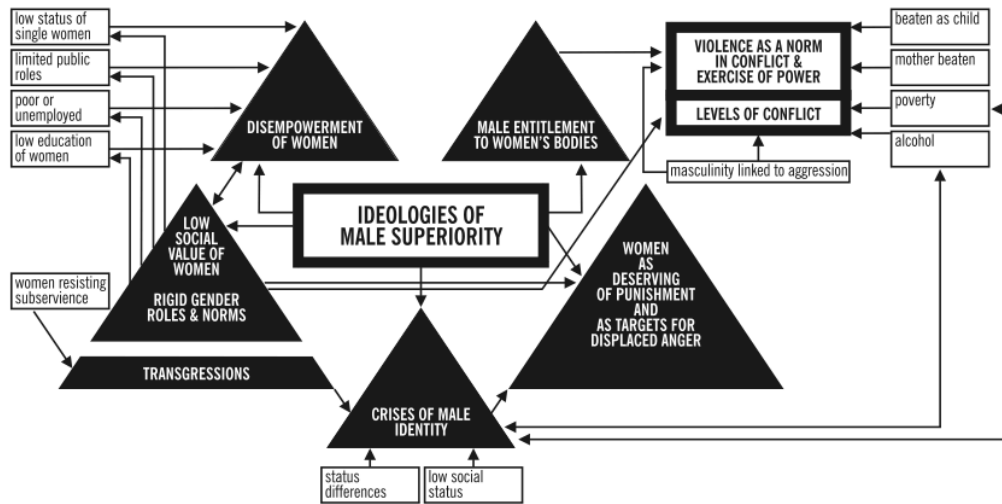
Gender power inequalities perpetuate the positioning of women in subordinate roles within a society, while granting them little access to education, employment opportunities or political roles. Furthermore, it justifies the chastisement of women by portraying them as deserving of such disciplines while reconfirming male dominance in society. The crises of male identity are apparent when women resist subservience and transgress their rigid gender norms, as well as by status differences and having low social status. The levels of conflict within a relationship may be heightened by poverty and alcohol consumption. Finally, intergenerational factors are also included such as witnessing marital violence as a child, which contributes to violence being considered as an acceptable form of expression.

Education may be a force in bringing about social change and challenging predominant ideologies of masculine superiority while supporting egalitarian family structures.

2.3 Marital Power and The Theory of Resources in Cultural Context by Rodman (1972)

The relationship between partner's characteristics and marital power structures is complex. Additionally, this relationship can vary based on cultural values and stages of "societal development" (Rodman 1972). Within a marriage the power can either be split between the two

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spouses or be controlled by one of them. Power is controlled through having a higher status within the household, which can be attained through the accumulation of resources. Resources that are often used to increase status in the marriage are occupation, education and income. In low income countries, education generally increases a person's status within a community as well as their socioeconomic status through formal employment (Adjiwanou, Bougma and LeGrand 2018). Therefore, a man who has a higher level of education compared to someone with low or no education will have a higher status and may control the decision-making power within the household. However, the opposite relationship is also evident, where a man having higher education may be exposed to egalitarian norms and attitudes, and therefore, will be more likely to grant his wife more authority in household decisions. Rodman (1972, p.58) states the complexity of the nature of this relationship, *"It appears that there are two conflicting tendencies operating – in one, higher status increases a man's marital power, and in the other it decreases his marital power. To the extent that a man's higher status operates as a valued resource that gives him more leverage within the marital relationship, it increases his power. To the extent that it operates to place the man in a patriarchal society in closer touch with equalitarian norms, it decreases his marital power"*.

The connection between status and power differs based on a society's acceptance of egalitarian norms and on cultural expectations of the distribution of marital power. Rodman classifies societies into four separate stages of "societal development", starting from patriarchy and ending in equalitarianism. The middle stages refer to modified patriarchy and transitional equalitarianism. Countries with strict patriarchal family norms which ascribe power to men in all situations with no variation in paternal authority between social groups are considered as being in stage one. In these societies, full marital power is granted to the man regardless of his status or resources. Countries in stage two also have strict patriarchal family norms however, the adoption of egalitarian norms has begun among the upper classes of society. This is the situation where men with higher education levels will be more supportive of egalitarian power within the household. Stage three incorporates countries where egalitarian family norms are replacing the traditional patriarchal ones and where there is an ambiguity about marital power distribution. It is in this situation, where higher status equals higher power within a household, while the breadwinner role is still emphasized as the man's responsibility. In these societies men with lower status find themselves frustrated with the inability to fulfill this role and may struggle

to gain power within the household. This may result in men using physical power as a means to establish their authority without having the resources such as education or income. The final stage describes countries who have full equalitarianism and where family norms emphasize sharing power within the home with no variation of authority between social groups.

2.4 Typologies proposed by Vissého Adjiwanou and Afiwa N'Bouke (2015)

In their study, Adjiwanou and N'Bouke examine the effects of intimate partner violence on modern contraception use. The relationship has previously been found to be positive, which they believe is due to an endogeneity bias, which may be partly explained by a woman's household autonomy. They recognize that a woman's autonomy may either reinforce or challenge the experience of intimate partner violence, which has been highlighted throughout previous literature. As a result, they propose three typologies with which we can classify the thirteen countries studied according to the direction of the relationship between women's autonomy and the experience of intimate partner violence. The first group describes a positive association between women's autonomy and intimate partner violence, where, as a woman's autonomy increases so does her likelihood of experiencing violence. The second group defines the countries that show a negative association between these two variables, so as a woman's autonomy increases her likelihood of experiencing intimate partner violence decreases. The final group refers to the countries that showed no association between autonomy and intimate partner violence. The countries which were categorized into each of these typologies can be found in Table 1 on page 22. It is important to note that the variable of intimate partner violence in their study was defined as being physical violence only. Two countries (bold in Table 1) were selected from each group based on recent Demographic and Health Surveys being conducted that also included data on women's status and intimate partner violence.

Table 1. Country Types and Associated Countries Outlined by Adjiwanou and N'Bouke

Country type 1: positive association between women's decision-making autonomy and IPV:
Burkina Faso, **Mali** and **Nigeria**
Country type 2: negative association between women's decision-making autonomy and IPV:
Kenya, Malawi, Mozambique, **Rwanda** and Zimbabwe
Country type 3: no association between women's decision-making autonomy and IPV:
Cameroon, Ghana, **Tanzania**, **Uganda**, and Zambia

Source: Adjiwanou, V. and N'Bouke, A. (2015) Exploring the Paradox of Intimate Partner Violence and Increased Contraception Use in sub-Saharan Africa

An analysis of these countries will allow us to better understand the association between women's autonomy and intimate partner violence by examining how partner's education is associated with both of these variables in the three different contexts.

2.5 Linking theories to typologies

This section attempts to synthesize these theories with the country types used to classify the countries considered in the current study. Information concerning the different country types can be found in Table 1. Rather than taking a hierarchal structure, I prefer to consider Rodman's (1972) "stages" as societal types based on their levels of patriarchal norms and influence. In the context of this study, I believe that the countries considered belong to the first three stages. The first refers to a society that holds strong patriarchal norms at the societal and family levels. This may often include cultural values and beliefs that are directly linked to male superiority and dominance (Heise 1998; Jewkes, Levin and Penn-Kekana 2002). Men are considered to be more powerful in all domains regardless of their social status or resources. It is in these societies where women's participation in household decision-making will be low and intimate partner violence may be more prevalent. I believe that the countries belonging to the first country type, Mali and Nigeria, are this type of society, since a woman's decision-making autonomy was found to be inversely related to her experience of violence in the home (Adjiwanou and N'Bouke 2015). This meaning that a woman's transgression from the rigid gender norms present within the society may cause an identity crisis among the man which can often result in violence (Jewkes, Levin and Penn-Kekana 2002).

The second society type refers to what Rodman (1972) calls "modified patriarchy". This is the case where patriarchal norms are still at the base of society as they are in a strictly patriarchal society. Therefore, ideologies of male superiority are still present, however, egalitarianism is starting to become accepted among the higher strata of society. I believe this reflects the countries of Kenya and Rwanda, which were categorized into the second country type where a woman's decision-making autonomy positively influenced her experience of violence (Adjiwanou and N'Bouke 2015). In this context, a woman's transgression from rigid gender norms will not necessarily lead to violence. Men and women who have more education and resources will belong to higher social status groups, where egalitarian norms in the household are more respected. This will offer women more marital power and opportunities to participate in household decisions without being a target for violence. However, among low socioeconomic and low educated groups the same relationship may exist as the one described in the patriarchy society type.

The third and last society type that will be described in relation to the countries in the current study is that which has been coined by Rodman (1972) as "transitional equalitarianism". In a transitional equalitarian society, egalitarian norms are starting to replace those that support a strict patriarchal society. Although ideologies of male superiority may still exist in some instances it is not necessarily related to educational attainment nor socioeconomic status, although this may still be a factor. Rodman (1972) explains that there is a general ambiguity in relation to marital power and how it is distributed, although men are still assumed to have the breadwinner role. I believe that the countries categorized in the third country type, Tanzania and Uganda, may exhibit these societal traits. There was no association found between a woman's decision-making autonomy and her experience of violence (Adjiwanou and N'Bouke 2015). A woman's experience of intimate partner violence may be due to other factors operating in the exosystem (Heise 1998). A man who is either uneducated, unemployed or who holds a low social status may find himself in a crisis with his masculine identity, especially if the woman has a higher status (Jewkes, Levin and Renn-Kekana 2002). This is because he may feel as if he is unable to fulfill the breadwinner role (Rodman 1972). Therefore, he may struggle for marital power with his partner or wife and may choose to exert it in other ways, such as with the use of violence (Rodman 1972) and restrictions of decision-making power.

2.6 Research Questions and Hypotheses

The current thesis aims to answer three main questions about the effects of partner's educational attainment on women's decision-making autonomy and experience of intimate partner violence in the household. Each question is presented below along with the corresponding hypotheses. While the typologies developed by Adjiwanou and N'Bouke (2015) give us a basis on which to select the countries in this study based on the subject of women's autonomy and IPV, the analysis will focus on the Social Institutions and Gender Index (SIGI) category of each country (Chapter 3, Table 2). We can further separate the six countries into two categories based on whether their overall gender inequality in social institutions is at a very high or high level (Mali, Nigeria, Tanzania) or at a medium level (Kenya, Rwanda and Uganda). The SIGI will be discussed in more detail in Chapter 3. This will facilitate the interpretation of the results.

Question 1: Overall, how is partner's educational attainment linked to women's decision-making autonomy in the household?

- **Hypothesis 1.1**: Partner's education is positively correlated with women's decision-making autonomy in the household. As partner's education level increases so will the number of decisions in which women participate.
- **Hypothesis 1.2**: This effect is expected to be stronger in countries where gender inequality in social institutions is lower compared to countries where they are higher.

Question 2: Overall, how is partner's educational attainment linked to women's experience of intimate partner violence in the household?

- **Hypothesis 2.1**: Partner's education is negatively correlated with women's overall experience of intimate partner violence in the household. As partner's education increases the likelihood of a woman to experience intimate partner violence will decrease.
- **Hypothesis 2.2**: This effect is expected to be stronger in countries where gender inequality in social institutions is lower compared to countries where they are higher.

The third question requires us to test two hypotheses according to the levels of gender inequality present within the country's social institutions.

Question 3: To what extent does the effect of partner's education vary in terms of women's own educational attainment?

- **Hypothesis 3.1:** The effect of partner's education will be stronger than women's own education in Mali, Nigeria and Tanzania where the level of social inequality in social institutions is higher. However, higher levels of partner's education will not equate to higher levels of autonomy or less IPV.

- **Hypothesis 3.2:** The effects of partner's education will be weaker than women's own education in Kenya, Rwanda and Uganda where the level of social inequality in social institutions is at a medium level.

Chapter 3: Study Context

This chapter will discuss the context of the current study. The six sub-Saharan African countries considered in the analysis will be presented with the use of official publications and statistics. This will include general geographic and demographic information and more specifically the overall educational attainment of men and women, the condition of women's status and the prevalence of intimate partner violence in each country. Third, it will compare and contrast the countries in order to have a better understanding of how they relate to each other based on these characteristics and of the results.

3.1 Mali

Figure 3.   Map of Mali

Source: United Nations Department of Public Information, Cartographic Section (2013)

Mali is a landlocked country located in the West Africa region and is bordered by seven other countries. It finds Algeria to the northeast, Niger to the east, Burkina Faso towards the southeast, Guinea and Cote D'Ivoire to the south and Senegal and Mauritania to the west. Mali's total population is estimated at 18 million people with 40% of the population living in urban areas (UNDP 2015). The combined life expectancy at birth is 59 years calculating to 58 years for men and 59 years for women (UNFPA 2017). The fertility rate is still quite high and was

estimated at 6 children per woman in 2017 (UNFPA 2017). Half (49%) of the population live below the international poverty line of $1.90 (US) dollars a day (UNDP 2015).

The average number of years of schooling among the population aged 25 and over is 2.3 years.[3] This equals out to an average of 3 years among men and an average of 1.7 years among women (UNDP 2015). Under half (38.7%) of the adult population is literate.[4] Roughly 16.2% of men and 7.3% of women aged 25 and over have at least some secondary education (UNDP 2015). Although men receive more education overall than women in Mali, the general educational attainment is very low.

The Social Institutions and Gender Index (SIGI) developed by the OECD allows us to evaluate the level of gender discrimination and inequality that is present within a country.[5] Furthermore, it categorizes countries into five separate categories based on their SIGI value ranging from very low to very high levels of discrimination.[6] The values range between 0 and 1 with smaller values representing higher levels of gender equality and larger values indicating higher levels of gender inequality present within a country's social institutions. The categories allow for better interpretation and comparisons of countries based on the level and intensity of gender inequality and discrimination that are present within a society. Countries are also evaluated by the discrimination against women that is present in relation to family codes, restricted physical integrity, son bias, restricted resources and assets and restricted civil liberties (OECD 2014).

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[3] The mean years of schooling is the average number of years of education received by people ages 25 and older, converted from education attainment levels using official durations of each level (UNDP 2015)

[4] The adult literacy rate is the percentage of the population ages 15 and older that can, with understanding, both read and write a short simple statement on everyday life (UNDP 2015)

[5] The OECD describes the Social Institutions and Gender Index as: "Discriminatory social institutions are defined as the formal and informal laws, attitudes and practices that restrict women's and girls' access to rights, justice and empowerment opportunities. These are captured in a multi-faceted approach by SIGI's variables that combine qualitative and quantitative data, taking into account both the de jure and de facto discrimination of social institutions, through information on laws, attitudes and practices. The variables span all stages of a woman's life in order to show how discriminatory social institutions can interlock and bind them into cycles of poverty and disempowerment." https://www.genderindex.org/team/

[6] The categories for the SIGI range from very low to very high and are classified by the OECD as follows: countries having very low levels of gender discrimination in social institutions (SIGI < 0.04), countries having low levels of gender discrimination in social institutions (0.04 < SIGI < 0.12), countries having medium levels of gender discrimination in social institutions (0.12 < SIGI < 0.22), countries having high levels of gender discrimination in social institutions (0.22 < SIGI < 0.35), countries having very high levels of gender discrimination in social institutions (SIGI > 0.35) https://www.genderindex.org/2014-categories/

The SIGI is composite indicator calculated based on an unweighted average of a non-linear function of the five sub-indices (family codes, restricted physical integrity, son bias, restricted resources and assets and restricted civil liberties).[7] The following equation is used:

$$SIGI = \frac{1}{5} Discriminatory\ family\ code^2 + \frac{1}{5} Restricted\ physical\ integrity^2 + \frac{1}{5} Son\ bias^2$$

$$+ \frac{1}{5} Restricted\ resources\ and\ assets^2 + \frac{1}{5} Restricted\ civil\ liberties^2$$

As is the case with any composite indicator, there are certain critiques that can be made about its use to measure and quantify gender inequality as well as its construction. However, to my knowledge, there are no current published critiques that exist, and the use of this indicator is widely used.

Mali has a value of 0.52 which places it into the highest category (SIGI>0.35) and puts it among countries having very high levels of gender discrimination in social institutions which include family codes, physical integrity and restricted civil liberties (OECD 2014).[8] From this we can gather that women generally hold very low positions in Malian society.

The position of women in a society is also related to the prevalence and acceptance of intimate partner violence within that society. In Mali, 34.6% of women reported having ever experienced violence by an intimate partner and this number is expected to be underreported (UNDP 2015). The acceptance of intimate partner violence is widespread with more than three out of four (76%) women and 54% of men agreeing with at least one situation where violence is justified (Mali Demographic and Health Survey 2012-2013). Both the prevalence and acceptance of intimate partner violence in Mali are very prominent.

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[7] To see more information about how the SIGI is calculated see the methodology section of the OECD's SIGI website: https://www.genderindex.org/methodology/

[8] The OECD defines the "very high" level of discrimination in social institutions category as: "These countries are characterised by very high levels of discrimination in legal frameworks and customary practices across most sub-indices and by very poor implementation measures. The family code greatly discriminates against women: almost one third of girls younger than 19 are married, and women face severe discrimination in their parental authority and inheritance rights. Women's rights to own and control land and other resources and to access public space are extremely limited. There are serious infringements on their physical integrity matched by high levels of acceptance and prevalence of domestic violence: 44% of women have been victims of domestic violence, and 59% accept that it is justified under certain circumstances."

3.2 Nigeria

Figure 4.   Map of Nigeria

Source: United Nations Department of Public Information, Cartographic Section (2014)

Nigeria is a country that is located in the West Africa region and four countries are found along its borders. There is Niger to the north, Chad and Cameroon to the east and Benin to the west. It has a coastline that lies along the Gulf of Guinea in the Atlantic Ocean. Nigeria is a populous nation with a population of 182 million inhabitants (UNDP 2015). Just under half (48%) of the population resides in urban areas (UNDP 2015). The life expectancy at birth is 54 years, while for men it is 53 years and for women it is 55 years (UNFPA 2017). The fertility rate remains high at 5.5 children per women (UNFPA 2017). More than half of the population (54%) lives below the international poverty line of $1.90 (US) a day (UNDP 2015).

The average years of schooling attained among the population aged 25 and over is 6 years. The mean of years attained among men exceeds this average at 7.1 years and the mean years attained among women is found at 4.9 years (UNDP 2015). Over half of the population (60%) is literate. According to the average amount of schooling among adults, it seems that men are more likely to be educated than women in Nigeria.

