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DOUBLE JEOPARDY

[Child Marriage & Intimate Partner Violence, the Dominican Republic perspective]

by

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[Child marriage disproportionately affects 1 in 5 girls globally. Entry into early marriage predisposes women to intimate partner violence which affects 1 in 3 women globally. Dominican Republic has been affected by both phenomena, but studies examining the association is lacking. Also, studies in other countries mostly only focus on prevalence. This study examines differences in prevalence and levels of IPV between women who married as child and those who married as adults, identifying associated factors. It also explores the existence of a tendency for women to under-estimate the level of IPV experienced and variations in this tendency across the two groups of women in Dominican Republic.

Using data from a representative household survey of 4083 women and employing binary logistic regression, this study finds that child marriage is associated with greater odds of being victims of emotional and physical IPV increasing their likelihood by 3%. Associations between child marriage and sexual IPV yielded insignificant results. Child marriage increased the odds of higher levels of physical IPV increasing its likelihood by 11%. Insignificant results were obtained for its association to higher levels of emotional and sexual IPV. There is a tendency for women to under-estimate the level of violence. Child marriage was associated with reducing the difference by 1.7%. Some factors which are generally protective factors for all women were risk factors for women married as children. Successful interventions to combat IPV in child marriages will require examination of both the prevalence and the level of violence and how the associated factors differ from women who marry as adults. Proper assessment of the level of violence may require additional focus on the characteristics of the perpetrators.]

Keywords: Child marriage, Intimate Partner Violence, IPV, odds ratio, binary logistic regression

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1 Introduction

One in 5 girls globally are married before their 18th birthday (Girls Not Brides, 2019; OECD, 2019; UNICEF, 2019). Child marriage, the marriage of a male or female before 18 years, characterized by unions that are either formal or non-formal (Wodon et al., n.d.), is a violation of human rights and primarily affect girls in low-income countries (UNICEF, 2019). Cited factors that fuel the prevalence of this phenomenon include gender inequality and poverty (Bicchieri, Jiang & Lindemans, 2014; United Nations Population Fund, 2012), cultural traditions and preservation of family honor (Bicchieri, Jiang & Lindemans, 2014; Ebrahimi, 2014; Yount et al., 2016), insecurity and the lack of political will to enforce the rule of law (United Nations Population Fund, 2012). The highest rates of child marriage have been found in low-income or developing countries (UNICEF, 2013). Data from the DHS and MICS surveys between 2013 and 2019 places the highest prevalence of child marriage in the regions of Sub-Saharan Africa and South Asia where combined, approximately 2 in every 5 girls are child brides. The top ten countries recording highest rates of child marriage are also found in these two regions (UNICEF, 2019). Between 2013 and 2019, the South Asian region recorded a rate of 30%, and 35% for sub-Saharan Africa (*See Appendix 1*). Although these regions have higher levels, child marriage is global phenomenon and countries from other regions have also seen notable child marriage rates.

One such country is the Dominican Republic in Latin America and the Caribbean. Dominican Republic has one of the highest rates of child marriage in the Caribbean region. 37% of girls in the Dominican Republic get married before 18 and 12% before 15 years (Oficina Nacional de Estadística & UNICEF, 2016). While the minimum legal age for marriage is 18 years, until 2017 there was allowance for marriage as early as 15 with parental and judicial consent. This coupled with other social and economic factors have perpetuated the continuation of this practice in Dominican Republic. Poverty has been cited as one of the major drivers of this practice. Approximately 60% of women who marry as children come from the poorest households compared to 18% who come from the richest households (Oficina Nacional de Estadística & UNICEF, 2016). Poverty may drive young girls to get married early in order to ‘better’ themselves. Parents might also influence early marriage to reduce the burden of providing for an additional household member (Tomasevski, 2015). Early entry into marriage can have adverse negative impact for girls such as impeding their educational attainment and thus leading to poverty (de Groot et al., 2018), affect their reproductive health including the timing and spacing of births, increased likelihood of infant and maternal deaths, and increased risks of sexually transmitted infections (García-Moreno & WHO, 2005). Women who marry as children are also at higher risks of being victims of intimate partner violence (Devries et al., 2013; Kidman, 2016; Kumar, 2009; Raj et al., 2010; United Nations Population Fund, 2012).

Intimate partner violence (IPV), another widely studied phenomenon is also pervasive human rights violation (UN Women, 2015) that has increasingly become an important public health problem carrying with it a plethora of consequences for women's physical, mental, sexual, and reproductive health (Campbell, 2002; Devries et al., 2013; García-Moreno et al., 2013). Intimate Partner Violence is defined as behaviours within an intimate relationship that result in physical, sexual or psychological harm, such as physical aggression, sexual coercion, psychological abuse and controlling behaviour (García-Moreno & WHO, 2005). Global estimates suggest that more than 1 in 3 women worldwide have experienced physical or sexual violence perpetrated by their spouses (García-Moreno et al., 2013).

This type of violence transcends racial, ethnic, religious and socio-economic lines (Grossman & Lundy, 2007) and the Dominican Republic has not been immune. 28.5% of women in the Dominican Republic reported lifetime experience of IPV (DHS, 2013). Of this 28.5%, 20.4% were recent victims (DHS, 2013). The country ranks among the top ten countries in the region with highest prevalence rates of lifetime IPV and top three when victimization in the past twelve months is observed (Bott et al., 2019)(*See Appendix 2*). Analysis also suggests that over time the situation of women in the country has not improved (Bott et al., 2019)(*See Appendix 2*).

It has been established that the two phenomena (child marriage and IPV) independently have delirious effects, particularly for women. Therefore, a combination of the two would suggest a graver situation for women especially in societies where gender inequality is pervasive. Gender inequalities within child marriage reinforces girls' vulnerabilities due to increased risks of exposure to intimate partner violence (IPV) (Erulkar, 2013). Child marriage predisposes girls to sexual abuse from their spouses (Kumar, 2009). They also have higher likelihood of encountering numerous types of physical and emotional violence in their lifetime (Kumar, 2009). Despite the existence of prohibitive legislations on child marriage and violence against women, both phenomena still exist in Dominican Republic. Girls forgo aspects of their childhood upon entry into marriage. They sometimes forego basic education, commence household duties and have earlier and longer reproductive life many times at a detrimental cost to their physical and emotional health.

While many studies have either focused on child marriage or intimate partner violence separately, those that look at the association between the two are fewer. Furthermore, those studies have mostly focused on the prevalence of IPV for women who married as children and their contributing factors. An association that has been understudied globally and to date not studied in the Dominican Republic is that between child marriage and the varying levels of the IPV experienced. Also, while some studies have examined the differences in the severity of IPV experiences, the levels of severity in those studies have been largely based only on self-reported assessments made by victims. This measure may be subjected to underestimated levels of violence, either owing to ignorance or deliberate attempts at misrepresenting the seriousness of their IPV experience out of fear or shame. This study attempts to address whether such a situation exists by utilizing and comparing two measures of the level of violence. Firstly, a measure estimated using a composite of the frequency and the corresponding reported severity for each violent action. In this case the severity as reported by the women is used in the estimate. Secondly, a similarly estimated measure,

except that the severity of violent actions are assigned a standardized measure of severity based on the nature of the violence and in tandem with the view of clinicians. Results of this study can inform the direction of public policies and targeted practical interventions that are most effective in not only addressing the issue of the prevalence of intimate partner violence but also how to treat with any differences that may exist in the levels of violence experienced by women who marry as children. It may also point to the need to re-assess how studies measure and report on violence against women. Specifically, for the Dominican Republic, this will offer first empirical evidence of associations between child marriage and IPV, and offer support of the 2017 recommendations (Plan International, 2019) to adjust the age of marriage to be 18 years without exception.

1.1 Aim and Scope

Using data from the 2018 representative household survey of the Situation of Women in Dominican Republic, this study seeks to assess the association of child marriage with the prevalence and level of intimate partner violence experienced by women in Dominican Republic. This is done by comparing two separate intimate partner violence outcomes (prevalence and levels) for women who entered their first marriage in childhood against those women who entered in adulthood. Surveyed women over the age of 15 years who reported that they were currently or had been in a union in their lifetime were used in the analysis. Their intimate partner violence experience was measured based on their response to lifetime experience of different types of violence in their romantic relationships.

1.1.1 Research Questions

The following research questions form the main areas of investigation of this study:

1. Are there significant differences in the prevalence and levels of IPV experience reported by women who marry as children versus those who marry as adults?
2. What are the factors that may be associated with any differences in the IPV experience of women who marry as children relative to those who marry as adults?
3. Is there a tendency to under-estimate the level of severity of IPV experienced by women?

In attempting to provide answers to these questions, more specific questions will be answered. These include

1. If differences exist, do they vary between the two groups of women based on the type of IPV experienced?
2. How do these factors vary between the two groups of women according to the type of IPV experienced?
3. If a tendency to under-estimate the level of IPV exists, is this more elevated among women who marry as children?

1.2 Outline of the Thesis

This study will take the following format. Chapter 1 introduces concepts of Child Marriage and Intimate Partner Violence, by defining and outlining the effects they separately and collectively have on women. Chapter 2 follows with a review of theories of violence and previous literature highlighting the results of associations between intimate partner violence and child marriage. The significance of previous studies done in Dominican Republic and in other settings are also highlighted. A description of the source data, variables used (both those constructed and adopted from source), summary statistics, along with the model specifications and approach to this study are then provided in the two ensuing chapters. The fifth chapter provides results of the study, discussing them by providing connections to the hypotheses and the results of previous studies and/or theories highlighted in the first two chapters. Practical implications for the findings and recommendations for future studies are presenting in the concluding chapter.

2 Theory

Theories are important both for the explanation of IPV and for policy intervention. In order to better tackle the issue of IPV, it is necessary to understand the causes of IPV and the kinds of policies or interventions that are most effective.

Scholars agree that causes of IPV are multi-faceted and no single theory wholly explains the diversities that exist (Renzetti, Edleson & Bergen, 2011). A host of theories have been developed to explain IPV. So many are these theories that this study would not be able to address them all. However, an overview is made by broadly classifying these into three overarching theories, namely Psychological, Sociological and Feminist Theories alongside a more contemporary theory (Ecological Model).

Psychological Theories focus on biography, personality, mental illness/injuries and poor self-control of offenders (King, 2012, Van Krieken, Habibis & Smith, 2013). Evidence of these factors have been found in some IPV cases, but they don't all count as IPV, or for cases where these factors are absent. Psychological theories often fail to examine the social contexts, patterns of violence, and how factors such as unemployment, poverty or inadequate resources affect family life (Van Krieken, Habibis & Smith, 2013).

Sociological Theories include, Social Learning, Structural and Situational Theories of violence. Aker (1998) proposed the Social learning theory that suggests children learn violent behavior from their family and community members and through these institutions, the use of violence is socially and morally planted (Straus, Douglas & Medeiros, 2013). The cause of violent acts cannot be truly understood without careful examination of the social context within which they occur (King, 2012). Correlations have been made between violence in a person's family background and the increased likelihood of violence in adulthood (Van Krieken, 2001). Being a victim of and/or witnessing household violence, particularly during childhood, leads to IPV, either perpetration or victimization (Akers, 2009). Contrastingly, it has also been found that despite the existence of this higher likelihood to perpetrate violence, most of these persons do not end up being perpetrators of violence (Van Krieken, 2001). One closely linked theory within this domain is the Intergenerational Transmission of Violence (Straus, Gelles & Steinmetz, 1981).

Structural theories of violence (Galtung, 1969) focus on the creation and transmission of stress and frustration in individuals resulting from the prevalence of social inequality and factors such as poverty, race, social classes, or ethnicity which promulgates the use of violence (Utech, 1994). The lack of resources to effectively handle these stresses results in a perpetuation of violence. Evidence of this is often seen in less affluent social groups. While it has been shown that intimate partner violence can span across all social groups, many research points to its prevalence among lower socio-economic groups (Utech, 1994). Notwithstanding, as with the case of social learning theorists, while there are higher relative

risks of IPV in these groups (lower socio-economic), most people are not violent in their intimate relationships (Van Krieken, Habibis & Smith, 2013).

Situational theories of violence highlight how situational factors such as drug use and alcohol consumption influence an individual's use of violence. The premise assumes that these situational factors lower one's self-control through impaired judgement (Flowers, 2000). The criticism of this theory is that while these factors may impair judgment and lower self-control, the relationship is not necessarily causal. All persons don't become violent as a result of taking drugs for example and many cases of intimate partner violence are void of drugs or alcohol (Van Krieken, Habibis & Smith, 2013).