The value calculated for Nigeria's social institutions and gender index is 0.39. This is lower than that of Mali (0.52). However, this value also puts Nigeria into the category of having very high levels of gender discrimination in social institutions (SIGI > 0.35). Nigeria was also

categorized as having very high levels of discrimination present in its family codes and in its restrictions on resources and assets and civil liberties (OECD 2014). This is to say that women residing in Nigeria experience high levels of discrimination within the family and are restricted in terms of their ability to access resources and public spaces.

In Nigeria, 16% of women reported having ever experienced violence by an intimate partner (UNDP 2015). As in many cases regarding intimate partner violence this number is likely underestimated as women may be reluctant to answer honestly about their experiences. In regard to the acceptance of violence in a relationship, 34.7% of women and 24.7% of men agree to at least one reason that supports the use of violence against a woman (Nigeria Demographic and Health Survey 2013). With large proportions of women and men justifying the use of violence against women in the home, it is assumed that women generally have low status in Nigerian society.

3.3 Kenya

Figure 5.   Map of Kenya

Source: United Nations Department of Public Information, Cartographic Section (2011)

Kenya is located in the East Africa region and is bordered by five countries. There is Ethiopia and South Sudan to the north, Somalia to the east, Tanzania along the south and Uganda to the west. It has a southeastern coastline along the Indian Ocean. The total population of Kenya is estimated at 46 million people, a quarter (25.6%) of which reside in urban areas (UNDP 2015). The life expectancy at birth for men is 65 years and for women it is five years higher at 70 years, the overall life expectancy is 68 years (UNFPA 2017). The fertility rate is lower than those observed in the two previous countries at 3.8 children per woman (UNFPA 2017). A third (33.6%) of the population is living below the international poverty line at $1.90 (US) a day (UNDP 2015).

The average attained years of schooling among the population aged 25 and over is 6 years, with men receiving on average 7 years of schooling and women receiving 5.7 years (UNDP 2015). Three quarters of the population are literate (78%) (UNDP 2015). Furthermore, 34% of men and 28% of women have at least some secondary education (UNDP 2015). As was also the case in Mali and Nigeria, men are also more likely to receive higher levels of education than women in Kenya.

Kenya received a social institutions and gender index value of 0.21 which is considerably lower than the two previous countries and puts it into the medium level category (0.12 < SIGI < 0.22).[9] This means that although some laws may exist to protect women from discrimination they are often inconsistent or conflicting and undermined by customary practices (OECD 2014). While given an overall medium score, Kenya was categorized into the high level of discrimination category for restricted physical integrity, son bias and restricted access to resources and assets.

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[9] The OECD defines the "medium" levels of discrimination in social institutions category as: "These countries are characterised by inconsistent or conflicting legal frameworks covering the family code, women's access to resources and assets, and civil liberties. The strong influence of customary practices perpetuates discrimination in these areas. Specifically, women face discrimination in terms of the legal age of marriage, parental authority, inheritance, and rights to land and financial services. Women are restricted in their access to public space, as well as in their participation in political life due to the absence of quotas at the national and/or sub-national levels. Legal frameworks addressing violence against women are inadequate (e.g. certain types of violence are not included). On average, 39% of women agree that domestic violence is justified under certain circumstances".

Women in Kenya experience high levels of intimate partner violence. For instance, 41% of women reported having ever experienced violence perpetrated by an intimate partner (UNDP 2015). The acceptance of violence against wives and female partners is also widespread with 42% of women and 36% of men agreeing with at least one of the reasons for justifying the use of violence (Kenya Demographic and Health Survey 2014). Although Kenya was categorized into a lower SIGI category, it is evident that high levels of gender discrimination still exist. Acceptance of gender-based violence is widely accepted and demonstrates women's lower status within Kenyan society.

3.4 Rwanda

Figure 6.   Map of Rwanda

Source: United Nations Department of Public Information, Cartographic Section (2015)

Rwanda is a small landlocked country located in the East Africa region and is bordered by four other countries. Uganda is found to the north, Tanzania to the east, Burundi to the south and the Democratic Republic of the Congo (DRC) to the west. Rwanda's total population is estimated at 12 million with over a quarter (29%) living in urban areas (UNDP 2015). Life expectancy at birth is 68 years equaling 65 years for men and 70 years for women (UNFPA 2017). The fertility rate is 3.8 children per women (UNFPA 2017). Over half of Rwanda's

population (60%) lives below the international income poverty line at $1.90 (US) a day (UNDP 2015).

Among the population aged 25 and over, similar trends can be observed in relation to the average years of schooling received. Overall, the average years of schooling among this population is 3.8 years (UNDP 2015). Broken down by sex this averages to 4.4 years for men and 3.3 years for women (UNDP 2015). Among the adult population 70% is literate and 16% of men and 11% of women have at least some secondary education (UNDP 2015).

Among the countries discussed so far, Rwanda has the lowest SIGI value estimated at 0.13. However, this value still categorizes Rwanda as a country having a medium level of discrimination present in social institutions (0.12 < SIGI < 0.22). Rwanda scored high on restricted access to resources and assets, medium in family codes, physical integrity and son bias and low in restricted civil liberties (OECD 2014).

While Rwanda may be considered as one of the leaders in gender equality in the region, often attributed to female political participation and gender equality policies, (Debusscher and Ansoms 2013) women are still subject to high levels of intimate partner violence. The majority (56%) of women reported that they had ever experienced violence by an intimate partner (UNDP 2015). The acceptance of violence is also prevalent among Rwandan women with 41% agreeing with at least one situation where the use of violence against women in the household is valid (Rwanda Demographic and Health survey 2014-2015). In contrast, 18% of men agreed with at least one of the situations justifying the use of such violence (Rwanda Demographic and Health Survey 2014-2015). The experience and acceptance of violence is widespread among women, while a lot of men are also in acceptance of such norms, Rwandan men are the least supportive of violence among countries presented thus far.

3.5 Tanzania

Figure 7.　Map of Tanzania

Source: United Nations Department of Public Information, Cartographic Section (2006)

The United Republic of Tanzania is located in East Africa and borders eight other countries. Kenya and Uganda are found along the north, Zambia, Malawi and Mozambique are to the south while Burundi, Rwanda and the Democratic Republic of the Congo (DRC) border the western part of the country. Tanzania has an eastern coastline which borders the Indian Ocean. Tanzania's population is estimated at 54 million inhabitants with 32% of the population living in urban areas (UNDP 2015). The overall life expectancy at birth is 67 years with it being 65 years for men and 68 years for women (UNFPA 2017). The fertility rate remains high at 5 children per women in 2017 (UNFPA 2017). Just under a half of the population (47%) lives below the international poverty line at $1.90 (US) a day (UNDP 2015).

Among the population aged 25 and over, men receive an average of 6.2 years of schooling and women receive an average of 5.4 years (UNDP 2015). The overall mean years of schooling among this population is 5.8 years (UNDP 2015). The adult literacy rate is 80% which

is the highest among countries described thus far (UNDP 2015). Furthermore, 15% of men and 10% of women have received at least some secondary education (UNDP 2015). In the gender context, women receive less education than men on average and this is exhibited in the amount of schooling that adult women have received.

The OECD calculated a SIGI value of 0.25 for Tanzania which puts it into the high levels of discrimination present in social institutions category (0.22 < SIGI < 0.35). Tanzania scored very high in relation to discriminatory family codes, high in restricted physical integrity and restricted access to resources and assets, medium in son bias and low in restricted civil liberties (OECD 2014).

Women in Tanzania experience high levels of intimate partner violence with 44% of women reporting that they had been the victim of violence by an intimate partner (UNDP 2015). Similar to the other countries, the acceptance of violence against women is very prevalent, this is evident in that 58% of women and 40% of men supported at least one reason for which the use of violence is necessary (Tanzania Demographic and Health Survey 2015-2016).

3.6 Uganda

Figure 8.   Map of Uganda

The sixth and final country considered in the study is Uganda which is a landlocked country located in the East Africa region. It shares borders with five other countries, South Sudan is found to the north, Kenya is found along the east, Tanzania is to the south, Rwanda along the southwest and the DRC to the west. Uganda's population is estimated at 39 million people with 16% of its inhabitants residing in urban areas (UNDP 2015). The life expectancy at birth is 60 years with the life expectancy among men at 58 years and 62 years among women (UNDP 2015). The fertility rate is estimated at 5.5 children per woman (UNFPA 2017). A third (35%) of the population live below the international income poverty line at $1.90 (U.S.) a day (UNDP 2015).

The average years of schooling among the population aged 25 years and older is 5.7 years, while it averages to 6.8 years among men and 4.5 years among women (UNDP 2015). Furthermore, 32% of men have at least some secondary education while 26% of women have attained this level (UNDP 2015). Finally, 74% of the adult population are literate (UNDP 2015).

Among the adult population inequalities are clear, with men receiving more education on average.

Uganda received an SIGI value of 0.21 which puts it into the medium level of discrimination present in social institutions along with Kenya and Rwanda ($0.12 < SIGI < 0.22$) (OECD 2014). Looking closer into the sub-categories, Uganda scored high in relation to discrimination in family codes, restricted physical integrity, son bias and restricted access to resources and assets (OECD 2014). While scoring low in regard to discrimination in access to civil liberties (OECD 2014). Even though Uganda is categorized as having a medium level of discrimination in social institutions, it is evident that there are still high levels of discrimination that exist in most of them.

Intimate partner violence is very prevalent in Uganda with half (51%) of women expressing that they had suffered violence by an intimate partner at some point in their lives (UNDP 2015). The acceptance of intimate partner violence is also prevalent with almost six out of ten (58%) women agreeing with at least one reason where violence against a female partner is justified (Uganda DHS 2016). This also extends to the level of acceptance among men where 44% agreed with at least one situation where the use of violence against their wife or partner was acceptable (Uganda DHS 2016). It is apparent that women hold a lower position in Ugandan society as the prevalence and acceptance of intimate violence are both high.

3.7 Comparison of countries by education, women's status and prevalence of intimate partner violence

This section will compare the six countries based on their educational situation, the status of women measured by the SIGI and the prevalence and acceptance of intimate partner violence. This will allow for better understanding and visualization of the similarities and differences that exist between countries.

3.7.1 Education

All six countries are compared according to three of the education indicators that were previously discussed. These include, the mean years of schooling disaggregated by gender. We can observe this comparison from Figure 9 on page 38. Adult women residing in Mali completed

the least amount of education (1.7 years) on average compared to any other country. In Rwanda, adult women only finish 3 years on average. Men in Nigeria and Kenya receive an average of 7 years of instruction which is the highest among all countries. Looking at the mean years of schooling for the total adult population (25 years and older) we can see that Mali has the lowest educated population (2.3 years of schooling), followed by Rwanda (3.8 years). Nigeria, Kenya, Tanzania and Uganda all average out to 6 years of instruction or primary level education among the adult population.

Figure 9.   Mean Years of Schooling among the Population Aged 25 Years and Older by Country and Sex
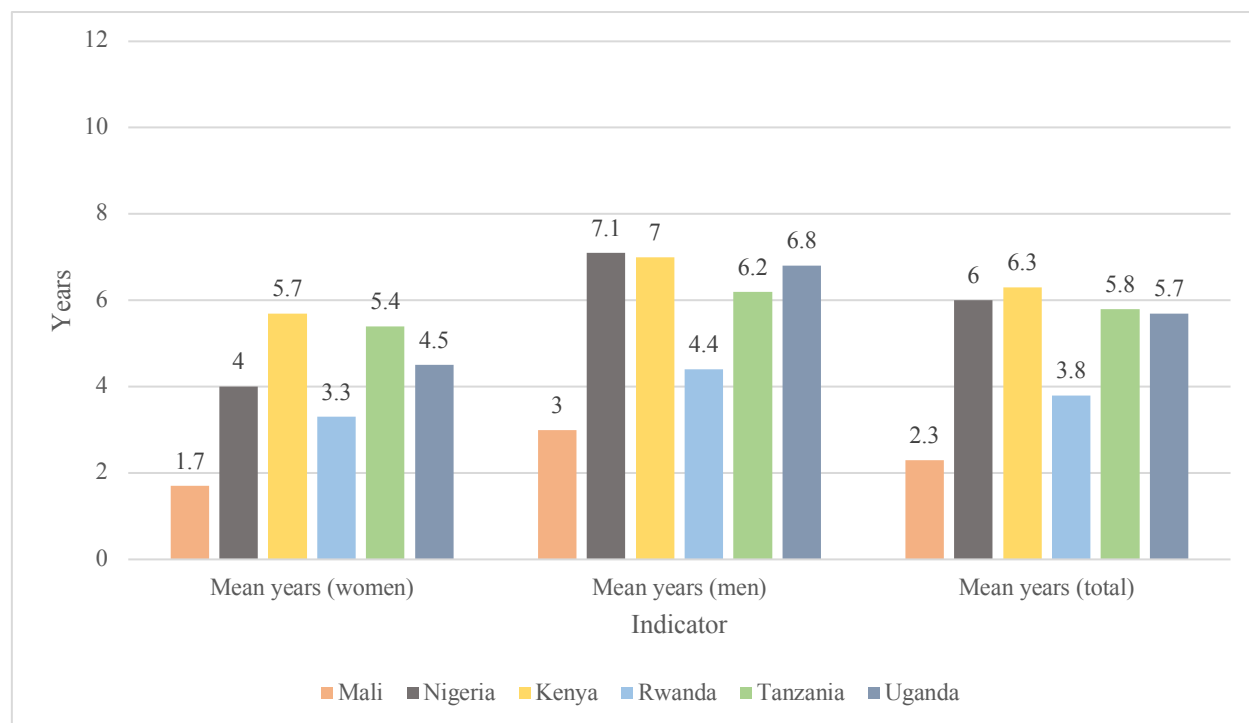
Source: UNDP (2015) Human Development Data (http://hdr.undp.org/en/data)
Note: The mean years of schooling is the average number of years of education received by people ages 25 and older, converted from education attainment levels using official durations of each level (UNDP 2015)

3.7.2 Women's status

From Table 2 (page 40) we can compare each country's SIGI values and categories as well as the values and categories for each of the sub-indices. Based on the SIGI values given to each country we can assume that gender equality is most prevalent in Rwanda compared to the

other countries as it has the lowest value of 0.1339. On the other hand, the highest level of gender inequality appears to be in Mali which has a SIGI value of 0.5164. If we examine the SIGI categories by country type, we can see that both countries belonging to country type 1 (Mali and Nigeria) have very high levels of discrimination in social institutions.[10] This supports the explanation stated by Adjiwanou and N'Bouke (2015) that these countries tend to be more conservative in relation to gender relations and norms and that women may be more likely to submit to their partners and less likely to deviate from cultural values.

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[10] Country type 1 is defined by the positive correlation between women's status and experience of domestic violence (Adjiwanou and N'Bouke 2015).

Table 2. Social Institutions and Gender Index (SIGI) by Category and Country

Gender Inequality (Overall Social Institutions and Gender Index)					
	Country type 1		Country type 2		Country type 3	
	Mali	Nigeria	Kenya	Rwanda	Tanzania	Uganda
SIGI value	0.5164	0.3911	0.2517	0.1339	0.2504	0.2157
SIGI Category	very high	very high	medium	medium	high	medium

Source: The OECD Social Institutions and Gender Index (SIGI) 2014

Gender Inequality (sub-indices)					
	Country Type 1 (+ assoc.)		Country Type 2 (- assoc.)		Country Type 3 (no assoc.)	
	Mali	**Nigeria**	**Kenya**	**Rwanda**	**Tanzania**	**Uganda**
Discriminatory Family Code						
Value	0.8309	0.6723	0.3502	0.2618	0.7166	0.5093
Category	very high	very high	medium	medium	very high	high
Restricted Physical Integrity						
Value	1	0.4766	0.6122	0.4082	0.5415	0.5635
Category	very high	high	high	medium	high	high
Son Bias						
Value	0.3048	0.2494	0.4397	0.1392	0.1746	0.2991
Category	high	high	high	medium	medium	high
Restricted Resources and Assets						
Value	0.4076	0.7626	0.5913	0.5914	0.5913	0.5913
Category	medium	very high	high	high	high	high
Restricted Civil Liberties						
Value	0.7953	0.7953	0.1951	0.2554	0.2554	0.2554
Category	very high	very high	low	low	low	low

Source: The OECD Social Institutions and Gender Index (SIGI), Country Profiles 2014

Notes: The OECD describes the Social Institutions and Gender Index as: "Discriminatory social institutions are defined as the formal and informal laws, attitudes and practices that restrict women's and girls' access to rights, justice and empowerment opportunities. These are captured in a multi-faceted approach by SIGI's variables that combine qualitative and quantitative data, taking into account both the de jure and de facto discrimination of social institutions, through information on laws, attitudes and practices. The variables span all stages of a woman's life

in order to show how discriminatory social institutions can interlock and bind them into cycles of poverty and disempowerment." https://www.genderindex.org/team/

The categories for the SIGI range from very low to very high and are classified by the OECD as follows: countries having very low levels of gender discrimination in social institutions (SIGI < 0.04), countries having low levels of gender discrimination in social institutions (0.04 < SIGI < 0.12), countries having medium levels of gender discrimination in social institutions (0.12 < SIGI < 0.22), countries having high levels of gender discrimination in social institutions (0.22 < SIGI < 0.35), countries having very high levels of gender discrimination in social institutions (0.35 > SIGI) (https://www.genderindex.org/2014-categories/).

The OECD defines the "very high" level of discrimination in social institutions category as: "These countries are characterised by very high levels of discrimination in legal frameworks and customary practices across most sub-indices and by very poor implementation measures. The family code greatly discriminates against women: almost one third of girls younger than 19 are married, and women face severe discrimination in their parental authority and inheritance rights. Women's rights to own and control land and other resources and to access public space are extremely limited. There are serious infringements on their physical integrity matched by high levels of acceptance and prevalence of domestic violence: 44% of women have been victims of domestic violence, and 59% accept that it is justified under certain circumstances".