Feminist theories of domestic violence focus on matters relating to the gendered nature of violence. Most perpetrators of partner violence are men, leaving most victims to be women. These theories emphasize how patriarchy promulgates the motives for the legitimization of violence against women (Payne, 2014, Van Krieken, Habibis & Smith, 2013). Focus is also placed on the way patriarchal social structures afford women little resource and/or little power to alter their situation (Van Krieken, Habibis & Smith, 2013). These theories also examine the way cultural often places blame on women for the violence they experience or treated as a 'private matter' versus a crime.

Feminism has also been influential in making intimate partner violence a public issue by advocating for women's rights, law reforms, and championing the cause for change in societal views and attitudes (Van Krieken, Habibis & Smith, 2013). It underscore that one of the causes of increased IPV may result from changing power relations – the backlash effect from resource theory (Goode, 1971).

To account for the diversity in IPV contemporary theorists suggested the *Ecological Model* to examine IPV (Fulu & Miedema, 2015). This model details four levels of risk: individual, relationship, community, and society which are suggested overarching areas within which violence against women occur (Heise, 1998). The model focuses on the fact that in understanding the complexities of the interplay of biological, psychological, social, cultural, economic and political factors what predisposes women to experiencing violence and men's likelihood to perpetrate violence, it is important that targeted interventions take a more holistic approach in its assessment (García-Moreno et al., 2013; García-Moreno & WHO, 2005; Heise, 1998).

In summary, several theories exist that have been used to explain the existence of intimate partner violence. While empirical support has been found for these theories, no one theory independently explains all the factors that may contribute to intimate partner violence. It is therefore necessary that in examining this phenomenon a combination of theories is used. This study draws mainly on the Sociological and Feminist theories, particularly because the data affords the ability to examine the associations from these perspectives.

2.1 Previous Research

Studies focused on child marriage, independent of intimate partner violence and vice versa are numerous. Dual-focused associative studies on the other hand have been less cited. In those commissioned, researchers have found numerous and varying results on the association between child marriage and intimate partner violence. Generally these studies have shown that there are increased risks of IPV for women who marry in childhood (Bicchieri, Jiang & Lindemans, 2014; Ebrahimi, 2014; Kidman, 2016; Raj & Boehmer, 2013). While many of these studies generally concur on the direction and sometimes magnitude of the associations, there are some cases in which these associations deviate from the general observations. Some of these deviations may most likely be explained by differences in methodological approaches, reference period for the data used in the analysis or type of data used. Other variations point to the geographical difference (Gage, Hotchkiss & Godha, 2012; Kidman, 2016) and social context (Sambisa et al., 2010). An appreciation and understanding of the methods used, social context, and geographical spaces within which these studies are done can help to inform the way the results are interpreted and/or generalized.

Studies have largely been focused in South Asian (Nasrullah, Zakar & Zakar, 2014; Sambisa et al., 2010; Santhya et al., 2010; Yount et al., 2016) and African settings (Bengesai & Khan, 2020; John et al., 2019; Tenkorang, 2019) where child marriage has long been seen as a social or cultural norm. Studies outside these regions have been far less (a gap this study aims to help to fill). Data has shown that advancements have been made towards the reduction of child marriage (specifically early child marriage) in many of these regions (García-Moreno et al., 2013; UNICEF, 2019). The existence and perpetuation of this phenomenon outside these main region warrants specific analysis. This especially considering the differences in social context and legislations which might influence the association in these regions.

Sociological theories of family violence suggest the significance of socio-economic factors on the risks of exposure to IPV (Gelles, 1997). Correlating socio-economic factors such as wealth, social class, religion, race, ethnicity or educational level, theorists have suggested that a disproportionate number of men who are perpetrators of violence are unemployed, poor, from lower social classes. This therefore renders them incapable to managing the stress of situations they are placed in and thus more likely to resort to violence. This relationship has been confirmed by many researchers. Yount 2019 in a cross-sectional study of child marriage in Ghana found that employment and education were protective factors for women in Ghana. Significant and largest reductions in the likelihood of emotional, physical and sexual IPV were observed for women who had highest levels of education. In Nepal, the prevalence of physical IPV was greater for women of lower household socio-economic status living in urban areas (Oshiro et al., 2011). A study examining early marriage for women living in urban areas in Bangladesh, found wealth to be a protective factor against physical violence for women who married early (Rahman et al., 2011).

While the foregoing studies highlight the protective nature of higher socio-economic status of women. Others have found contrasting results. A standardized cross-sectional study using DHS data from 31 developing countries found that a 1 percent decrease in female

unemployment rates was associated with increased probability of victimization of 0.52 percentage points, or 2.87% (Bhalotra et al., 2020). The study linked the pattern of behaviors entirely to countries where access to divorce was limited to women relative to men. Moreover, increased unemployment in men also resulted in increased risk of violence meted to women.

Unemployment has been found to reduce the likelihood of violence. A study in Bangladesh measuring the risk of husbands perpetrating violence against their wives, concluded that, lower socio-economic status of men increased the risk of them being perpetrators of violence. However, unemployed men were less likely to exert violence against their wives relative to employed men. This result was explained to be suggestive of a reduction in the 'dominant' role of these men in the household. Though the association to child marriage was not explicitly made in this study, finding relate to the issues surrounding power dynamics and its link to situational theories of violence.

Location, specifically the urban-rural regional variations have been found to have significant associations with child marriage and intimate partner violence. Girls who marry before 18 years are more likely to reside in rural areas (John et al., 2019; Tenkorang, 2019; UNICEF, 2013). Generally women from rural areas are at higher risks of experiencing IPV (Logan, Walker & Leukefeld, 2001; Strand & Storey, 2019). This because, of the predominant socio-economic make up of women and men who usually reside in rural areas coupled with the reduced access to resources that would likely protect against IPV. Strand & Storey, 2019 found that not only were women from rural areas more likely to experience IPV, but also that the types of violence they experience were more severe than that of women in urban areas. Oshiro et al., 2011 explored the heterogeneity of women in living in urban populations in Nepal. They found that poor women married as children and living in urban areas had greater risks of IPV experience and suggested the need for tailored interventions for the urban poor.

A vast part of the literature on intimate partner violence highlights the link between childhood experiences and adulthood. It is almost counter-intuitive to think about the associations between a woman's childhood experiences, child marriage and intimate partner violence. Especially, given that a part of the childhood experience of a woman who married as a child was in fact that – child marriage itself. Studies have however found significant associations.

In Sri Lanka, a cross-sectional study using UN Multi-Cluster Survey found that witnessing abuse of one's mother was associated with the greatest increase in the odds of demonstrating physical IPV (Fonseka, Minnis & Gomez, 2015). Nikulina et al. 2017 examined the cumulative and individual association between adverse childhood experiences and IPV in college students and found witnessing domestic violence was significantly associated with perpetration and victimization of physical IPV.