3.7.3 Prevalence of intimate partner violence

From Figure 10 (page 42) we can compare the prevalence of intimate partner violence and the acceptance of intimate partner violence in each country. The highest prevalence of intimate partner violence is found in Rwanda with 56% of women reporting that they had ever experienced violence by an intimate partner. This is followed by Uganda at 51% and then Tanzania at 44%. Women in Nigeria were the least likely to report having experienced intimate partner violence with 16% of women reporting violence. The acceptance of violence against women for at least one reason is high across all countries.[11] Surprisingly, women are more likely to justify the use of intimate partner violence than men and this is the case in all countries in the current study. The use of violence against women in relationships was the most accepted by women in Mali, with three out of four (76%) women agreeing with at least one reason for when it is justified. This is followed by women in Tanzania and Uganda where 58% of women agreed with at least one situation where violence is acceptable. Women in Nigeria were least likely to justify the use of intimate partner violence (35%). A similar pattern is observed among men who justify the use of violence against women for at least one reason. Over half of the men (54%) in Mali justified the use of violence which is the highest among all countries. Just under half of the

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[11] Acceptance of intimate partner violence is measured by the DHS by agreeing to one of five reasons for which violence against women is justified, men and women are asked whether or not a husband or partner is justified in hitting or beating his wife if: (a) she burns the food (b) argues with him (c) goes out without telling him (d) neglects the children (e) refuses to have sexual intercourse with him.

men in Tanzania (40%) and Uganda (44%) justified the use of violence against an intimate partner. Men residing in Rwanda were the least likely to justify the use of violence with 18% of men agreeing with at least one statement where violence against women is justified

Figure 10. Prevalence of Intimate Partner Violence and Acceptance of Violence against Women by Sex and Country (%)
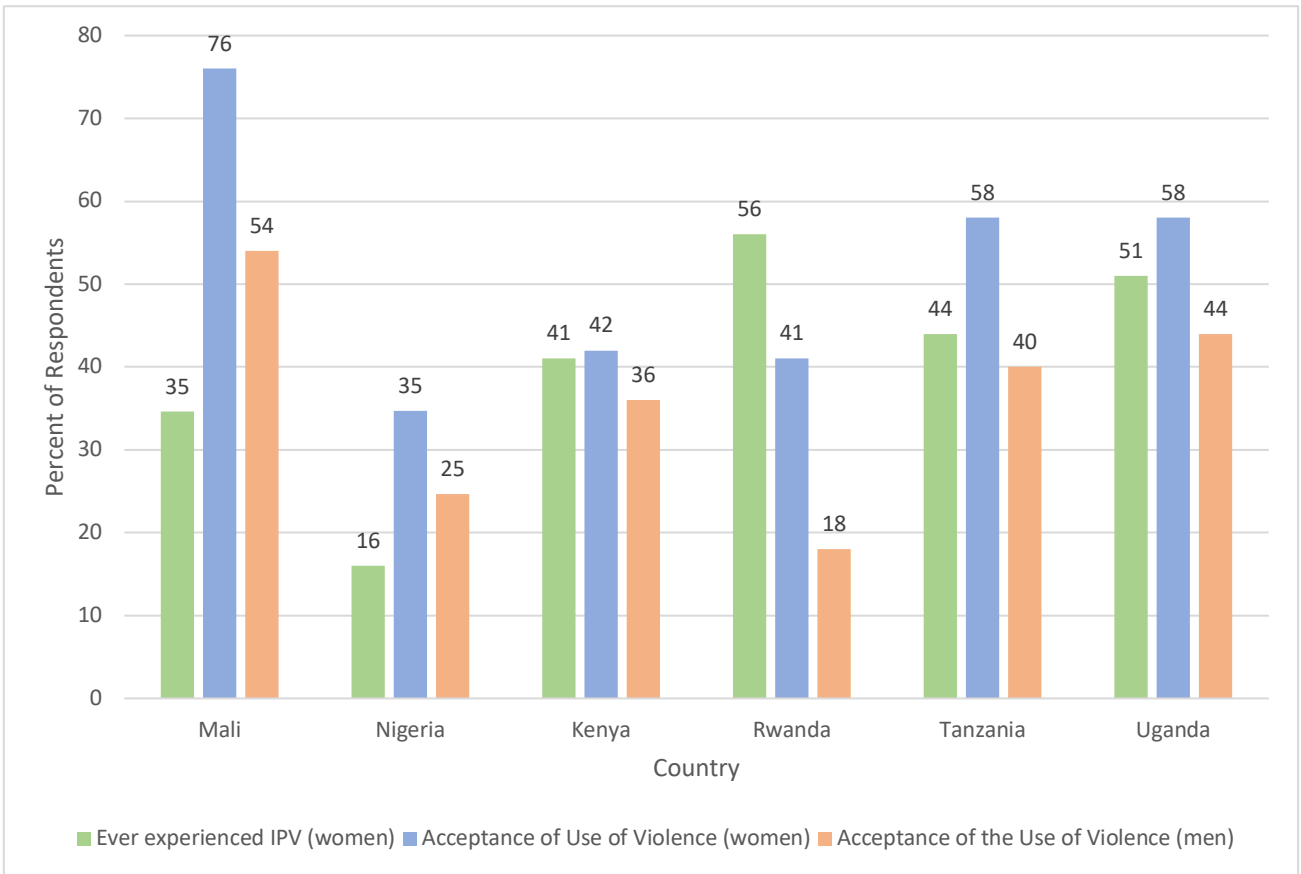
Source: United Nations Development Programme, Human Development Reports 2015 and Demographic and Health Surveys

Chapter 4: Data and Methods

This chapter will start with the presentation of the data used in the current study. This will be followed by a presentation of the sample populations. Afterwards, the variables that will be used in the analysis will be presented, followed by the statistical methods used in the analysis. Finally, the limits will be discussed.

4.1 Data Source

The data used in this study are from the Demographic and Health Survey (DHS). These are nationally representative cross-sectional surveys that provide current information on various demographic and health indicators in a particular country. This includes information on, fertility, marriage, HIV, child and maternal health and intimate partner violence among other phenomena. These data are used to form policies, create programs and perform evaluations which aim to improve the overall well-being of the population.

The surveys use a two-stage sampling design which allows for estimates at the national level as well as at the regional or urban and rural levels. The first stage consists of randomly selecting a series of sampling points or clusters. The second stage then systematically samples the households to be included in the survey. At the household level, women aged 15-49 years and men aged 15-59 years are selected for interviews.

The survey consists of three separate questionnaires which have been standardized and allow for cross-country comparisons. These questionnaires are the household questionnaire, the woman's questionnaire and the man's questionnaire. This study uses the woman's questionnaire which gives us data on background characteristics, partner's characteristics, women's status and experience of intimate partner violence.

The experience of intimate partner violence is a sensitive issue and extra precautions have to be taken before the interview can take place. Only one respondent is chosen per household to complete the module on violence. Furthermore, an interview is only conducted if full privacy and security of the respondent can be attained. This model is based on a shortened and modified version of the Conflict Tactics Scale which was formed by Murray Strauss in 1990. This includes a range of questions that include a multitude of situations which are considered to be either physical, sexual, emotional or psychological violence. If the respondent

answers "yes" to any of the situations they are then asked about the frequency of said violence over the course of the 12 months preceding the survey.

The Demographic and Health surveys used in this study are from Kenya (2014), Mali (2012-2013), Nigeria (2013), Rwanda (2014-2015), Tanzania (2015-2016) and Uganda (2016). These are all the most recent surveys conducted for these countries which also include data on women's status and intimate partner violence.

4.2 Study population

The population considered in this study is comprised of women who were either married or in cohabitation at the time of the survey and who successfully completed the domestic violence module. The total sample population is 34,756 women aged between 15 and 49 years. This equals to 19,925 women in Nigeria, 5,873 in Tanzania, 5,642 in Uganda, 3,352 in Kenya, 2,884 in Mali and 1,415 in Rwanda. These populations are the weighted totals of women who were selected for and successfully completed the violence module of the DHS. Since women who did not complete the module on intimate partner violence are excluded from the analysis, our results may be underestimated.

4.3 Variables

After reviewing the literature and conceptual frameworks related to women's autonomy, intimate partner violence and partner's education level the following variables were created and used in the analysis.

4.3.1 Dependent variables

- *Decision-making autonomy*: I constructed an index of a woman's decision-making autonomy based on her participation in three household decisions. These decisions are in relation to her own healthcare, major household purchases and visits to family, or friends. I coded each variable as "1" if the woman either makes the decision alone or jointly with her partner and "0" otherwise. Afterwards, I created the index variable to measure whether a woman participates in all three decisions, in one or two of the three decisions or in no decisions.

- *Experience of physical violence*: a woman is considered to have experienced physical violence if she answers "yes" when asked if her current partner committed any of the following acts during the 12 months preceding the survey: *(a) push you, shake you, throw you? (b) slap you? (c) twist your arm or pull your hair? (d) punch you with his fist or with something that could hurt you (e) kick you, drag you, or beat you up? (f) try to choke you or burn you on purpose? (g) threaten to attack you with a knife, gun, or any other weapon?* I created an index variable to measure the severity of physical violence from no physical violence, to less severe physical violence and severe physical violence. The level of severity has been categorized by the DHS. Physical violence is measured as "less severe" if a woman answered "yes" to situation *(a), (b), (c)* or *(d)*. Physical violence is measured as "severe" if a woman answered "yes" to situation *(e), (f)* or *(g)*. If a woman answered "no" to all of these acts she is assumed to have not experienced any physical violence during the 12 months preceding the survey.

4.3.2 Independent variable

- *Partner's level of education:* this variable is measured based on the highest level of education completed and is characterized as, no education, primary education, secondary education or higher education.

4.3.3 Control variables

- *Woman's age:* this variable refers to the woman's age at the time of the survey. The woman is categorized into one of the seven five-year age groups, ranging from 15 to 49 years. These are grouped as follows: 15-19, 20-24, 25-29, 30-34, 35-39, 40-44 and 45-49.
- *Religion:* this variable will allow us to better observe the effects of religious beliefs on woman's autonomy and experience of IPV. I categorized the variable to include the three most prominent religions as well as other. The categories are the following: Catholic, Protestant or other Christian, Muslim, or other.
- *Marital status:* women are characterized as being either married or in cohabitation, woman who are single, divorced or widowed are excluded from the analysis. Women

are asked if they are currently married or living with a man as if married, answers are, *(1) yes currently married, (2) yes, living with a man, (3) no, not in union.*

- *Number of children*: I created four groups for this variable: 0 children, 1-3 children, 4-6 children and 7 or more children.

- *Woman's education level*: this variable will allow us to control for the effects of a woman's own educational attainment compared to the effects of her partner's level on her autonomy. A woman's own education may have stronger and more significant associations than her partner's education. This variable is categorized as: no education, primary education, secondary education and higher education.

- *Women's working status*: this variable refers to a woman's current working status and is categorized as either, currently working or not currently working.

- *Residence*: this variable refers to whether the woman resides in an urban or rural area.

- *Socioeconomic status:* this variable refers to the wealth of the household and is categorized into five hierarchal categories which were developed by the DHS: poorest, poorer, middle, rich and richest.

Six additional control variables are added to the analysis of intimate partner physical violence. These are whether or not the partner drinks alcohol, the woman witnessing marital violence as a child, the woman's acceptance of violence against women and whether or not the woman has experienced other forms of violence over the course of the twelve months preceding the survey.

- *Partner drinks alcohol:* this variable describes whether or not the partner or husband consumes alcohol and is categorized as either, yes or no.

- *Woman witnessed marital violence as a child:* this variable will allow us to capture some of the intergenerational effects of intimate partner violence. This refers to a woman ever witnessing marital violence between her parents as a child and is categorized as either yes or no.

- *Woman's acceptance of violence:* this variable refers to the number of reasons for which a woman agrees that the use of violence is justifiable. A woman is asked whether or not a husband or partner is justified in hitting or beating his wife if: *(a) she burns the food (b) argues with him (c) goes out without telling him (d) neglects the children (e) refuses to have sexual intercourse with him.* The variable is categorized

into four separate groups as women who disagree with all specified reasons, women who agree with 1-2 specified reasons, women who agree with 3-4 specified reasons and women who agree with all five specified reasons for wife abuse.

- *Experience of sexual violence:* a woman is considered to have experienced sexual violence if she answers "yes" when asked if her current or former partner committed any of the following acts during the 12 months preceding the survey: *(h) physically force you to have sexual intercourse with him even when you did not want to? (i) force you to perform any sexual acts you did not want to? (j) force you with threats or in any other way to perform sexual acts that you did not want to?* I created a dichotomous variable and assigned the number "1" if the woman answered "yes" to any of the acts of sexual violence during the 12 months preceding the survey and "0" otherwise.

- *Experience of emotional violence:* a woman is considered to have experienced emotional violence if she answers "yes" when asked if her current or former partner committed any of the following acts during the 12 months preceding the survey: *(a) say or do something to humiliate you in front of others? (b) threaten to hurt or harm you or someone close to you? (c) insult you or make you feel bad about yourself?* I created a dichotomous variable and assigned the number "1" if the woman answered "yes" to any of the acts of emotional violence during the 12 months preceding the survey and "0" otherwise.

- *Experience of psychological violence:* a woman is considered to have experienced psychological violence if she answers "yes" when asked if her current or former partner committed any of the following acts during the 12 months preceding the survey: *(a) he is jealous or angry if you talk to other men? (b) he frequently accuses you of being unfaithful (c) he does not permit you to meet female friends? (d) he tries to limit your contact with your family? (e) he insists on knowing your whereabouts at all times?* I created a dichotomous variable and assigned the number "1" if the woman answered "yes" to any of the acts of psychological violence during the 12 months preceding the survey and "0" otherwise.

4.4 Methods

This section will present the descriptive and explanatory research methods that are used in the current thesis. The descriptive analysis considers the sociodemographic characteristics of each population as well as the bivariate relationship between partner's education and the two dependent variables. Multivariate logistic regressions are used in order to analyze the importance of partner's education when other variables are included, most importantly, women's own education. This includes two types of multivariate logistic regressions. The first being multinomial logistic regression and the second refers to ordered logistic regression. Since we have two different types of categorical dependant variables different types of regressions are used in order to effectively analyze the data.

4.4.1 Descriptive analysis

A descriptive analysis is performed in order to illustrate the differences between the sample populations by sociodemographic characteristics as well as the level of women's decision-making autonomy and prevalence of intimate partner violence as captured by the DHS. Furthermore, the relationship between partner's educational attainment and women's participation in decision-making and experience of intimate partner violence are considered. This analysis is achieved with the use of frequency tables and cross-tabulations.

4.4.2 Multinomial logistic regression and decision-making autonomy

Decision-making autonomy is a complex variable and while we can say that women who participate in more household decisions have more autonomy this order is not necessarily inherent. Thus, a multinomial logistic regression is used to analyze this variable. I will further explain this method in the following paragraphs, this explanation has been based on a combination of those put forth by Menard (2002), Osborne (2015) and Kennedy (2008).

The multinomial regression model is an extension of the binary logistic regression model and allows us to analyze variables containing more than two categories that have no intrinsic order. We use this method in order to estimate the probability of belonging to one of the categories of the dependent variable while taking into account the effects of multiple independent and control variables. The corresponding coefficients are predicted using maximum

likelihood estimation. In order to do this, we set one value of the dependent variable as the reference category and then the probability of falling into one of the other categories is compared to the probability of belonging to the reference category. For dependent variables having *M* number of categories, this requires the calculation of *M-1* equations. Therefore, one equation is calculated for each category relative to the reference category in order to describe the relationship between the dependent variable and the independent variables.

In the current analysis, the decision-making autonomy variable has three categories (M=3) and therefore two regression equations will be calculated (M=3: 3-1=2). Each of these equations will compare the probabilities of being in one of the alternative categories versus being in the reference category. Taking the current dependent variable, we can see that a woman can belong to three categories by either participating in none of the decisions (A) 1-2 decisions (B) or in all three decisions (C). If we set participating in all three decisions as the reference category the equations become the following:

$$prob\ (A) = \frac{e^{X\beta_A}}{1 + e^{X\beta_A} + e^{X\beta_B}}$$

$$prob\ (B) = \frac{e^{X\beta_B}}{1 + e^{X\beta_A} + e^{X\beta_B}}$$

$$prob\ (C) = \frac{1}{1 + e^{X\beta_A} + e^{X\beta_B}}$$

The relative probability of (A) and (B) to the base outcome or reference category (C) can be expressed as follows:

$$\frac{prob\ (A)}{prob\ (C)} = e^{X\beta_A}$$

$$\frac{prob\ (B)}{prob\ (C)} = e^{X\beta_B}$$

The coefficients will be expressed as risk ratios (RR) and thus if we assume that X and β_A are vectors being equal to $(x_1, x_2, \ldots, x_k)$ and $(\beta_1^A, \beta_2^A, \ldots, \beta_k^A)$. The ratio relative to the risk of a one unit increase in x_i is

$$\frac{e^{\beta_1^A x_1 + \ldots \beta_i^A (x_i + 1) + \cdots + \beta_k^A x_k}}{e^{\beta_1^A x_1 + \ldots \beta_i^A x_i + \cdots + \beta_k^A x_k}} = e^{\beta_i^A}$$

Therefore, the exponentiation of the coefficient gives us the risk ratio (RR) for a one-unit change in the corresponding variable. The risk is measured as the risk of the outcome relative to the reference category.[12]

The first equation will compare the probability of a woman participating in none of the household decisions versus participating in all three decisions, and the second will compare the probability of a woman participating in 1-2 decisions compared to all three decisions. Therefore, the risk ratio may be interpreted as the following:

If the risk ratio (RR) < 1 the risk of being in the reference category is higher
If the risk ratio (RR) > 1 risk of being in the comparison category is higher

In the case of the current study, the reference category is a woman's participation in all three household decisions. Therefore, a risk ratio (RR) less than 1, signifies that the woman has a higher risk of participating in all three decisions. While an RR greater than 1, indicates that the woman has a higher risk of participating in fewer decisions (either no decisions or 1-2 decisions based on which is the comparison category).

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[12] The explanation of the risk ratio (RR) was done with reference to the STATA 13 manual pertaining to mlogit – Multinomial (polytomous) regression. https://www.stata.com/manuals13/rmlogit.pdf

4.4.3 Ordered logistic regression and experience of physical violence

The second dependent variable being considered in the analysis is that referring to the experience of physical violence during the twelve months preceding the survey. This variable is categorized by severity and includes three categories. These categories are the following, no physical violence experienced, less severe physical violence experienced and severe physical violence experienced. This variable meets the definition of an ordinal variable as there is an ordered sequence of severity, however there are no consistent intervals between groups (Osborne 2015). Furthermore, this variable can be ordered from low (no physical violence experienced) to high (severe physical violence experienced) I will describe this method further in the following paragraphs, this description is based on a combination of those put forth by Agresti (2002), Norusis (2011) and Osborne (2015).

Similarly, to the multinomial logistical regression, ordered logistic regression (also known as the proportional odds model) is also an extension of the binary logistic regression model. The ordered logistic regression model simultaneously estimates multiple binary equations comparing all groups below a particular threshold with all groups above that threshold. However, an ordered logistic regression summarizes the model with a single set of coefficients that represents the effect of each independent variable on the dependent variable. The coefficient tells us the probability of being in a higher group of the ordered categories of the dependent variable. Therefore, we assume that the relationship remains constant between each independent variable and all possible outcomes of the dependent variable.

The ordered logit regression model for a single independent variable is then

$$logit[P(Y \leq j|x)] = \alpha_j + \beta'x \qquad j = 1, ... J - 1$$

Where Y is a categorical response variable with j categories, α_j represents the intercept or threshold term and β represents the coefficient. Each logit has its own intercept but the same coefficient, therefore the effect of the independent variable is the same for different logit functions.

The ordered logistic regression model in the current study will estimate the coefficients as odds ratios and they can be interpreted as the following:

If the odds ratio (OR) < 1 the chance of being in a higher category decreases

If the odds ratio (OR) > 1 chance of being in a higher category increases

Similarly, to the risk ratio (RR) the exponentiation of the ordered logit coefficient gives us the odds ratio (OR).

4.5 Limitations

While performing population analysis a number of limitations can arise from the data being used, variables selected, and methods chosen among others. These limitations must be considered while analyzing and presenting the results.

First, the data in this study come from the Demographic and Health Survey which are cross-sectional. This means that we are only given a snapshot of the population at one point in time and therefore cannot study causation effects. The data is unable to tell us whether one event leads to another, however it can tell us whether or not the event occurs in relation to a number of sociodemographic characteristics.

Second, the nature of the topic under study is a very sensitive issue and may lead some women to conceal information relative to their experiences of intimate partner violence. This self-reporting bias is likely to underestimate the number of women having experienced intimate partner violence during the year preceding the survey. Furthermore, since the questions refer to events happening in the past, recall bias may also be present. A traumatizing event such as the experience of abuse from an intimate partner may lead to gaps in memory and an inability to remember certain events. It may also cause a woman to refuse to answer a certain question or give an "I don't know" response. This may also underestimate the number of women having experienced violence by an intimate partner. Furthermore, partner's education levels were also based on self-reports from women and could also be biased, especially if a woman is unaware of her husband or partner's exact level of completed education.

Third, the study only considers women who are either married or in cohabitation at the time of the survey. Therefore, women who are either divorced or in other dating relationships are not considered. This biases the sample as it only comprises women who stayed with their partners after abuse has taken place (Pandey 2016). It is possible that abuse has also taken place

in other forms of relationships, however we are only interested in violence that takes place within the household of partners currently living together. Furthermore, women in polygamous unions are included however, they are not analyzed as a separate variable. They are considered as being either married or in cohabitation based on their answer to the question on marital status. Although women in polygamous marriages have been observed to experience higher levels of abuse than monogamous marriages in some instances (Kimuna and Djamba 2008), this is not the focus of the current study.

Finally, we are unable to control for the differences between education systems among the different countries. These data are not collected by the Demographic and Health Surveys (Adjiwanou and LeGrand 2015). It is possible that education systems teach either egalitarian or patriarchal social and gender norms, which may affect the ways in which educated people interact with the environment that surrounds them. These differences may depend on the levels of patriarchy that are present within a culture and society which were discussed earlier in the conceptual frameworks. Furthermore, the quality of education and learning accomplishments may also vary by country, however these aspects are not captured by the DHS.

Chapter 5: Results

5.1 Descriptive results

5.1.1 Women's decision-making autonomy

The following graph (Figure 11 on page 55) presents the percentages of women who make decisions either alone or jointly with their partner by country. From this information, we can see that women in Rwanda seem to have the highest decision-making autonomy as more women participate in all decisions than in the other countries. In this country, 83.6% of women participate either alone or jointly in decisions concerning their own healthcare, 72.8% of women participate alone or jointly in decisions about major household purchases and 86.6% of women participate alone or jointly in decisions regarding visits to family and friends. On the other hand, women in Mali seem to have the lowest levels of decision-making autonomy within the household with only 14.4% of women participating in decisions about their healthcare, 18.4% participate in decisions about household purchases and 21.4% participate in decisions concerning visits to family and friends. In general, it seems that women are least likely to participate in financial decisions as is represented by decisions about household purchases. This is evident in five out of the six countries, where the percentages of women who participate in these decisions are lowest. There is however one exception, in Mali, where women are more likely to participate in decisions about household purchases (18.4%) than their own healthcare (14.4%), but less likely than in decisions regarding visits to family and friends (21.4%).

Figure 11. Women Who Make Decisions Alone or Jointly with their Partner by Country (%)
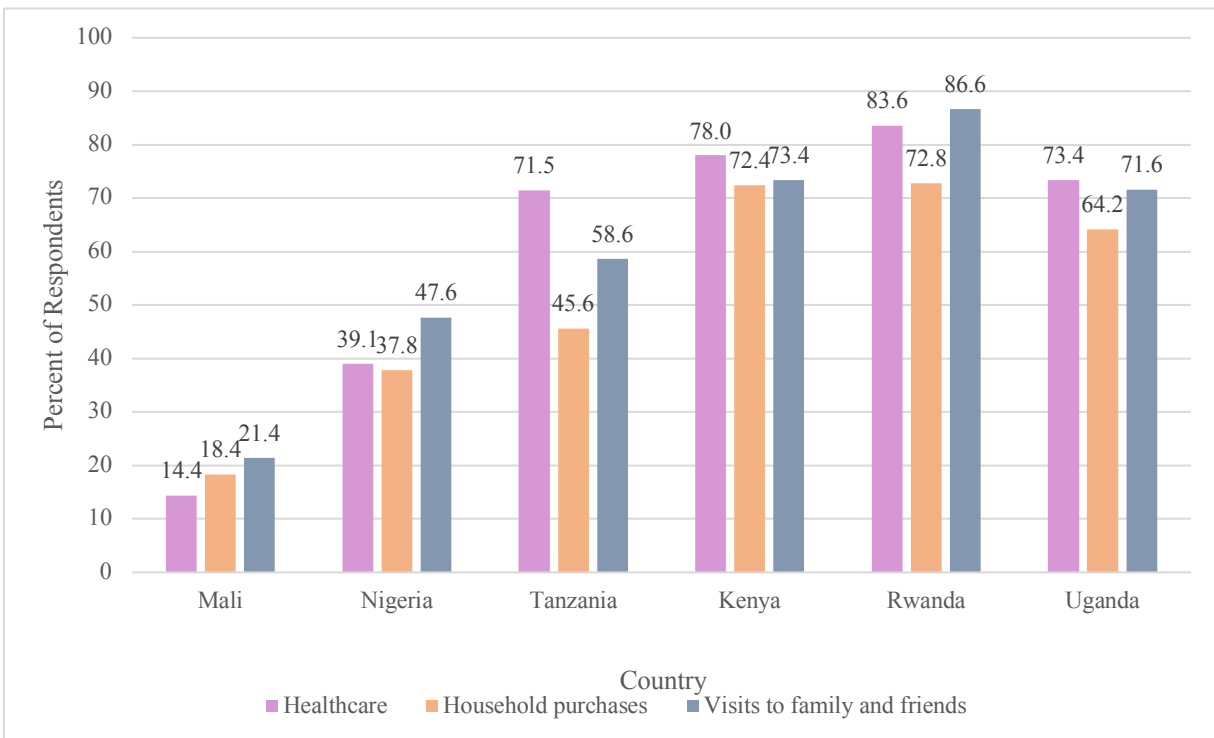
Note: Population sizes vary as "I don't know" responses and non-responses were excluded from the analysis

5.1.2 Prevalence of intimate partner violence

Figure 12 (page 56) shows the prevalence of intimate partner violence during the twelve months preceding the survey by country and by type of violence. Overall, women were most likely to report psychological violence which ranged from 42.8% of women in Rwanda to 74.1% of women in Uganda. This is followed by emotional violence, which was least reported in Nigeria (15.4%) and most reported in Uganda (36.7%). The report of physical violence was also high in all countries varying from 8.9% of women in Nigeria to 26.4% of women in Tanzania. Sexual violence was the least likely to be reported by women residing in all countries. This was the lowest in Nigeria (3.6%) and the highest in Uganda (22.4%). Overall, it seems that women living in Uganda were most likely to report all types of intimate partner violence except physical violence which was highest among women in Tanzania.

Figure 12. Experience of Intimate Partner Violence by Type of Violence and Country (%)
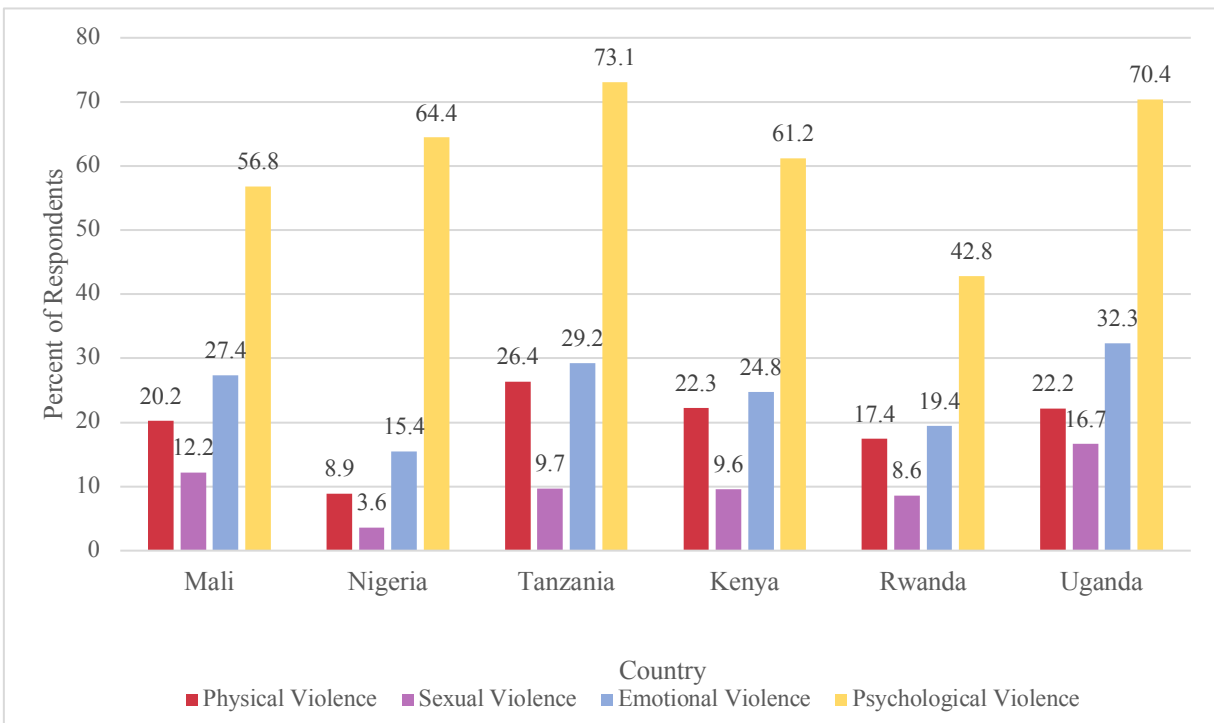
Note: Population sizes vary as "I don't know" responses and non-responses were excluded from the analysis

5.1.3 Sociodemographic characteristics

This section discusses and compares the sociodemographic characteristics of the respondents residing in the six countries under study. These characteristics include the age distribution, marital status, religion, residence, partner's educational attainment, women's educational attainment and the educational attainment among couples. The respondents only include women who were selected and successfully interviewed for the domestic violence module of the Demographic and Health Surveys. For certain variables, the total population may change as some questions may be sensitive resulting in a number of either non-response or "I don't know" answers. As these responses made up less than 1% of the answers in all countries, both were excluded from the analyses. Therefore, the analyses only consider those who fully responded to the variables in question

5.1.3.1 Age distribution of the respondents

From Figure 13 below we can see the age distribution among the respondents for each country considered in this study. The age distributions for women considered in the study are similar for each country although a few differences exist. All countries show a peak around the 20 to 24-year age group to which a quarter of the women belong, except in Rwanda where this peak is shifted to the right as a quarter of respondents (25.6%) belong to the 30 to 35-year age group. Uganda shows the youngest age distribution with 30% of respondents being under the age of 25 years. Followed by Mali where 27% of the respondents is under the age of 25 years.

Figure 13. Age Distribution of Respondents by Country (%)
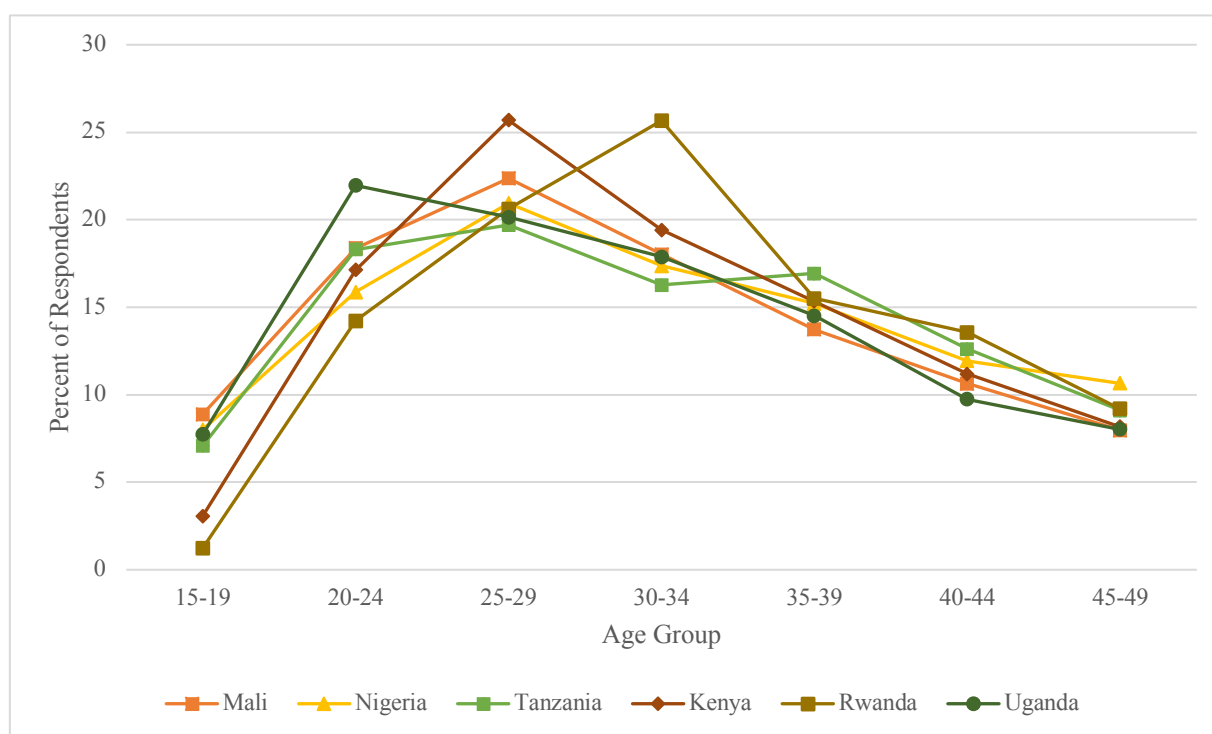
5.1.3.2 Marital status

Figure 14 (page 58) shows the proportion of respondents in each category by country. Overall, the majority of women are married in all countries. The highest proportions of married women are found in Kenya, Mali and Nigeria where over 90% of respondents said they were married in each country. Cohabitation seems to be the most popular in Uganda with 50% of respondents saying they were not married but were living with their partner. This pattern is then

followed by Rwanda and Tanzania where 34.7% and 28% of respondents said they were in a cohabitation.

Figure 14. Marital Status of Respondents by Country (%)
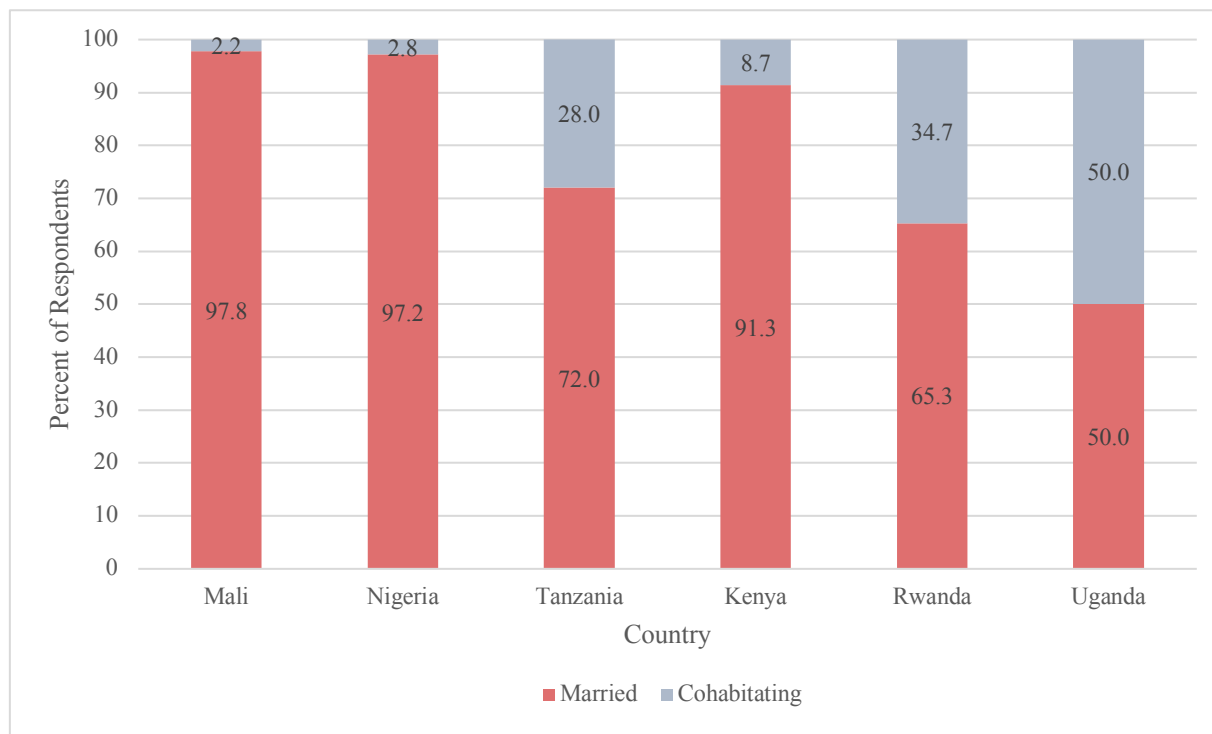
5.1.3.3 Religion

The percentages of respondents who identify with the different religious groups by country are shown in Figure 15 (page 59). Almost all of the respondents in Mali and the majority of respondents in Nigeria identify as Muslim at 93% and 60.5% respectively. Kenya has the highest proportion of Protestant or other Christians with 70.9% of respondents identifying with this group. This is followed by Rwanda (58.2%), Uganda (45.8%) and then Nigeria (29.7%). The Tanzanian Demographic and Health Survey did not collect data on religion.