Less of these studies have examined the effect of childhood experiences within the context of child marriage. Yount and colleagues' study, in their study examining how community prevalence of IPV influences the risk of physical IPV in women who marry early versus those who marry as adults. Men who witnessed their mothers being victims of IPV were more likely to exert violence towards women married as children. The study also found that women were more likely to experience IPV if they resided in communities with higher IPV

prevalence levels. An interesting find in this study is that while higher education in women who married as children was a protective factor against IPV, women who married as adults did not merit from this protective factor. This situation has been described as a sanction for these women who deviate from the 'norm' of historically upheld classic patriarchy (Kandiyoti, 2016).

The theory of learned experiences (Bandura & Walters, 1963) has offered suggestions to explain the perpetuation of violent behaviours. Behaviour is perceived to be transferred from one generation to the next (Bicchieri, Jiang & Lindemans, 2014). Men become perpetrators and women become victims because they model the behaviours they witnessed or experienced in childhood. Yount et al, 2016 in their study asserted that in high prevalence child marriage communities, individuals view some violence against as a normative phenomenon resulting in justification being presented by men and women alike. They suggest that when views such as *'girls are born to become wives, householders and pleasers of their husbands'* permeates societies, children may see this as normal and expected behaviour. This is what they see and so they become. They found that in some situations, women inherently do not see unwanted sex as a deviance. Rather, it is a part of fulfilling their duty as a wife. In a similar way these learnt behaviors, embedded in cultural norms and practices may be inculcated in men.

The typology of the IPV experienced by women who marry as children have been found to differ in magnitude and association across studies and in different settings. From the study in Ghana, the odds of experiencing IPV for women marrying as children by type of abuse were (Physical - 1.9, Sexual - 1.33, Emotional - 2.5 (Tenkorang, 2019). In a standardized multi-country cross-sectional analysis of 34 countries, Kidman (2016) found significant heterogeneity between countries in respect of the types of IPV experience and the prevalence of child marriage. Her study reported odds of experiencing IPV for women married as children ranging from 0.65 in Nigeria to 4.2 in Uganda for physical IPV and ranging from 0.52 in Cote D'Voire to 6.2 in Ghana for sexual IPV. In an Indian study on early marriage and reproductive health, the odds of physical IPV was 1.37 and sexual IPV - 1.27 for women who married as children (Santhya et al., 2010).

Most studies looking at the association between child marriage and intimate partner violence have mainly focused on physical and sexual violence. Emotional violence has received much less mention in these studies (a gap also addressed in this study). However, those studies in which it was highlighted, the magnitudes of the associations have mostly been found to be relatively large and points to the fact that this might necessitate more focused research. A study examining the association between child marriage and intimate partner violence in four African countries showed that increased risk of emotional violence in women who married as children was greater relative to all other types of IPV in Zambia (Gage, Hotchkiss & Godha, 2012). Emotional violence was also the most prevalent form of IPV in a study in Zimbabwe using DHS data (Bengesai & Khan, 2020). This was also the case in Pakistan using DHS data comparing physical and emotional violence (Nasrullah, Zakar & Zakar, 2014).

Power relations and gender norms have been the focus of many studies relating to intimate partner violence. Bengesai & Khan, 2020 in their study of Zimbabwe, found that increased risk of intimate partner violence was linked to low levels of economic autonomy and more

supportive attitudes towards wife-beating. Similar gender normative relations were observed in South Asian studies. In India, non-egalitarian views of wife-beating was more prevalent among those married as children (64%) versus adult marrying (53%) (Santhya et al., 2010). In Ghana, women who married as children were more likely to have non-egalitarian views on wife-beating and were at significantly higher risk of emotional, physical and sexual IPV relative to their adult marrying counterparts. They were also less likely to have family planning autonomy (Tenkorang, 2019). An interesting result of this study is that while there was protection against all types of IPV for women who had family planning autonomy, this did not obtain for women with economic autonomy as they faced significantly greater risk of sexual and emotional IPV. Women with family-planning autonomy were at greater risk of emotional IPV.

A study of the association between child marriage, intimate partner violence and controlling behaviour in husbands found that among women whose husbands exhibited controlling behaviours, the husbands of those married as children exerted significantly more control (Nasrullah, Zakar & Zakar, 2014). This study also echoed similar findings of other studies that women married as children are significantly more vulnerable to both emotional and physical IPV. The controlling behaviours in this study they suggest are linked to the disturbance of relationship equilibrium and equity and low decision-making abilities of women who marry as children resulting from the large spousal age gap. The study of Bangladeshi husbands followed similar pattern from the perspective of the perpetrator. Men with non-egalitarian views were more likely to exert violence against their wives (Sambisa et al., 2010).

Most studies on intimate partner violence and child marriage do not explore associations from the perspective of the level of the violence that is experienced. Instead focus is mainly placed on typology and prevalence. Some have included measures of severity. Such was the case of Rahman et al. 2011 that included a measure of severity and found that while women who married as children were more likely to experience physical violence, there was even greater disparity in the levels of violence experienced. Relatively greater disparities were observed in the likelihood of experiencing severe physical violence. These results suggest the existence of heterogeneity in the levels of violence. Although this study accounted for severity, it was based solely on self-reported assessments. Research on assessments combining frequency and severity is lacking – a gap that this study aims to fill.

2.2 Background on Dominican Republic

The Dominican Republic is a Caribbean nation with a population of approximately 1.5 million. It shares the island of Hispaniola with Haiti to the west (*See Appendix 3*). Being the first European colony in the Americas it has a long and rich history which saw the country plummet and recover from various economic and political instability. Nonetheless, it has fought to establish commercial and social stability since its return to democracy after the overthrow of Rafael Leonidas Trujillo's dictatorship in 1961. Since then, the country has undergone significant human development. Today it is among the largest economy in the Latin America and the Caribbean, primary dependent on natural resources and government services. Mining and agriculture are prominent features of the economy with heavy dependence on the services sector specifically tourism services as it is the most visited country in the Caribbean (UNWTO, 2020).

While the country has advanced in human development, women in Dominican Republic have long since been disproportionately faced disadvantaged positions within the country.