Figure 15. Religious Affiliation of Respondents by Country (%)
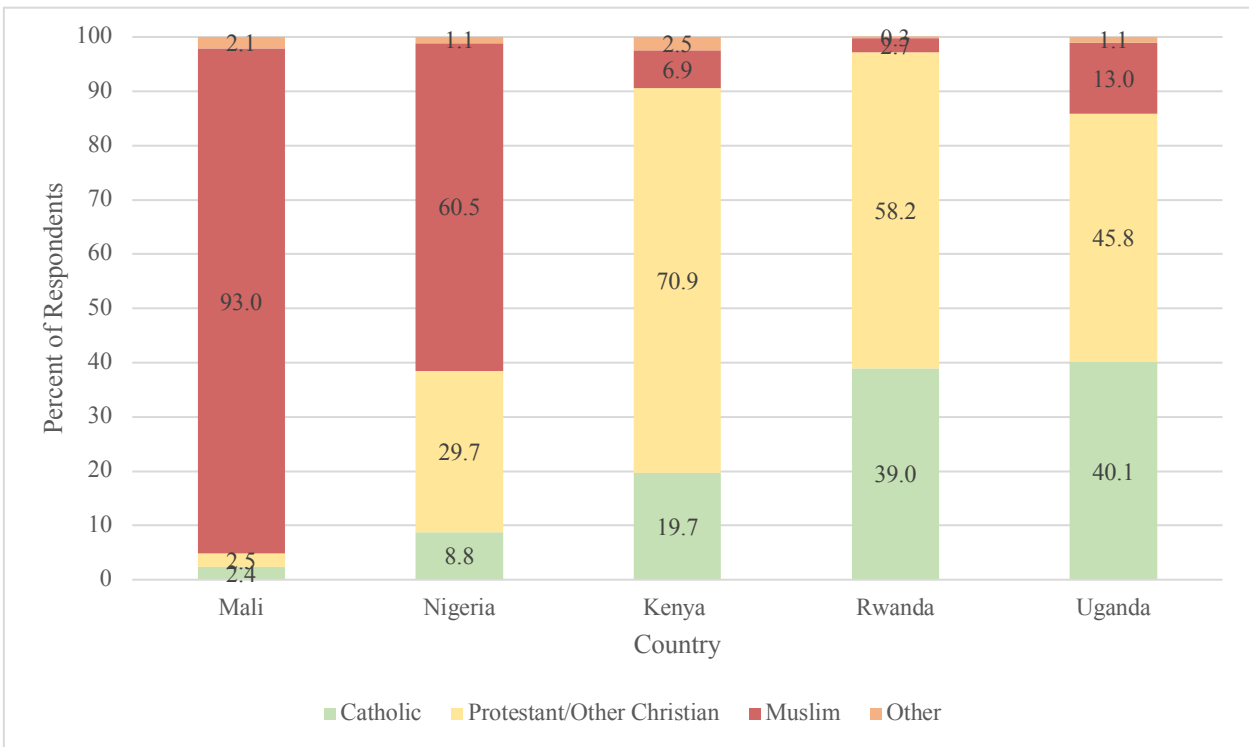
Note: No data was collected on religious affiliations in Tanzania

5.1.3.4 Residence

Information about residence can be found in Figure 16 (page 60). The majority of respondents in all countries reside in rural areas. Kenya has the largest proportion living in urban areas at 38.7% followed by Nigeria (36.5%) and Tanzania (31.3%). Rwanda and Uganda have the smallest proportion of respondents who live in urban areas at 17.9% and 22.4% respectively. A quarter of respondents live in urban areas in Mali.

Figure 16. Urban and Rural Residence among Respondents by Country (%)
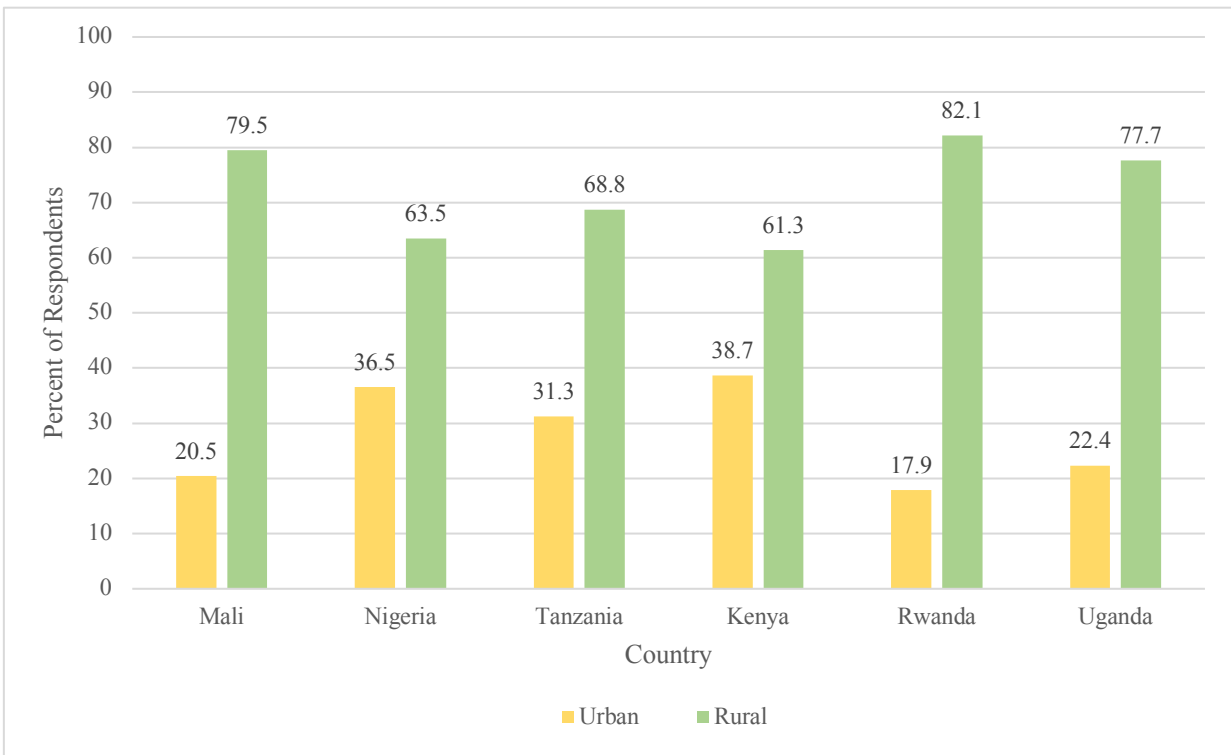
5.1.3.5 Partner's educational attainment

We can gather information pertaining to partner's educational attainment from Figure 17 (page 61). Mali shows the highest proportion of men who have no education at 80%. Rwanda exhibits the highest proportion of partners who have completed the primary level at 71.5% followed by Tanzania, Uganda and Kenya at 71.5%, 54.3% and 48.6% respectfully. The results for secondary and higher education levels show Kenya having the highest proportion of partners with secondary education at 32.4% and Nigeria with the highest proportion of partners having higher education at 13.8%.

Figure 17. Partner's Educational Attainment by Country (%)
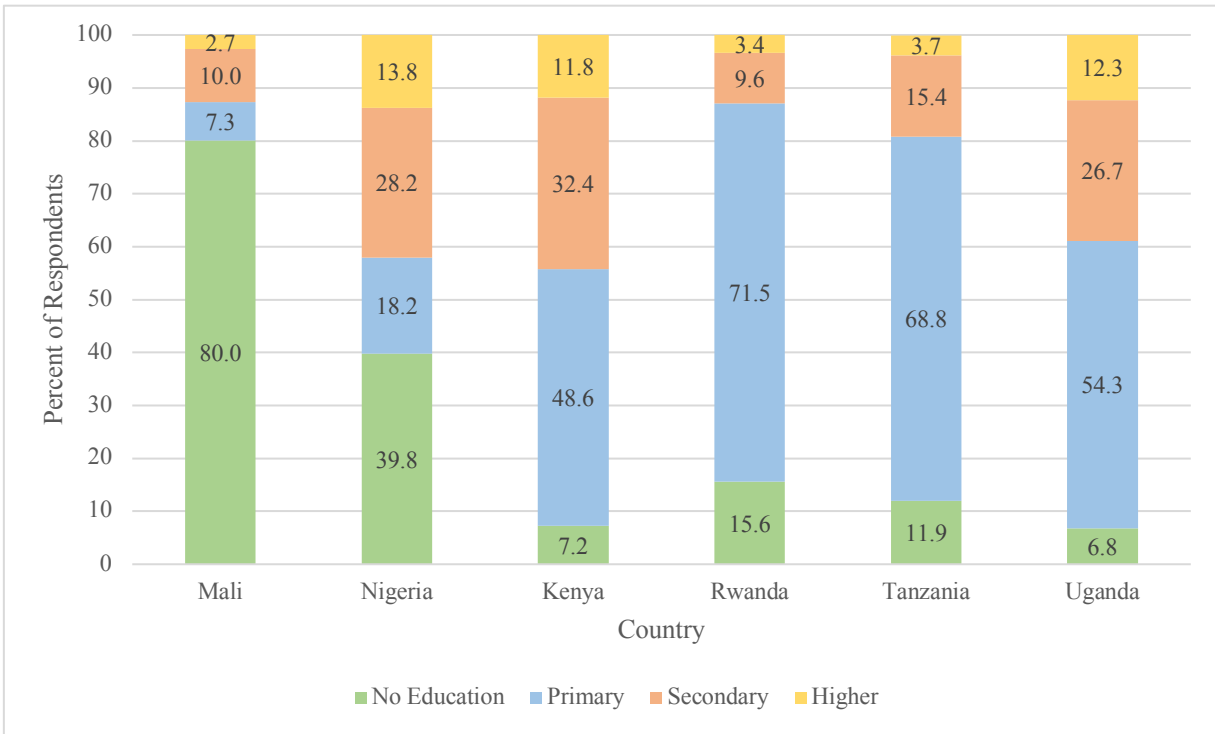
Note: Partner's educational attainment as was reported by women respondents

5.1.3.6 Educational attainment among respondents

The following graph (Figure 18 on page 62) displays the educational attainments among respondents by country. If we compare the countries by level of educational attainment we can see that similarly to partner's educational attainment, Mali also has the lowest educated women with 80.4% of respondents having no education. Rwanda has the highest proportion of women who have completed primary education at 71.8% of respondents. This is followed by Tanzania (66%), Uganda (59.4%) and Kenya (55.7%) who also show that the majority of women interviewed had primary education. Among all countries, Kenya had the highest proportions of women who had both secondary and higher education at 26.2% and 8.6% respectfully, as well as the lowest proportion of women who had no education (9.6%). Overall, the educational attainments among respondents is relatively low.

Figure 18. Educational Attainment among Respondents by Country (%)
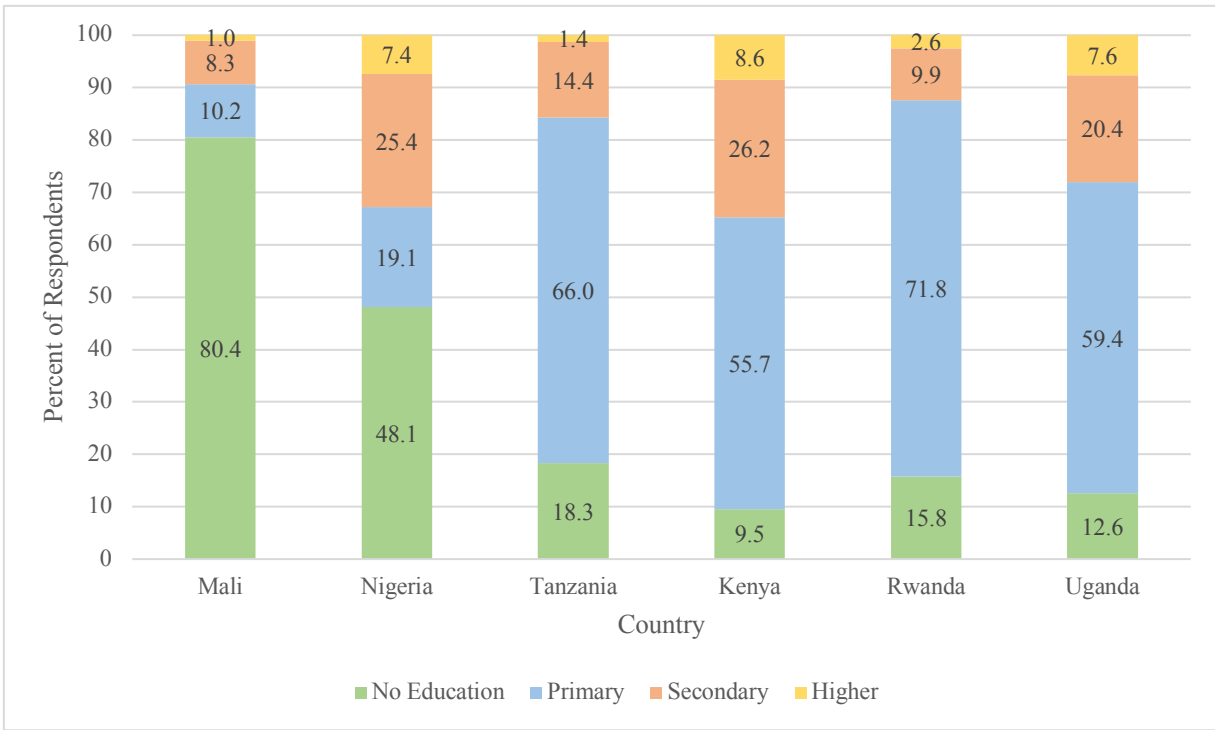
5.1.3.7 Educational attainment among couples

It is important to also compare the levels of education between spouses or partners as equally educated couples may behave in different ways than those who have unequal education. This information can be gathered from Figure 19 (page 63) where we can see the percentages of couples who are equally educated and percentages of couples where the man or woman is more educated than their spouse.

Figure 19.   Educational Attainment among Couples (%)
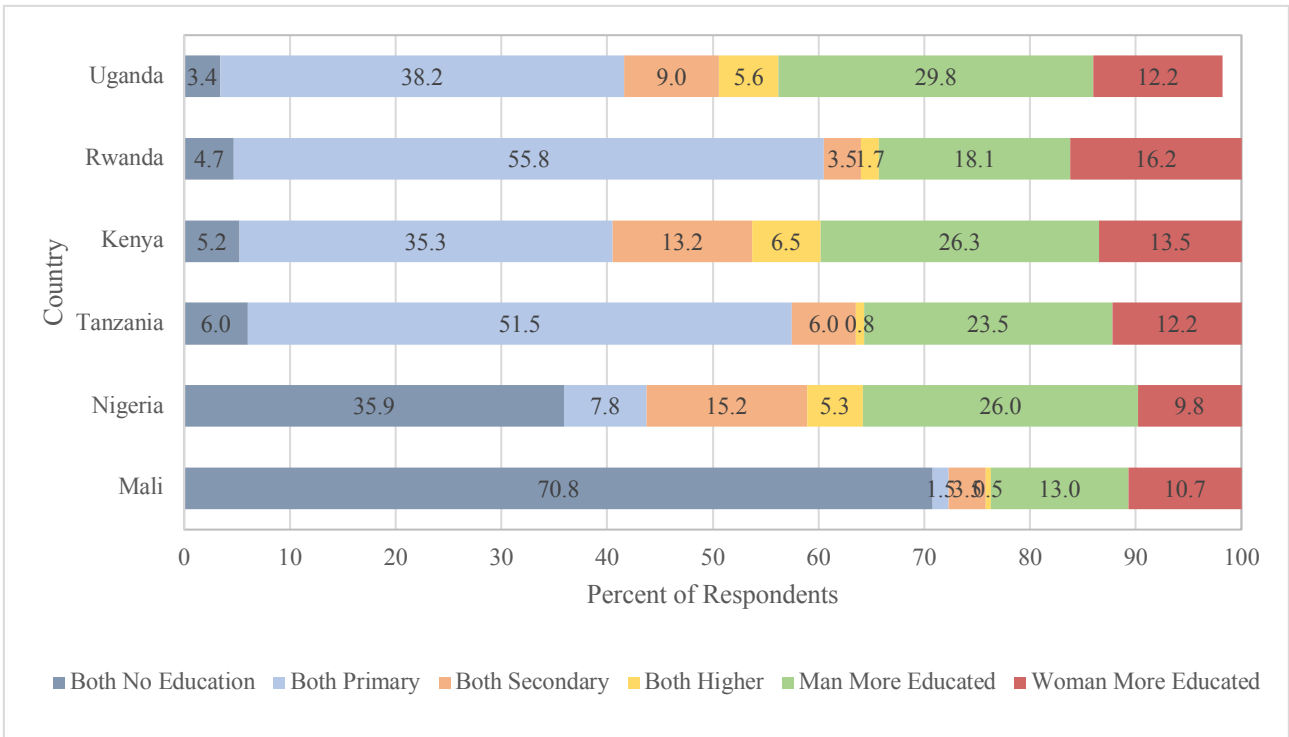
In Mali, the majority of couples have low education with 70.8% of them having no education. Furthermore, a third (35.9%) of couples in Nigeria have no education, the proportions relative to couples having no education are much smaller in the other countries. In couples where the education levels are not equal, men more often have higher levels of education than women in all countries. This ranges from 13% of couples in Mali to 29.8% of couples in Uganda. A large proportion of equally educated couples have primary education in Rwanda and Tanzania at 55.8% and 51.5% respectively. This is also true in Uganda where 38.2% and in Kenya where 35.3% of couples have primary education. Nigeria and Kenya have the highest proportions of couples where both spouses have secondary education. This equals to 15.2% of couples in Nigeria and 13.2% of couples in Kenya. The percentage of couples where both spouses have higher education is quite low among all countries ranging from 0.5% in Mali to 6.5% in Kenya. Among all countries, Rwanda has the highest proportion of couples where the woman has more education than her spouse at 16.2%. This is followed by Kenya (13.5%), Tanzania (12.2%) and Mali (10.7%).

5.1.4 Women's decision-making autonomy and experience of intimate partner violence by partner's educational attainment

The relationship between partner's level of education and women's decision-making autonomy and experience of violence was analyzed in each country. As expected, there appears to be a variation of relationships that exists between these variables in each country. I first present the results pertaining to decision-making followed by intimate partner violence.

5.1.4.1 Decision-making autonomy and partner's educational attainment

Table 3 on page 65 shows the relationship between partner's education level and women's decision-making in all countries. Among countries belonging to the very high or high SIGI category it appears that there is a positive relationship between partner's education and women's decision-making, for all three decisions in Mali and Tanzania. This is to say that as partner's education level increases so does the percent of women who participate in the decision. This relationship also exists in Nigeria, however only for decisions related to healthcare and household purchases.

Among the countries belonging to the medium SIGI category, it appears that there is only a positive relationship between partner's education and all three decisions in Kenya. In Rwanda, this relationship is evident only for decisions about healthcare. While in Uganda, this relationship is not apparent for any of the decisions.

Table 3. Decision-Making Autonomy by Partner's Educational Attainment (%)

SIGI Category: Very High or High

Partner's education	Mali			Nigeria			Tanzania		
	Healthcare	Household Purchases	Visits to family/friends	Healthcare	Household Purchases	Visits to family/friends	Healthcare	Household Purchases	Visits to family/friends
No education	13.1	17.0	19.4	18.7	15.6	73.5	63.1	35.0	48.8
Primary	17.3	21.3	27.2	48.0	47.6	42.2	71.7	45.4	58.1
Secondary	19.4	25.4	30.0	54.3	54.5	37.0	75.5	50.2	63.0
Higher	25.6	27.0	35.1	56.0	55.5	36.0	80.1	66.1	81.0

SIGI Category: Medium

Partner's education	Kenya			Rwanda			Uganda		
	Healthcare	Household Purchases	Visits to family/friends	Healthcare	Household Purchases	Visits to family/friends	Healthcare	Household Purchases	Visits to family/friends
No education	70.3	66.7	64.2	81.9	73.8	88.2	77.2	70.2	73.2
Primary	77.0	70.2	70.9	82.5	72.5	84.9	71.8	63.0	69.7
Secondary	79.8	75.3	76.0	90.3	69.4	94.0	72.5	62.1	71.5
Higher	82.9	78.3	82.9	95.7	81.3	93.6	81.5	72.8	79.3

Note: A woman is considered to participate in a decision if she expressed that she decides either alone or jointly with her partner

5.1.4.2 Intimate partner violence and partner's educational attainment

Table 4 on page 67 shows the relationship between partner's education level and the experience of four types of intimate partner violence. Among countries belonging to the very high or high SIGI category, no clear relationships emerge across all countries, rather they vary between them. In Tanzania, there is a negative relationship between partner's education level and three of the four types of violence (physical, sexual and emotional). In the sense that, as a partner's education increases the woman's experience of violence decreases. In Mali, this relationship is apparent between partner's education and physical violence only. No relationships seem to exist in this respect in Nigeria. Interestingly, it appears that women whose partners have higher education are the most likely to suffer from psychological violence in Mali and Tanzania.

Among the other countries belonging to the medium SIGI category, no clear relationships emerge among all three. In Rwanda, there is a negative relationship between partner's education and physical as well as emotional violence. In Uganda, this relationship is apparent in relation to physical and sexual violence. No relationship is found in Kenya, although it appears that women whose partners have primary education are the most likely to suffer from all four types of violence.

While the cross-tabulations reveal some interesting relationships between partner's educational attainment, women's decision-making and experience of intimate partner violence, it is necessary to perform multivariate regressions in order to control for other variables. Most importantly, women's own educational attainment.

Table 4. Experience of Intimate Partner Violence by Partner's Educational Attainment (%)

SIGI Category: Very High or High

Partner's education	Mali				Nigeria				Tanzania			
	Physical	Sexual	Emotional	Psychological	Physical	Sexual	Emotional	Psychological	Physical	Sexual	Emotional	Psychological
No education	20.6	12.0	27.2	55.7	4.3	2.7	9.9	66.7	30.2	10.8	35.5	70.1
Primary	20.5	13.3	34.0	65.2	13.9	5.2	20.9	61.2	27.2	10.2	30.2	72.4
Secondary	19.0	12.1	24.4	56.6	12.5	4.1	18.8	62.4	22.4	8.2	22.6	77.1
Higher	13.0	14.1	24.3	67.1	7.9	3.1	17.8	66.1	14.4	1.9	19.6	79.5

SIGI Category: Medium

Partner's education	Kenya				Rwanda				Uganda			
	Physical	Sexual	Emotional	Psychological	Physical	Sexual	Emotional	Psychological	Physical	Sexual	Emotional	Psychological
No education	24.7	6.3	17.2	52.1	20.6	8.6	28.9	44.8	41.7	33.2	16.6	70.4
Primary	26.5	11.1	28.5	64.2	18.2	8.3	18.6	41.7	36.0	26.1	19.4	70.7
Secondary	20.5	10.0	23.4	60.8	9.9	12.8	18.6	49.3	28.0	17.0	15.1	72.2
Higher	10.3	5.6	18.5	54.9	6.4	4.3	0.0	36.2	21.3	11.8	9.6	64.4

5.2 Multivariate regression results

5.2.1 Effects of partner's education on women's decision-making autonomy

Table 5 (page 70) presents the results of the multinomial regressions pertaining to the effects of partner's educational attainment on women's decision-making autonomy. The participation in 1-2 decisions is the comparison category and participation in all three household decisions was set as the base outcome. Results pertaining to women who do not participate in any of the household decisions can be found in the appendix (Table A.1).

The results show different patterns in relation to the effects of partner's educational attainment on women's decision-making. In the first model, we find the results for the bivariate multinomial regression with partner's educational attainment and the autonomy dependent variable. For women whose partners have primary education, the relative risk (RR) of participating in all three decisions compared to participating in a few (1-2) is significantly lower in Kenya (RR=1.53*) and Uganda (RR=1.33*). The risk to participate in all three decisions compared to a few (1-2) was significantly higher among partners with primary education in Nigeria (RR=0.42***) and Tanzania (RR=0.77*). Partners having secondary level education was associated with a higher risk of participating in all three decisions in Nigeria (RR=0.38**) and Tanzania (RR=0.69*). This pattern continued into partner's higher education where both Nigeria (RR=0.35***) and Tanzania (RR=0.40*) showed a higher risk of participating in all three decisions compared to participating in one or two decisions. Partner's educational attainment did not have significant effects on women's decision-making autonomy in Mali or Rwanda.

Different patterns emerged when women's own educational attainment was added into the second model. For women whose partners have primary education the risk of participating in all three household decisions compared to one or two decisions was lower in Kenya (RR=1.60*). This risk increased slightly from the first model but retained significance at the 5% level. Partner's primary education was no longer significant in Uganda after women's own educational attainment was incorporated. In Nigeria, the risk to participate in all three decisions decreased, however remained significant at the 0.1% level (RR=0.62***). Partner's secondary

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education became significant in Rwanda (RR=1.91*), having a higher risk to participate in one or two decisions than participating in all three decisions.

Table 5. Multinomial Logistic Regression Results: Effects of Partner's and Women's Educational Attainment on Women's Decision-Making Autonomy (Risk Ratios (RR)) with participation in all three decisions as the reference category

1-2 decisions vs. All three decisions (reference category)

	SIGI: Very High or High								
	Mali			**Nigeria**			**Tanzania**		
	Model 1	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**
Partner's education									
No Education	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
Primary	0.68	0.77	0.74	0.42***	0.62***	0.79*	0.77*	0.81	0.86
Secondary	0.71	0.91	0.98	0.38***	0.65***	0.84	0.69*	0.81	0.83
Higher	1.23	2.09	2.49	0.35***	0.69***	0.93	0.40***	0.58	0.66
Women's education									
No Education		ref.	ref.		ref.	ref.		ref.	ref.
Primary		0.53*	0.56*		0.56***	0.78**		0.88	0.88
Secondary		0.71	0.79		0.48***	0.76**		0.73*	0.69*
Higher		0.34	0.56		0.36***	0.72*		0.33***	0.32***

	SIGI: Medium								
	Kenya			**Rwanda**			**Uganda**		
	Model 1	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**
Partner's education									
No Education	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
Primary	1.53*	1.60*	1.75*	1.20	1.18	1.16	1.33*	1.22	1.19
Secondary	1.39	1.52	1.73*	1.53	1.91*	1.78*	1.21	1.12	1.03
Higher	0.91	1.38	1.56	0.52	1.36	1.33	0.91	1.15	1.19
Women's education									
No Education		ref.	ref.		ref.	ref.		ref.	ref.
Primary		0.95	1.13		1.27	1.16		1.27*	1.05
Secondary		0.91	1.09		0.67	0.61		1.30	0.92
Higher		0.48*	0.61		0.20*	0.20*		0.59*	0.48***

Level of Significance: ***p<0.001; **p<0.01; *p<0.05

Model 1   Only partner's education
Model 2   Partner's and women's own education
Model 3   Partner's education and all covariates

Notes: model 3 controlled for women's age, religion, marital status, number of children ever born, women's working status, residence and wealth status.

RR>1 = higher risk of being in the comparison category (1-2 decisions)

RR<1= higher risk of being in the reference category (3 decisions)

For women whose partners had secondary education in Nigeria, the risk of participating in all three decisions decreased, however increased in significance to the 0.1% level (RR=0.65***). Partner's education was no longer significant in Tanzania after women's own educational attainment was added. Finally, partner's higher education was only significant in Nigeria, where women whose partners had higher education had 0.69 times the risk of participating in one or two decisions compared to three decisions (RR=0.69***). While this risk decreased slightly with the addition of women's own education, it retained its significance at the 0.1% level. Therefore, Nigerian women whose partners have higher education were more likely to participate in all three decisions than one or two decisions compared to those whose partners have no education.

After all of the other covariates were added to the regression we can see that partner's educational attainment remained significant in three of the six countries studied. Partner's primary education was associated with a higher risk of a woman participating in all three decisions compared to one or two decisions in Nigeria (RR=0.79*). This had the opposite effect in Kenya (RR=1.75*) where women whose partners have primary education were more likely to participate in one or two decisions rather than all three. This same effect was found at the secondary education level in Kenya (RR=1.73*) and Rwanda (RR=1.78*). Partner's higher education was not found to be significant after all other covariates were added to the model.

5.2.1.1 The effects of women's own education attainment

Table 5 (page 70) also presents in Models 2 and 3, the effect of women's own educational attainment on her decision-making autonomy. Model 2 shows that women with higher education are more likely than those having no education, to participate in all three decisions compared to one or two decisions in Nigeria (RR=0.36***), Kenya (RR=0.48*), Rwanda (RR=0.20*), Tanzania (RR=0.33***) and Uganda (RR=0.59*). In Mali, women's primary education was associated with a higher risk of participating in all three decisions compared to one or two (RR=0.53*). In Uganda, women having primary education were more likely to participate in one or two household decisions than in all three (RR=1.27*). Women's secondary education was associated with a higher risk to participate in all three decisions in comparison to one or two decisions in Nigeria (RR=0.48**) and Tanzania (RR=0.73*). In Model 3, we can see the effects of women's own education while controlling for the other

independent variables considered in the study. Women's higher education remained significant in Nigeria (RR=0.72*), Rwanda (RR=0.20*), Tanzania (RR=0.32***) and Uganda (RR=0.48***). Women's higher education was no longer significant in Kenya (RR=0.61) and remained insignificant in Mali. The effects of women's primary education on decision-making remained significant in Mali (RR=0.56*) and Nigeria (RR=0.78***). Furthermore, the effects of women's secondary education remained significant in Nigeria (RR=0.76**) and Tanzania (RR=0.69*).

In general, women's own educational attainment seems to be a stronger predictor of her participating in more decisions than that of her partner.

5.2.1.3 Other independent variables

The results pertaining to the other independent variables considered in the analysis can be found in the appendix (Table A.1).

Older women were significantly more likely to participate in more decisions in all countries except for Rwanda. Religion had significant effects in Nigeria and Uganda, where Muslim women were more likely to participate in all three decisions. Marital status was only significant in Mali, where women living in cohabitation were less likely to participate in more decisions. The number of children ever born was significant in Nigeria, where women having seven or more children were less likely to participate in decisions. This was also significant in Uganda, where women having less children (1-3) were more likely to participate in all three decisions. Women who are working were significantly more likely to participate in all three household decisions than those who were unemployed, in all countries studied, except Rwanda. Finally, socio-economic status had significant effects in Nigeria and Uganda, where increasing wealth was associated with participating in more decisions.

5.2.2 Effects of partner's educational attainment on experience of physical violence

Table 6 (page 74) presents the results of the ordered logit regression of the effects of partner's educational attainment on women's experience of physical violence. From Model 1, we can gather information about the net effects of partner's education on intimate partner

violence. In Nigeria, partner's education is not a protective factor against physical violence. Nigerian women whose partners have primary education were 3.52 (OR=3.52***) times more likely to experience less severe or severe violence than partners having no education. Furthermore, women whose partners have secondary education were 3.46 (OR=3.46***) times more likely to experience violence and women whose partners have higher education were 2.01 (OR=2.01***) times more likely to experience violence in Nigeria. Although, Nigerian women whose partners have any level of education are more likely to experience violence, there appears to be a negative relationship between partners education and experience of physical violence. This is evident as the odds ratios decrease as level of partner's education increases.

Table 6. Ordered Logistic Regression Results: Effects of Partner's and Women's Educational Attainment on Women's Experience of Physical Violence (Odds Ratios (OR))

Physical Violence Severity: no violence, less severe physical violence, severe physical violence

| | SIGI: Very High or High | | | | | | | | |
| | **Mali** | | | **Nigeria** | | | **Tanzania** | | |
	Model 1	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**
Partner's education									
No Education	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
Primary	1.26	1.25	0.81	3.52***	2.04***	1.21	0.81*	0.82*	0.88
Secondary	0.97	0.98	0.98	3.46***	1.86***	1.31*	0.53***	0.61***	0.83
Higher	1.04	0.98	1.22	2.01***	1.29*	1.00	0.45**	0.66	0.78
Women's education									
No Education		ref.	ref.		ref.	ref.		ref.	ref.
Primary		1.16	1.28		2.72***	1.62***		1.05	1.05
Secondary		0.84	0.58		2.35***	1.26		0.69***	0.77
Higher		1.84	1.07		1.24	0.69		0.49	1.01

| | SIGI: Medium | | | | | | | | |
| | **Kenya** | | | **Rwanda** | | | **Uganda** | | |
	Model 1	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**
Partner's education									
No Education	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
Primary	1.16	0.99	0.61*	0.77	0.79	1.15	0.84	0.88	0.99
Secondary	0.75	0.70	0.51*	0.35***	0.46*	0.67	0.48***	0.58***	0.77
Higher	0.37***	0.55*	0.51*	0.16*	0.34	1.18	0.32***	0.63*	0.90
Women's education									
No Education		ref.	ref.		ref.	ref.		ref.	ref.
Primary		1.39	0.77		1.04	1.07		1.02	1.24
Secondary		1.04	0.67		0.51*	0.62		0.58***	1.14
Higher		0.47*	0.26**		0.38	0.84		0.27***	0.70

Level of Significance: ***p<0.001; **p<0.01; *p<0.05

Model 1	Only partner's education
Model 2	Partner's and women's own education
Model 3	Partner's education and all covariates.

Note: model 3 controlled for women's age, religion, marital status, number of children ever born, women's working status, partner drinks alcohol, women witnessed violence as a child, women justifying reasons for violence against women, experience of sexual violence, emotional violence, psychological violence, residence and wealth status

In Tanzania, partner's educational attainment seems to be a protective factor against women's experience of physical violence. The odds of experiencing less severe and severe physical violence decreases as partners education level increases. Women whose partners have primary education were 0.81(OR=0.81*) times less likely to experience violence, this continues to partner's secondary education (OR=0.53***) and higher education (OR=0.45**). Partner's secondary and higher education were also protective against physical violence in Rwanda and Uganda. In Rwanda, partner's having secondary education were 0.35 (OR=0.35***) times less likely to physically abuse their partners, this pattern continues into higher education with an odds ratio of 0.16 (OR=0.16*). Similarly, in Uganda, a woman whose partner has secondary education was 0.48 (OR=0.48***) times less likely to experience physical violence. Moreover, Ugandan women whose partners have higher education were less likely to experience physical violence (OR=0.32***). In Kenya, only partner's higher education had a significant protective effect on women's experience of physical violence (OR=0.37***). Partner's educational attainment had no significant effects in Mali.