Child Marriage: The legal age of marriage for boys is 18 years and girls 15 years. However, marriage is allowed at earlier ages with parental consent for “valid reasons” (Law 659-4, Art. 56). The law does not explicitly criminalize child marriage. Child marriages are usually informal unions established outside the law, where girls cohabit with adult consorts and essentially take on the role of homemakers. As a result, these unions are not easily tracked. These unions also increase the vulnerability of girls. Acknowledging this, in May 2017, the parliament agreed to move a motion for the passage of a new legislation (yet to be approved) that would set the minimum age of marriage to 18 without exception (Plan International, 2019).

The main driver of child marriage in Dominican Republic is poverty, where poor women marry four years earlier than wealthier women (Girls Not Brides, 2019). Social norms fuel early entry into marriage. Many girls are socialized to idolize motherhood, seeing it as emancipation and the avenue to gain respect in the society.

Divorce: Dissolution of unions also impacts the lives of child brides. Although the law is impartial about who can dissolve at union, divorce legislations are discriminatory favoring men. Automatic custody of children is given to men upon dissolution (Divorce Act, Article 21). Also, until recently (2015), women had to wait a grace period after divorce before being eligible to re-marry (Divorce Law, Article 35). Marriages performed in the Catholic Church requires its permission for divorce – a process that is lengthy.

Violence Against Women: Dominican Republic is signatory to the 1996 Inter-American Convention on the Prevention, Punishment and Eradication of Violence against Women (Convention of Belém do Pará) which speaks to the prohibition of all forms of domestic and gender-based violence, the UN Convention on the Rights of the Child, its own national legislations - Violence Against Women Act 24-97, the National Gender Equality and Equity Plan. The Criminal Code also punishes domestic violence with imprisonment for 1 to 5 years

plus a fine of 500-5000 Pesos. Despite the presence of these prohibitive legislations, the statistics suggest increased levels of violence against women in the country. Local analysts have linked this increase to women's economic dependence on men coupled with cultural norms disadvantageous to women (OECD, 2019). This results in women remaining in abusive relationship. Another problem cited is that support agencies are often unequipped and underfunded. Social stigma surrounding domestic violence still exists and it may affect how these cases are dealt with (Kumar, 2020).

Prostitution & Sex Trafficking: Prostitution is legal in the Dominican Republic and the country has become a sex tourism hotspot (Gregory, 2014; Marple, 2015). Additionally it has become an emerging destination for child sexual tourism, a phenomenon that until recently was not seen as illegal and mostly went unpunished on the island especially in the southern city of Boca Chica (Gregory, 2014; Linde, 2015). In fact, only three prison sentences were handed down between 2003 and 2013 related to child sexual exploitation (Marple, 2015; Reuters, 2015). Assertions have been made that the country's role in the sex tourism industry coupled with globalization and women's unemployment have contributed to the proliferation of repressive gender norms and patriarchal ideals that nurtures traditionally subordinate position for women.

Abortions: Abortions are illegal in Dominican Republic and punishable with up to 20 years imprisonment. The only exception being in cases where there is a threat to the life of the mother or the foetus. Social norms and gender normative roles support the general acceptance of these bans as the society highly regards motherhood and child-rearing (Sharly Larios, 2016). However, the criminalization of abortion disproportionately affects poor young women living in vulnerable conditions (Colectiva Mujer y Salud, 2013).

The forgoing, and other factors not detailed here have rendered women vulnerable, having to remain in potentially harmful situations or make decisions that they would otherwise not make. The study proceeds bearing these contexts in mind.

3 Data

3.1 Survey of the Violent Situation of Women in DR

Data from the 2018 Experimental Survey of the Situation of Women in the Dominican Republic (ENISIM) was used for the analysis of this study. This is a cross-sectional standardized household survey conducted by the National Statistics Office of Dominican Republic. The focus of this survey was to understand the prevalence, nature and associated characteristics of women who experience violence in Dominican Republic. A first of this nature and magnitude, it provided more detailed data on violent experiences of women using both a previous year and lifetime reference to violence. While previous surveys with a focus on violence against women exists such as the Violence Against Women Modules in the Demographic Health Surveys, this study offered greater coverage in terms of sample size and depth in terms of accounting for country specific peculiarity in development of the survey instrument. This was a 500-item questionnaire adapted from the Inter-American development Bank (IDB) utilizing incorporating measures from the Conflict Tactic Scale (Straus, 1979). Aspects of the instrument were preserved to facilitate comparability with other countries that also use said instrument.

The sampling frame covered 98.7% of the female population 15 years and older. Using data from the 2010 round of the Population and Housing Census, probabilistic sampling in unequal clusters, with probability proportional to the number of occupied dwellings was used, employing systematic selection with random start. In each household sampled, a suitable respondent was identified to provide general household information. A random selection was then made from all female household members 15 years and older to respond to the module on violence against women. A total of 4311 households were interviewed and from these 4083 women selected to complete the section on Violence Against Women.

The entire dataset was provided in Spanish and in SPSS. All variables and their coded responses were first translated to English and the translated dataset converted to STATA format to conduct analysis. As a cautionary note, some sentence construction in the description variables within this document or in the translated questionnaire may not be entirely grammatically correct.

3.2 Variable Selection and Creation

For this study a broad definition of child marriage was used because of the issues surrounding the sample size and the inability to make smaller categories due to the dual focus of the study (child marriage and IPV). As such reference to child marriage refers to all women in the study who reported that their first entry into a union was before the age of 18 years. Otherwise, they are referred to as having married in adulthood. Also, the terms ‘*violence*’ and ‘*intimate partner violence*’ are used interchangeably on the premise that the data used related to measuring IPV in women.

3.2.1 Dependent Variables

The multi-outcome foci of this study called for the use of several dependent variables to measure both prevalence and level of IPV among ever-partnered women.

IPV Prevalence

Prevalence of each type of IPV was proxied using women’s responses to a series of questions aimed at ascertaining whether their present or previous partner ever exerted any form of emotional, physical or sexual violence towards them. The variable was assigned a code of 1 if the specific action occurred at least once and coded 0 if the action never occurred. The three major categories of IPV were captured from the responses to specific questions as outlined below.