In Model 2, we can see how the effects of partner's educational attainment change once we include women's own educational attainment into the analysis. A similar pattern as to what was found in Model 1 is also found in Model 2 for Nigeria. However, the odds have decreased slightly, women whose partners have primary education were 2.04 (OR=2.04***) times more likely to experience physical violence (compared to 3.52 in Model 1). Partner's secondary education was associated with a 1.86 (OR=1.86***) higher odds of experiencing physical violence. For women whose partners have higher education, they were 1.29 (OR=1.29*) times more likely to experience physical violence. The significance of partner's higher education was slightly reduced from the 0.1% to the 5% level once women's own education was considered. Partner's primary and secondary education remained significant in Tanzania, however their strength reduced slightly. Partner's primary and secondary education were both associated with being less likely to experience violence (OR=0.82*; OR=0.61***). In Rwanda, partner's secondary education remained significant, with women being 0.46 (OR=0.46*) times less likely to experience violence. This decreased in strength slightly from 0.35 in Model 1 and its significance was reduced from the 0.1% to the 5% level. The effects of partner's higher education were no longer significant in Rwanda once women's own educational attainment was included. In Uganda, the effects of partner's secondary education were lessened (from 0.48 in

Model 1 to 0.58 in Model 2) but retained its significance at the 0.1% level. Partner's higher education remained significant and was associated with a 0.63 (OR=0.63*) decreased odds of experiencing physical violence. In Kenya, women whose partners have higher education were 0.55 (OR=0.55*) times as likely to experience physical violence, this decreased slightly in strength and significance when women's education was considered (Model 1 OR=0.37***). Lastly, the effects of partner's education continued to be insignificant in Mali. Overall, while the addition of women's own educational attainment appears to have decreased the strength of the effects of partner's educational attainment, it remained a significant factor in most cases.

After incorporating the other covariates into Model 3 we can see additional changes in the effects of partner's educational attainment. It remained a significant factor in only two of the six countries studied, these being Nigeria and Kenya. In Nigeria, partner's secondary education was still associated with increased odds of experiencing physical violence (OR=1.31*). Surprisingly, in Kenya, partner's primary and secondary education became significant after controlling for other factors and was associated with reduced odds of experiencing physical violence (OR=0.61*; OR=0.51*). Furthermore, in Kenya, women whose partners have higher education were 0.51 times less likely to experience violence and this remained significant at the 5% level.

52.2.1 Effect of women's own educational attainment on intimate partner violence

Table 6 (page 74) also presents the results for the effects of women's own educational attainment on her experience of physical violence in Models 2 and 3. In Nigeria, women having completed primary education were 2.72 (OR=2.72***) times more likely to experience physical violence than women with no education. Furthermore, Nigerian women having secondary education were 2.35 (OR=2.35***) times more likely to be victims of physical violence. Women's secondary education was associated with reduced odds of experiencing less severe or severe physical violence in Rwanda (OR=0.51*), Tanzania (OR=0.69***) and Uganda (OR=0.58***). A woman who has higher education was also less likely to suffer from physical violence in Kenya (OR=0.47*) and Uganda (OR=0.27***). Interestingly, once the other covariates were added in Model 3, women's own educational attainment was no longer significant except for women having primary education in Nigeria (OR=1.62***).

Partner's and women's educational attainment show different effects in relation to experience of physical violence. Both partner and women's education were associated with higher odds of experiencing violence in Nigeria. While the opposite effect was found in Kenya, where partner's education was associated with significantly lower odds of the women experiencing physical violence than her own primary and secondary education. Women's higher education is the most protective against physical violence in Kenya.

5.2.2.3 Other independent variables

The results pertaining to the effects of the other covariates in Model 3 can be found in the appendix (Table A.2).

Age had significant effects in Uganda, where older women were more likely to experience physical violence. Muslim women were significantly less likely to experience physical violence than Catholic women in Nigeria and Kenya. In Uganda, Christian women were less likely to experience physical violence in this respect. Women living in cohabitation with their partners as opposed to being married were more likely to experience physical violence in Nigeria. The odds of experiencing physical violence increased with the number of children ever born in Nigeria, Tanzania, Kenya and Uganda. Women who are working in Kenya were significantly more likely to suffer from physical violence than those who are unemployed. Women whose partners consume alcohol were significantly more likely to experience physical violence in all countries. These effects ranged from being 1.80 times more likely in Uganda to being 2.12 times more likely in Kenya compared to women whose partners do not drink alcohol. A woman who witnessed violence as a child was more likely to suffer from higher levels of physical abuse than women who did not, and this was significant in all six countries. Women who justified reasons for using violence against women were more likely to suffer from violence themselves in Mali, Tanzania and Uganda. Experiencing any of the three other types of violence were significant predictors of also suffering from physical abuse. Experiencing emotional violence had the strongest effects, with women being 4.85 times as likely in Uganda to 7.49 times as likely in Mali. The odds ratios were all significant at the 0.1% level. Socioeconomic factors had significant protective effects in Rwanda and Uganda where women belonging to the richest class were associated with a lower likelihood of experiencing physical violence.

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5.2.3 Interaction effects of partner and women's educational attainment on decision-making autonomy and experience of physical violence

In order to analyze the interaction effect of women's educational attainment and partner's educational attainment on the dependent variables, additional regressions were performed with an interaction term. Furthermore, the marginal effects of the interaction were considered. Similarly, to the previous regression results, there were no strict patterns found among all education levels among the countries studied, but rather various effects were observed. The results based on women's decision-making autonomy will be discussed first, followed by those pertaining to the experience of physical violence. We can observe these patterns for decision-making autonomy in Figure 20 (page 80) and for physical violence in Figure 21 (page 82).

In Mali and Nigeria, women's probability of participating in more decisions increased slightly with the partner's level of education among women having secondary education. In Nigeria and Tanzania, women whose partners have higher education have the highest probabilities of participating in more decisions regardless of their own education level. In Kenya, a similar pattern was observed among women having higher education, where the probability to participate in more decisions increased with partner's education level and couples where both partners had higher education were associated with the highest probability. Furthermore, partner's higher education was associated with higher probabilities of decision-making regardless of women's education level. This may lead insight into the importance of partner's education in women's decision-making in Kenya, as women's decision-making power is diminished if her partner has lower education. In Rwanda, women's probability of decision-making increased with partner's education after the primary level, with women who have higher education having the highest probabilities. The effects of partner's higher education were not able to be estimated due to collinearity. In Uganda, women whose partners had higher education had the highest probabilities of participating in more decisions regardless of their own education level. Moreover, in Uganda, the probability of participating in more decisions increased with partner's education level among women having higher education.

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In general, with the exception of Mali, it appears that partner's higher education has strong effects on women's decision-making autonomy, in the sense that it increases a woman's participation in decisions regardless of her own education.

Figure 20. Interaction Effects of Partner's and Women's Educational Attainment on Women's Decision-Making (Contrasts of Predictive Margins with "all decisions" as the reference category)
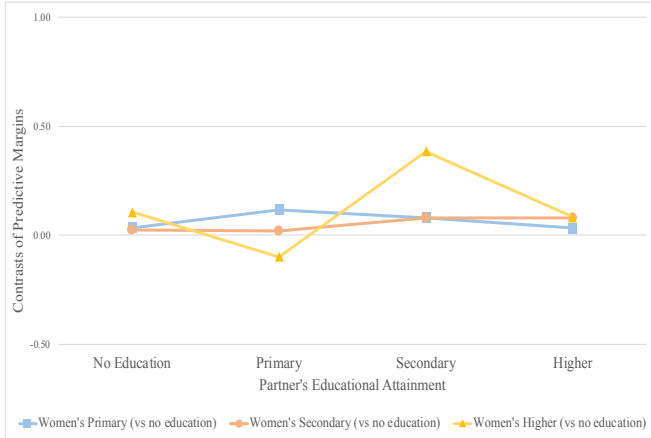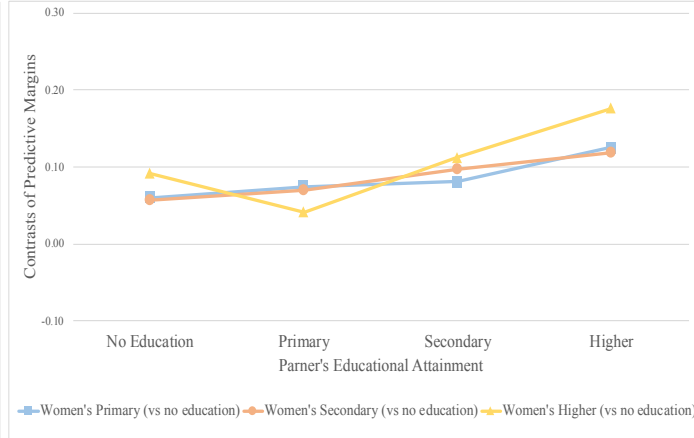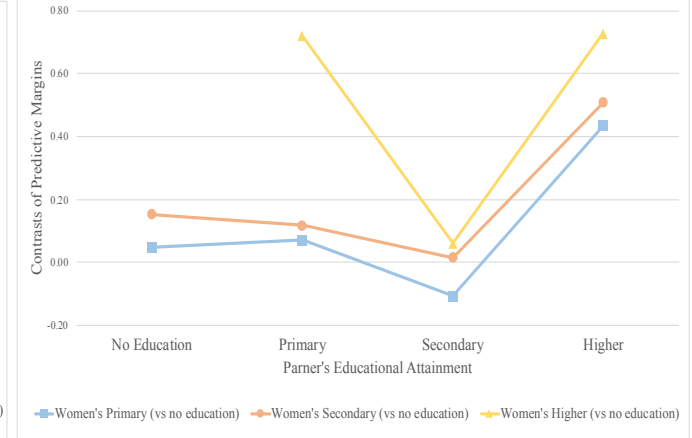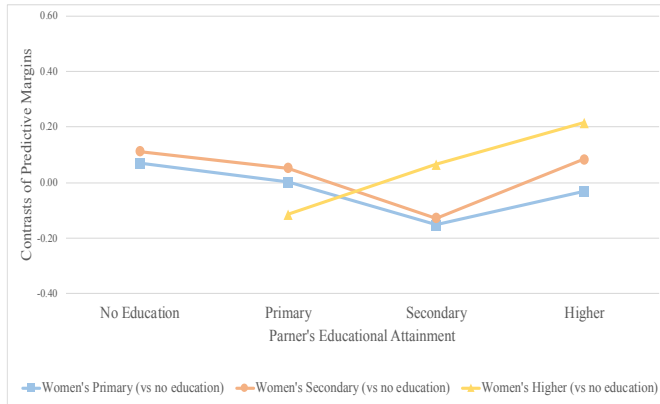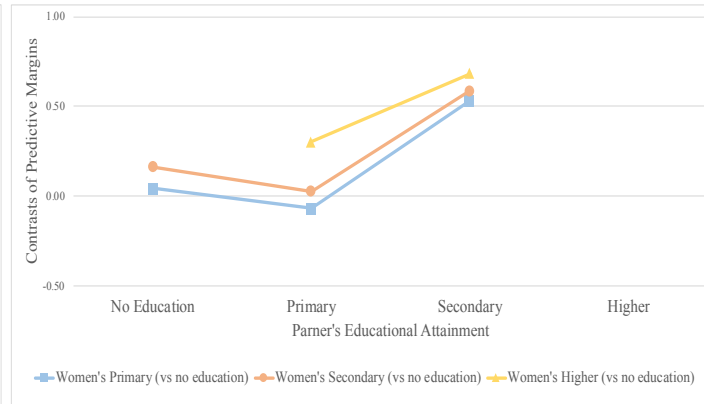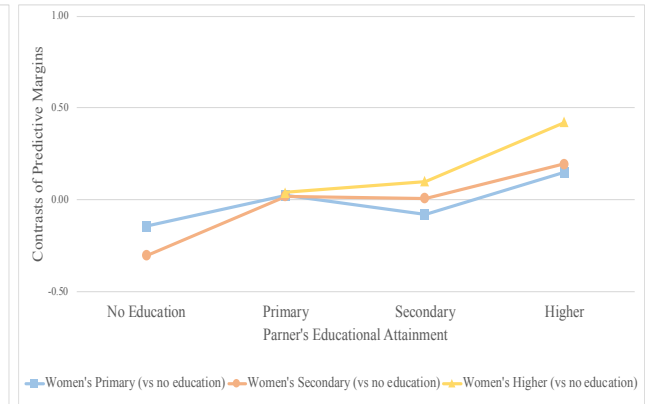
Note: Women's primary education vs. no education (blue line/square marker), women's secondary education vs. no education (orange line/circle marker), women's higher education vs. no education (yellow line/triangle marker).

While women's probability of decision-making increased with women's own education level in most cases, it increased further with partners higher education. This suggests that partners education demonstrates both multiplicative and substitution effects in the case of women's decision-making. It is multiplicative as partner's higher education is positively associated with an increased probability of participating in more decisions especially among women also having higher education. This illustrates that women in couples where both partners are highly educated benefit the most from higher participation in decisions in most cases. Partners higher education also has substitution effects as it was associated with an increased probability of participating in decisions among women having lower education levels. Furthermore, in some instances a woman's probability of decision-making is diminished if her partner has lower education regardless of her own educational attainment. Such as was the case in Nigeria, Kenya, Rwanda and Uganda among women having higher education.

In regard to a woman's experience of severe physical violence a number of observations can be made. In Mali, Nigeria and Tanzania, women having higher education had a lower probability of experiencing physical violence regardless of her partner's education level. This pattern was most prominent in Nigeria. This suggests that women's education, especially higher education may be more protective against violence than partner's education in these countries. Furthermore, in Nigeria, the probability of experiencing physical violence decreased with partner's education level among women having secondary education. Therefore, partner's educational attainment is also an important factor in protecting against violence in certain cases. In Kenya, the probability of experiencing physical violence decreased with partners education level until secondary education and increased at partner's higher education. However, in any case, women having higher education had the lowest probabilities of suffering from physical violence. While partner's education is important in protecting against violence, it appears that women's higher education may be more protective in this case. Interestingly, in Rwanda, the probability of experiencing physical violence increased with partners education. However, as was the case with decision-making autonomy, margins for partners higher education were not able to be predicted due to collinearity. Similar results were found in Uganda where probabilities of suffering from physical violence increased with partner's education regardless of women's education level.

Figure 21. Interaction Effects of Partner's and Women's Educational Attainment on Experience of Physical Violence (Contrasts of Predictive Margins)
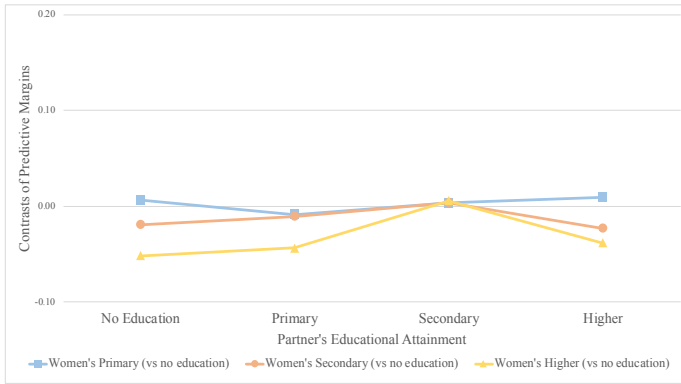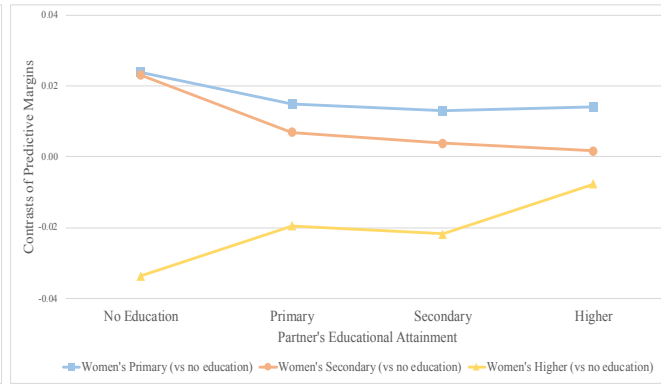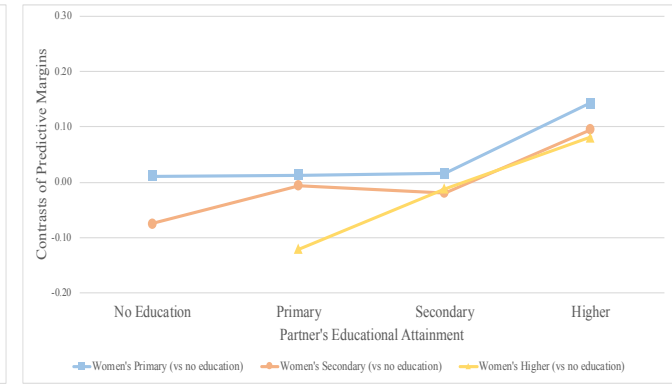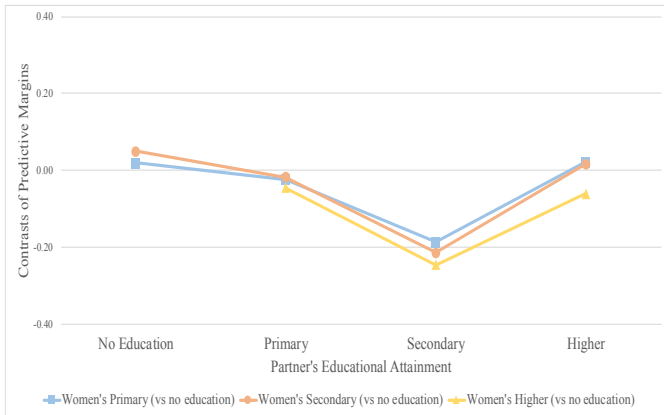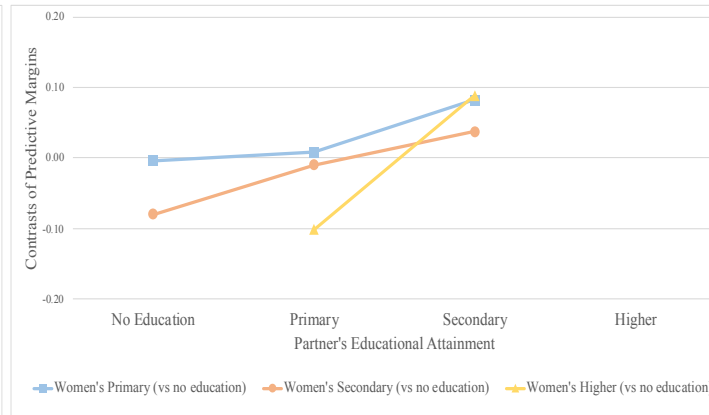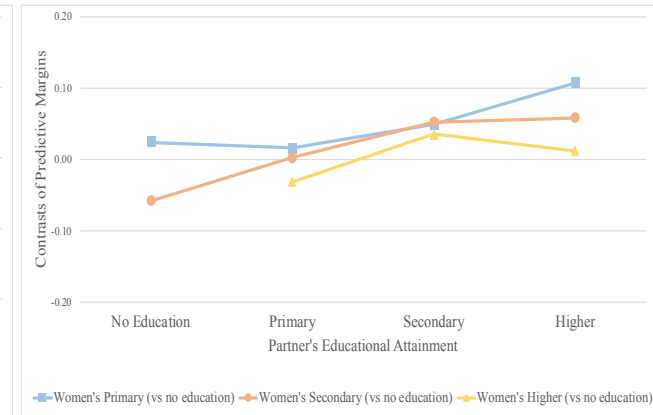

Note: Women's primary education vs. no education (blue line/square marker), women's secondary education vs. no education (orange line/circle marker), women's higher education vs. no education (yellow line/triangle marker).