A. *IPV Emotional: Did the woman’s current of previous partner*

1. Insult or make her feel bad about herself
2. Despised or humiliated her in front of others
3. Verbally threatened to hurt her or any of her children or family members
4. Threatened to kill her or the children
5. Done things to frighten or intimidate her on purpose, for example, the way he looks at her, by screaming, breaking things or threatening her with guns

B. *IPV Physical: Did the woman’s current of previous partner*

1. Push or pull her by her hair
2. Slap her or threw something at her that could hurt her
3. Hit her with his fist or anything else that could hurt her
4. Kicked, dragged or beat her
5. Suffocate or burn her on purpose
6. Used firearms or other weapons like machetes or knives against her

C. *IPV Sexual: Did the woman’s current of previous partner*

1. Force her to do sexual acts that she considered degrading or humiliating
2. Force her to have sex when she didn't want to
3. Force her to have sex with another person, in or out of his presence

A dichotomous variable for any type of IPV was also created assigning a code of 1(= IPV occurred) if the woman reported having experienced at least one of the three types of IPV.

IPV Level – Based on Woman’s view

A Composite variable using both the frequency of occurrence of a violent action and the women’s view of the seriousness of such action was created to measure the level of violence. This approach is one of the main differences with this study. Other studies either used women’s report of the seriousness of the action or simply assigned a level of seriousness based entirely on the nature of the action, not accounting for the frequency of such actions.

For each of the IPV actions within each type of IPV’s previously outlined, women gave one of the following frequency responses with corresponding codes. Many (1), Few=2, Once=3, Never=4. These responses were recoded to create weights for each response, assigning highest weight to the ‘Many-Option’. Such that:

$$1 = (3/3) = 1$$

$$2 = (2/3) = 0.666666667$$

$$3 = (1/3) = 0.333333333$$

$$4 = 0 = 0$$

Note that this was weighted out of 3 and not 4, since we were interested in the number relative of those who experience that specific IPV action.

Severity level was assessed using women’s view of the seriousness of the violence that was experienced. For each of the actions within each type of IPV (Emotional, Physical, Sexual), women gave one of the following frequency responses with corresponding codes. Very serious=1, Serious=2, Unimportant=3. These responses were recoded to create weights for each response option of each action, assigning highest weight to the ‘Very serious-option’. Such that:

$$1 = (3/3) = 1$$

$$2 = (2/3) = 0.666666667$$

$$3 = (1/3) = 0.333333333$$

For each response to an action of violence, the results of these two scores were combined to proxy the level of IPV. This yielded a weighted response ranging from 0-1 for each violent action, where 1 would suggest the most extreme level of IPV. Principal Component Analysis (PCA) was then used to create the level of IPV for the category. PCA simplifies data by transforming it into fewer dimensions while retaining its trends and patterns. The goal of this method is to find the best summary of the data using a limited number of components (Lever, Krzywinski & Altman, 2017). The advantage of using PCA here is that it helps to guard against misleading results that might be generated if for example the means of the actions were to be used. The IPV level for each category was represented as a percentage for ease of reference. 66.67% assumed as high levels for this study (*Frequency=1 & Severity=Very Serious*).

| Violent Action | Frequency | Severity | Calculated Level |
|--|------------------|---------------------|------------------|
| Force her to do sexual acts that she considered degrading or humiliating | Many = 1 | V. Serious =1 | (2/2) *100 =100 |
| Force her to have sex when she didn't want to | Once=0.333333333 | Serious=0.666666667 | (1/2) *100 =50 |
| Force her to have sex with another person, in or out of his presence | Never= 0 | n/a | n/a |

IPV Level – Based on Clinicians’ View

A set of IPV levels were calculated in a similar way as outlined above. The exception was that the classification of severity of the action was standardized as shown below. This variable was used to measure the dissonance in the IPV levels reported - a measure of tendency to under-estimate the severity of violent actions. This variable was used for two other distinctive features of this study. Firstly, by measuring the level of IPV in a relatively more standardized way. Secondly, show whether there may be significant deviations in reported levels and the standardized levels along with associated factors.

| EMOTIONAL Violent Action | Severity | Assigned weight (/1) |
|---|-----------------|-----------------------------|
| Insult or make her feel bad about herself | Serious | 0.66666666 |
| Despised or humiliated her in front of others | Serious | 0.66666666 |
| Verbally threatened to hurt her or any of her children or family members | Very Serious | 1 |
| Threatened to kill her or the children | Very Serious | 1 |
| Done things to frighten or intimidate her on purpose, for example, the way he looks at her, by screaming, | Serious | 0.66666666 |

| PHYSICAL Violent Action | Severity | Assigned weight (/1) |
|--|-----------------|-----------------------------|
| Push or pull her by her hair | Very Serious | 1 |
| Slap her or threw something at her that could hurt her | Very Serious | 1 |
| Hit her with his fist or anything else that could hurt her | Very Serious | 1 |
| Kicked, dragged or beat her | Very Serious | 1 |
| Suffocate or burn her on purpose | Very Serious | 1 |
| Used firearms or other weapons like machetes or knives against her | Very Serious | 1 |

| SEXUAL Violent Action | Severity | Assigned weight (/1) |
|--|-----------------|-----------------------------|
| Force her to do sexual acts that she considered degrading or humiliating | Very Serious | 1 |
| Force her to have sex when she didn't want to | Very Serious | 1 |
| Force her to have sex with another person, in or out of his presence | Very Serious | 1 |

3.2.2 Independent Dependent Variables

The following independent variables were used to in the study

Age of marriage: The age of the woman at time of her first marriage or union. This variable had to be excluded due to large number of missing values.

Union: A dichotomous variable of the current union status of the woman. Women who are in more stable relationships such as married women tend to be less likely to encounter intimate partner violence relative to those in less stable arrangements such as cohabitation. Married women were assigned a code of 1.

Urban: A dichotomous variable measuring residence of the woman. A value of 1 reflected women living in urban.

Education: Increased level of education reduces recent and longer-term probabilities IPV for women (Weitzman, 2018). The education variable reflected the highest education level of the woman categories into three groups (1=Below secondary; 2=Secondary; 3=Tertiary or above).

Employment: The current employment status of the woman. This is a dichotomous variable where 1 represents employed. (Edwards, 2015; Maume et al., 2014) found that unemployment was a risk factor for IPV.

Wealth Index: A household wealth index representing the population quintile of the household within which the woman resides. Poorer women have been found to be more likely to suffer intimate partner violence (Abramsky et al., 2019).

of children: The number of children living in the household. Women with children present in the home have been found to be more likely to be victims of IPV (Peek-Asa et al., 2017).

Spouse abused in childhood: A dichotomous variable with a value of 1 if the woman indicated that her spouse was abused beaten or insulted at home from time in his childhood.

IPV experience of woman: A dichotomous variable with a value of 1 for women who reported witnessing IPV in childhood.

IPV experience of spouse's mother: A dichotomous variable with a value of 1 for women who indicated that their partner witnessed their mother being a victim of IPV as a child.

Equality: Gender norms play an important role in intimate partner violence (González & Rodríguez-Planas, 2018; McCarthy, Mehta & Haberland, 2018). This variable proxied the women's views of gender equality. It was computed using PCA method applied to weighted responses relating to the woman's view of six (6) statements of egalitarianism, measured on a three-point range (Strongly Agree, Agree, Disagree). This generated a score of gender equality on a range from 0 (suggesting no view of gender equality) to a maximum of 1 (suggesting high levels of egalitarian views). This result was converted to a percentage for ease of interpretation. A dichotomous variable of gender equality was also created with scores 50% and above assigned pro-gender equal views.

3.3 Descriptive Statistics

The descriptive statistics highlighting proportions and differences in the means of various characteristics of the two groups of women are presented in Table 3.1. The final sample included a total of 3201 women. Approximately 32 percent of these women were married as children while 68 percent were married as adults. The average current age of the women in the sample was 44 years. The mean age of the women who married as children and those who married in adulthood were 44 years and 43 years respectively.

54% of the women in the sample had attained at least secondary education. Women who married as children were relatively less educated. 62% of those married as children either had no education or at most primary education and only 8% of them had achieved tertiary level education. Better educational attainment was seen for their adult marrying counterparts for whom 62% were at least educated at the secondary level.

45 % of all women reported being in the bottom 40% of the wealth index. Higher proportions of poverty (54%) were observed for those married as children relative to women married in adulthood (40%). The data shows that generally women have high unemployment rates (51%). This rate of unemployment was generally the same for both groups of women. Although the rates were slightly higher for women who married as children (54%) compared to those married as adults (50%).

More often than not, women reported having financial autonomy (66%) and household decision-making autonomy (87%). These proportions were similar across the two groups of women with slightly higher autonomy for women who married as adults. A noteworthy observation in respect of women who married as children was that a greater share of them (51%) had egalitarian views versus 43% for those who married as adults.

On average there was one child living in each household. Note that this statistic is not equivalent to number of children borne by the women. Women who married as children on average had higher number of marriages (~2) compared to women who married as adults (~1).

10% of the women surveyed reported that their partner was abused in childhood, 5% indicated that their husband witnessed his mother being a victim of IPV during childhood. For the former, slightly lower proportions were observed for women who married as children, while for the latter the proportions were the same. 50% of all women experienced some form of abuse in childhood. The presence of this phenomenon was greater for women who married as children (53%) relative to those who married in adulthood (49%).

26 % of all women experienced at least one type of IPV throughout their lifetime. This prevalence rate was higher for women who married as children (30%) versus 24% in other women. Highest prevalence was observed for emotional violence (24%), followed by physical violence (10%) and lowest rate of 4% for sexual violence. Comparing these rates across the two groups of women, the rates for the women who married in childhood were higher across the board relative to their adult marry counterparts. 28% versus 22% for

emotional violence, 13% versus 8% for physical violence, and 5% versus 3% for sexual violence. Emotional IPV was found to be the most prevalent type of IPV across both groups of women with women who married first as children recording relatively higher levels.

Of those women who reported experiencing emotional IPV, 55% reported very high levels of emotional violence. This ratio was 45% for those who reported physical violence and sexual violence recorded the highest proportion of 63%. Comparing the two groups of women, the proportion of those who experienced higher levels of violence was greater for those who married as children relative to those who married as adults across all categories of IPV. While the proportion of women experiencing higher levels of sexual violence was highest for sexual violence for both groups of women, greatest disparity in the proportions across the groups was seen in the higher level of physical violence for women married as children (54%) versus 37% for the adult marrying women. For Emotional violence, the ratio was 59% versus 52% and for sexual violence, 66% versus 61%.

9 in 10 women who experienced IPV reported that there was at least one situation which they felt that IPV perpetrated by a man could be justified. This obtained whether the woman was married as a child or not. Also, only 1 in every 10 women (11%) who experienced IPV made a report or sought help from an institution or justice authority. 16% of women who married as children made reports compared to 10% of those who married in adulthood. Although reporting rates were generally low, estimates showed a tendency for higher rates of reporting among women who married as children when the violence was regarded as more serious. An estimate of the rates of reports of higher levels of violence (not shown in table) showed 22%, 39% and 33% for emotional, physical and sexual violence respectively for women who married as children. For those who married as adults the rates of report were 10%, 36% and 24%.

T-tests were used to test equality of the means for the independent variables. All results were significant except for area of residence, highest education and whether the husband was abused as a child. The decision was made to still include these in the model since previous research have found them to be significant factors for IPV. The foregoing differences in means observed and highlighted are further assessed through a set of regression models using the different outcome measures of intimate partner violence that have been defined earlier in this chapter.

Table 3.1 Summary Statistics of women who marry as children versus as adults in Dominican Republic