Women having primary education had highest probabilities of experiencing violence, especially when their partners have higher education. Furthermore, women having higher education were least likely to experience physical violence regardless of their partners education level.

Surprisingly, partners higher education was associated with higher probabilities of experiencing physical violence, especially if the woman has primary education. Furthermore, in general, the probability of experiencing physical violence decreased with each level of women's education, with higher education being the most protective in most cases. This suggests that women's own education may be a more protective factor in relation to physical violence in these countries.

Chapter 6: Discussion

This chapter presents the discussion of the results of the current study, this includes their contribution to the current knowledge about the effects of partner's and women's educational attainment on women's decision-making and experience of intimate partner violence in sub-Saharan Africa. All countries will be discussed together instead of by their respected SIGI category groups. The results varied considerably between countries even if they belonged to the same group, furthermore some general patterns were also found among all countries. Finally, it will conclude the study and offer some research and policy recommendations.

6.1 Discussion of results

The aim of this study was to analyze the effects of partner's educational attainment on a woman's decision-making autonomy and experience of intimate partner violence. From the descriptive analysis, we gathered that women residing in Mali were the least likely to participate in household decisions, while women in Rwanda were the most likely. The prevalence of intimate partner violence remains high in all six countries with psychological violence being the most reported, followed by emotional, physical and then sexual violence. The multivariate analyses focused on the number of decisions in which a woman participates and the severity of physical violence experienced.

6.1.1 Decision-making autonomy

To our knowledge the effects of partner's educational attainment on women's decision-making autonomy has not been previously studied. This study goes further by also analyzing the effects of partner's education in relation to women's own educational attainment. The results reveal the importance of partner's education in supporting women's participation in household decisions. In the multivariate regression, surprisingly, partner's primary education was associated with a higher risk of participating in more decisions in Nigeria. This was unexpected, as Nigeria was categorized as having very high levels of gender inequality in social institutions. It was assumed that men would always assume power regardless of their level of education. This does not appear to be the case as partner's education supported women participating in more decisions. Moreover, women's education at all levels was also associated with participating in

more decisions in this country. The opposite effect was found in Kenya, where partner's primary and secondary education were associated with women participating in fewer decisions. As well as partner's secondary education in Rwanda. This was also not expected as Kenya and Rwanda have a medium level of gender inequality in social institutions. It was assumed that partner's education in this country would be associated with higher participation in household decisions. Overall, women's higher education appeared to be a stronger predictor of her participation in more decisions. While these results are noteworthy, the interaction revealed some very interesting effects of partner's education. Partner's higher education had both substitution and multiplicative effects on a women's decision-making. Women whose partners have higher education were more likely to participate in all three decisions than those whose partners had lower levels of education. Furthermore, women in couples where both partners have higher education were the most likely to participate in all decisions. In most cases, women having higher education whose partners had lower levels were less likely to participate in household decisions. This may suggest parts of Rodman's (1972) theory related to transitional equalitarianism, describing societies going through changes pertaining to gender roles, especially among the educated. While partner's education may support more gender egalitarian relationships (especially at higher levels), this may be broken down when women have higher education levels than their partners. Continued efforts should be made to challenge the gender norms surrounding women's roles in the household and notions of masculine superiority. Women will be most empowered when men accept and support their status regardless of any gap in educational attainment between them. Therefore, more advocacy is needed to include men in public policy related to women's empowerment. Future research could look closer into the effects of disparities between education levels among couples on women's decision-making. Other avenues of research could also include household composition and look into the effects of the presence of in-laws or other family members on a woman's autonomy and experience of violence.

6.1.2 Experience of physical violence

Partner's education had varied effects on a woman's experience of physical violence. From the multivariate regression analysis, we found that all levels of partner's education were protective against physical violence in Kenya. This finding supports previous research which

found Kenyan men's educational attainment to be associated with lower tolerance for wife beating (Lawoko 2008). In Nigeria, partner's secondary education was associated with higher odds of experiencing physical violence. Women's primary education also had this association in Nigeria. Interesting findings also emerged from the interaction between men's and women's education. Women's education appeared to be more protective against physical violence in most of the countries studied. This was most prominent among women having higher education, regardless of their partner's educational attainment. While women having lower education were more likely to experience violence, regardless of their partner's education. This supports parts of Jewkes, Levin and Penn-Kekana's (2002) theory, women with higher education may be more socially empowered, through social-networks, self-confidence and knowledge about sources of information and resources available in a society that help protect them from violence. It is important that we continue to focus on women's empowerment as a means to reduce intimate partner violence. However, men should also be included in these efforts as the use of violence may be due to notions of patriarchy and masculinity deeply embedded within society. Women cannot be fully protected from intimate partner violence from their empowerment alone, men need to be included and become conscious and supportive of gender equality and women's rights (Rahman, Hoque and Makinoda 2011).

Our study supports the notion of the intergenerational transmission of violence (Pollack 2004), women who witnessed violence as a child were much more likely to experience violence themselves. This normalizes the use of violence in romantic relationships as an acceptable method to solve marital conflict or gain marital power (Heise 1998; Jewkes, Levin and Penn-Kekana 2002; Rodman 1972). Women who learned that this was an ordinary response to conflict growing up will be less likely to leave an abusive relationship (Pollack 2004). It is important to challenge the use of violence in romantic relationships from a young age in order to break this intergenerational cycle.

The inclusion of the three other types of intimate partner violence (sexual, emotional and psychological) in the multivariate regression revealed that women who suffer from physical violence often also suffer from other forms of violence. Public policy and programs should consider all forms of violence in order to help men and women identify the many types of

intimate partner violence all of which have serious consequences on women's health and well-being.

Conclusion

This study supports the fact that both women's decision-making autonomy and experience of intimate partner violence are multi-dimensional and context specific issues. The effects of educational attainment as well as other covariates included in the analysis differed between countries even if they were categorized as having the same level of gender inequality within their social institutions. More research is needed in a diverse set of contexts in order to develop policies and programs that meet the specific needs of the population. Nevertheless, our study contributes to the existing literature by providing new insights into the effects of partner's education on women's empowerment an aspect that is often ignored. Our results suggest that women whose partners have higher education have higher levels of decision-making autonomy regardless of their own educational attainment. However, women may still be subject to the experience of physical violence especially if they have lower levels of education. The normalization of intimate partner violence and the transference of violence to younger generations is also evident. Policies in education should focus on incorporating notions of gender equality into the classroom at the earliest stages as this will help improve the status of women among future generations.

Due to the cross-sectional nature of the Demographic and Health Surveys these results cannot be interpreted as causational but rather as having associations. Future research on women's empowerment would benefit greatly from the collection and use of longitudinal data. Furthermore, self-reporting and recall bias are likely factors due to the subject's sensitivity and the retrospective nature of the survey. However, this study provides significant evidence for the importance of men's involvement in efforts to empower women and for the continued investment in both men's and women's education.

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Appendix. Regression results including other covariates

Table A.1: Multinomial Logistic Regression (Risk Ratios) (decision-making)

Multinomial Logistic Regressions: mlogit
All 3 Decisions (base outcome)
Relative Risk Ratios (RRR)

	No Decisions					
	SIGI: Very High or High			SIGI: Medium		
Variables	Mali	Nigeria	Tanzania	Kenya	Rwanda	Uganda
Partner's Education						
No Education	ref.	ref.	ref.	ref.	ref.	ref.
Primary	0.71	0.67***	0.73*	1.15	1.21	1.25
Secondary	0.71	0.78*	0.82	0.97	0.28	1.11
Higher	1.73	1.13	0.22**	1.88	0.52	0.93
Age Group						
15-19	ref.	ref.	ref.	ref.	ref.	ref.
20-24	0.61	0.88	0.97	1.13	0.59	0.70
25-29	0.54	0.83	0.61*	0.58	0.42	0.47***
30-34	0.42	0.60***	0.55*	0.45	0.76	0.40***
35-39	0.33*	0.50***	0.54*	0.33*	0.79	0.39***
40-44	0.37	0.47***	0.44**	0.24**	0.82	0.29***
45-49	0.22**	0.39***	0.33***	0.25**	0.34	0.23***
Religion						
Catholic	ref.	ref.	na	ref.	ref.	ref.
Protestant/Other Christian	1.45	0.71**	na	2.23**	0.86	1.43**
Muslim	2.41	3.40***	na	2.21*	0.68	1.45*
Other	1.45	1.14	na	3.08**	na	0.54
Marital Status						
Married	ref.	ref.	ref.	ref.	ref.	ref.
In Cohabitation	0.42*	0.79	1.20	1.57	1.58	0.82
Number of Children						
0	ref.	ref.	ref.	ref.	ref.	ref.
1-3	0.81	0.93	0.64*	1.86	0.77	1.10
4-6	1.16	1.12	0.63	2.42*	0.68	1.21
7+	1.35	1.71***	0.75	3.37*	0.98	1.16
Women's Education						
No Education	ref.	ref.	ref.	ref.	ref.	ref.
Primary	0.57*	0.55***	0.53***	0.73	0.96	1.19
Secondary	0.52*	0.53***	0.27***	0.33***	1.23	0.98
Higher	0.06***	0.37***	0.12*	0.16***	2.21	0.211***
Women Working						
No	ref.	ref.	ref.	ref.	ref.	ref.
Yes	0.41***	0.33***	0.57***	0.47***	0.80	0.34***
Residence						

	Mali	Nigeria	Tanzania	Kenya	Rwanda	Uganda
Urban	ref.	ref.	ref.	ref.	ref.	ref.
Rural	1.49	1.08	1.05	1.03	1.96	1.11
Wealth						
Poorest	ref.	ref.	ref.	ref.	ref.	ref.
Poorer	0.93	0.79	0.80	-0.99	0.94	1.40*
Middle	1.48	0.54***	0.72	0.86	0.62	1.30
Richer	0.96	0.44***	0.60**	0.64	1.28	1.03
Richest	1.34	0.25***	0.49*	0.73	0.76	1.39
Constant	10.60**	7.61***	5.99***	0.22*	0.13	0.62

1 or 2 Decisions						
	SIGI: Very High and High			SIGI: Medium		
Partner's Education	Mali	Nigeria	Tanzania	Kenya	Rwanda	Uganda
No Education	ref.	ref.	ref.	ref.	ref.	ref.
Primary	0.74	0.79*	0.86	1.75*	1.16	1.19
Secondary	0.98	0.84	0.83	1.73*	1.78*	1.03
Higher	2.49	0.93	0.66	1.56	1.33	1.19
Age Group						
15-19	ref.	ref.	ref.	ref.	ref.	ref.
20-24	0.68	0.91	0.94	0.59	1.10	0.82
25-29	0.52	0.78	0.76	0.61	0.89	0.76
30-34	0.57	0.62***	0.59**	0.40**	1.30	0.63**
35-39	0.56	0.62**	0.71	0.41**	1.16	0.55**
40-44	0.41	0.50***	0.48***	0.31***	0.91	0.43***
45-49	0.32*	0.46***	0.65	0.37**	0.85	0.40***
Religion						
Catholic	ref.	ref.	na	ref.	ref.	ref.
Protestant/Other Christian	1.06	0.10	na	1.04	0.89	1.03
Muslim	1.59	1.53***	na	1.15	1.28	1.45***
Other	1.59	0.84	na	1.50	na	0.88
Marital Status						
Married	ref.	ref.	ref.	ref.	ref.	ref.
In Cohabitation	0.94***	1.15	0.98	0.86	1.26	1.06
Number of Children						
0	ref.	ref.	ref.	ref.	ref.	ref.
1-3	1.28	1.10	0.82	1.28	1.43	0.70*
4-6	1.70	1.11	0.93	1.13	1.28	0.71
7+	1.60	1.61***	0.88	1.66	1.13	0.67
Women's Education						
No Education	ref.	ref.	ref.	ref.	ref.	ref.
Primary	0.56*	0.78**	0.88	1.13	1.16	1.05
Secondary	0.79	0.76**	0.69*	1.09	0.61	0.92
Higher	0.56	0.72*	0.32***	0.61	0.20*	0.48***
Women Working						
No	ref.	ref.	ref.	ref.	ref.	ref.

Yes	0.53**	0.59***	0.69***	0.76*	1.07	0.64***
Residence						
Urban	ref.	ref.	ref.	ref.	ref.	ref.
Rural	1.20	1.14	0.96	1.08	0.71	1.02
Wealth						
Poorest	ref.	ref.	ref.	ref.	ref.	ref.
Poorer	0.83	0.80	0.88	1.02	1.04	1.34**
Middle	1.64	0.67**	0.90	0.90	0.90	1.27*
Richer	1.03	0.61***	0.81	0.79	1.08	1.17
Richest	1.09	0.52***	0.85	0.94	0.76	1.09
Constant	2.42	2.09***	4.77***	0.74	0.31	1.50
Number of Observations	3039	20575	6439	3813	1621	6244

Level of Significance: ***$p<0.001$;
**$p<0.01$; *$p<0.05$

Table A.2 Ordered Logistic Regression (Odds Ratios) (experience of physical violence)

Ordered Logistic Regressions:
ologit
Odds Ratios

Physical Violence Severity: no violence; less severe physical violence; more severe physical violence

Variables	SIGI: Very High or High			SIGI: Medium		
	Mali	Nigeria	Tanzania	Kenya	Rwanda	Uganda
Partner's Education						
No Education	ref.	ref.	ref.	ref.	ref.	ref.
Primary	0.81	1.21	0.88	0.61*	1.15	0.99
Secondary	0.98	1.31*	0.83	0.51*	0.67	0.77
Higher	1.22	1.00	0.78	0.51*	1.18	0.90
Age Group						
15-19	ref.	ref.	ref.	ref.	ref.	ref.
20-24	0.79	0.84	1.54*	1.53	0.62	1.38
25-29	1.07	0.91	1.46	1.54	0.90	1.22
30-34	0.84	1.12	1.00	1.12	0.87	1.40
35-39	0.91	1.00	0.98	1.15	0.85	1.62*
40-44	0.63	1.03	1.00	0.84	1.25	1.82*
45-49	1.12	1.09	0.71	1.24	0.89	2.09**
Religion						
Catholic	ref.	ref.	na	ref.	ref.	ref.
Protestant/Other Christian	0.96	1.22	na	0.92	1.01	0.80**
Muslim	0.94	0.49***	na	0.52*	1.27	0.79
Other	1.17	1.27	na	0.66	na	0.70
Marital Status						
Married	ref.	ref.	ref.	ref.	ref.	ref.
In Cohabitation	0.52	1.76**	0.94	0.93	0.81	0.87
Number of Children						
0	ref.	ref.	ref.	ref.	ref.	ref.
1-3	0.95	2.10***	1.17	2.41	1.27	2.23***
4-6	1.22	2.10***	1.47	3.52**	1.35	2.43***
7+	1.36	2.11***	1.85*	5.53***	1.86	2.75***
Women's Education						
No Education	ref.	ref.	ref.	ref.	ref.	ref.
Primary	1.28	1.62***	1.05	0.77	1.07	1.24
Secondary	0.58	1.26	0.77	0.67	0.62	1.14
Higher	1.07	0.69	1.01	0.26**	0.84	0.70

Women Working						
No	ref.	ref.	ref.	ref.	ref.	ref.
Yes	1.12	1.05	1.00	1.58***	1.35	0.91
Partner Drinks Alcohol						
No	ref.	ref.	ref.	ref.	ref.	ref.
Yes	2.08**	2.13***	1.82***	2.12***	1.85**	1.80***
Women Witnessed Violence as a Child						
No	ref.	ref.	ref.	ref.	ref.	ref.
Yes	2.02***	1.60***	1.60***	1.37**	1.71***	1.26**
Women Justifies Reasons for Violence						
Doesn't agree	ref.	ref.	ref.	ref.	ref.	ref.
Agrees with 1-2 reasons	1.19	1.20	1.45***	1.02	1.22	1.22*
Agrees with 3-4 reasons	1.14	1.18	1.36*	1.27	0.99	1.18
Agrees with all 5 reasons	1.56*	1.25	1.41*	1.65	0.91	1.32
Experienced Sexual Violence						
No	ref.	ref.	ref.	ref.	ref.	ref.
Yes	2.71***	3.77***	2.88***	3.71***	2.12**	2.42***
Experienced Emotional Violence						
No	ref.	ref.	ref.	ref.	ref.	ref.
Yes	7.49***	7.29***	6.98***	5.22***	6.27***	4.85***
Experienced Psychological Violence						
No	ref.	ref.	ref.	ref.	ref.	ref.
Yes	1.74***	1.97***	2.28***	2.08***	3.05***	2.22***
Residence						
Urban	ref.	ref.	ref.	ref.	ref.	ref.
Rural	1.19	0.96	0.92	1.07	0.99	1.02
Wealth						
Poorest	ref.	ref.	ref.	ref.	ref.	ref.
Poorer	1.03	1.02	1.36*	1.57**	0.69	0.75**
Middle	1.15	1.00	1.37*	1.38	0.59*	0.55***
Richer	1.25	1.05	1.11	1.30	0.63*	0.56***
Richest	1.44	0.95	0.85	1.43	0.35***	0.50***
/cut 1	2.65***	4.25***	3.00***	3.29***	2.76***	2.93***
/cut2	5.25***	5.69***	4.73***	4.96***	4.45***	4.39***
Number of Observations	2439	18229	5542	3363	1459	5622

Level of Significance:
***p<0.001;**p<0.01;*p<0.05