| Variable | All Women | | | | | Women married as children | | | | | Women married as adults | | | | | Mean Diff |
|--|-----------|-------|----------|-----|-----|---------------------------|-------|----------|-----|-----|-------------------------|-------|----------|-----|-----|-----------|
| | Obs | Mean | Std.Dev. | Min | Max | Obs | Mean | Std.Dev. | Min | Max | Obs | Mean | Std.Dev. | Min | Max | |
| Child marriage (=1) | 3201 | 0.323 | 0.468 | 0 | 1 | | | | | | | | | | | |
| Current age (ref: 15-24 years) | 3201 | | | | | 1034 | | | | | 2167 | | | | | |
| 15 - 24 years | 391 | 0.122 | 0.328 | 0 | 1 | 132 | 0.128 | 0.334 | 0 | 1 | 260 | 0.12 | 0.324 | 0 | 1 | 0.008 |
| 25 - 44 years | 1424 | 0.445 | 0.497 | 0 | 1 | 445 | 0.43 | 0.495 | 0 | 1 | 977 | 0.451 | 0.498 | 0 | 1 | -0.021 |
| 45 - 64 years | 938 | 0.293 | 0.455 | 0 | 1 | 291 | 0.281 | 0.45 | 0 | 1 | 648 | 0.299 | 0.458 | 0 | 1 | -0.018 |
| 65+ years | 448 | 0.14 | 0.347 | 0 | 1 | 166 | 0.161 | 0.367 | 0 | 1 | 282 | 0.13 | 0.337 | 0 | 1 | 0.031 |
| Union (1=married) | 3201 | 0.641 | 0.48 | 0 | 1 | 1034 | 0.456 | 0.498 | 0 | 1 | 2167 | 0.729 | 0.445 | 0 | 1 | -0.273 |
| No. Of marriages | 3201 | 1.539 | 0.765 | 1 | 5 | 1034 | 2.077 | 0.843 | 1 | 5 | 2167 | 1.281 | 0.567 | 1 | 5 | 0.796 |
| No. Of children in household | 3201 | 1.35 | 1.238 | 0 | 9 | 1034 | 1.348 | 1.324 | 0 | 9 | 2167 | 1.351 | 1.195 | 0 | 7 | -0.003 |
| Urban (=1) | 3201 | 0.724 | 0.447 | 0 | 1 | 1034 | 0.704 | 0.457 | 0 | 1 | 2167 | 0.733 | 0.442 | 0 | 1 | -0.029 |
| Highest Education (ref: Below secondary) | 3201 | | | | | 1034 | | | | | 2167 | | | | | |
| Below secondary | 1460 | 0.456 | 0.498 | 0 | 1 | 645 | 0.624 | 0.485 | 0 | 1 | 816 | 0.377 | 0.485 | 0 | 1 | 0.247 |
| Secondary | 1053 | 0.329 | 0.47 | 0 | 1 | 303 | 0.293 | 0.455 | 0 | 1 | 749 | 0.346 | 0.476 | 0 | 1 | -0.053 |
| Tertiary | 688 | 0.215 | 0.411 | 0 | 1 | 86 | 0.083 | 0.276 | 0 | 1 | 602 | 0.278 | 0.448 | 0 | 1 | -0.195 |
| Employment (1=employed) | 3201 | 0.488 | 0.5 | 0 | 1 | 1034 | 0.456 | 0.498 | 0 | 1 | 2167 | 0.503 | 0.5 | 0 | 1 | -0.047 |
| Wealth index (ref: poor) | 3201 | 1.89 | 0.877 | 1 | 3 | 1034 | 1.704 | 0.83 | 1 | 3 | 2167 | 1.979 | 0.885 | 1 | 3 | -0.275 |
| Poor | 1424 | 0.445 | 0.497 | 0 | 1 | 554 | 0.536 | 0.499 | 0 | 1 | 871 | 0.402 | 0.49 | 0 | 1 | 0.134 |
| Average | 701 | 0.219 | 0.413 | 0 | 1 | 232 | 0.224 | 0.417 | 0 | 1 | 468 | 0.216 | 0.412 | 0 | 1 | 0.008 |
| Rich | 1076 | 0.336 | 0.472 | 0 | 1 | 248 | 0.24 | 0.427 | 0 | 1 | 828 | 0.382 | 0.486 | 0 | 1 | -0.142 |
| Financial independence (1=Yes) | 3201 | 0.657 | 0.475 | 0 | 1 | 1034 | 0.627 | 0.484 | 0 | 1 | 2167 | 0.671 | 0.47 | 0 | 1 | -0.044 |
| Household decision making (1=Yes) | 3201 | 0.873 | 0.334 | 0 | 1 | 1034 | 0.853 | 0.354 | 0 | 1 | 2167 | 0.882 | 0.323 | 0 | 1 | -0.029 |
| Egalitarian views (1=Yes) | 3201 | 0.457 | 0.451 | 0 | 1 | 1034 | 0.507 | 0.45 | 0 | 1 | 2167 | 0.433 | 0.45 | 0 | 1 | 0.074 |
| Husband abused as child (1=Yes) | 3201 | 0.102 | 0.303 | 0 | 1 | 1034 | 0.088 | 0.283 | 0 | 1 | 2167 | 0.109 | 0.312 | 0 | 1 | -0.021 |

| Variable | All Women | | | | | Women married as children | | | | | Women married as adults | | | | | Mean Diff |
|--|-----------|-------|----------|-----|-----|---------------------------|-------|----------|-----|-----|-------------------------|-------|----------|-----|-----|-----------|
| | Obs | Mean | Std.Dev. | Min | Max | Obs | Mean | Std.Dev. | Min | Max | Obs | Mean | Std.Dev. | Min | Max | |
| Husband witnessed his mom being abused in childhood (1=Yes) | 3201 | 0.047 | 0.212 | 0 | 1 | 1034 | 0.047 | 0.213 | 0 | 1 | 2167 | 0.047 | 0.212 | 0 | 1 | 0 |
| Woman experienced abuse in childhood (1=Yes) | 3201 | 0.508 | 0.5 | 0 | 1 | 1034 | 0.531 | 0.499 | 0 | 1 | 2167 | 0.497 | 0.5 | 0 | 1 | 0.034 |
| Prevalence IPV(1=Yes) | 3201 | 0.256 | 0.437 | 0 | 1 | 1034 | 0.295 | 0.456 | 0 | 1 | 2167 | 0.238 | 0.426 | 0 | 1 | 0.057 |
| <i>Emotional</i> | 764 | 0.239 | 0.426 | 0 | 1 | 290 | 0.28 | 0.449 | 0 | 1 | 474 | 0.219 | 0.413 | 0 | 1 | 0.061 |
| <i>Physical</i> | 307 | 0.096 | 0.295 | 0 | 1 | 136 | 0.132 | 0.338 | 0 | 1 | 171 | 0.079 | 0.27 | 0 | 1 | 0.053 |
| <i>Sexual</i> | 119 | 0.037 | 0.189 | 0 | 1 | 50 | 0.048 | 0.215 | 0 | 1 | 69 | 0.032 | 0.176 | 0 | 1 | 0.016 |
| Level of (Frequency & Severity) - As reported by women (1=Higher levels) | | | | | | | | | | | | | | | | |
| <i>Emotional</i> | 764 | 0.546 | 0.498 | 0 | 1 | 290 | 0.593 | 0.492 | 0 | 1 | 474 | 0.517 | 0.5 | 0 | 1 | 0.076 |
| <i>Physical</i> | 307 | 0.45 | 0.498 | 0 | 1 | 136 | 0.544 | 0.5 | 0 | 1 | 171 | 0.374 | 0.485 | 0 | 1 | 0.17 |
| <i>Sexual</i> | 119 | 0.63 | 0.485 | 0 | 1 | 50 | 0.66 | 0.479 | 0 | 1 | 69 | 0.609 | 0.492 | 0 | 1 | 0.051 |
| Level of (Frequency & Severity) - Standardized measure (1=Higher levels) | | | | | | | | | | | | | | | | |
| <i>Emotional</i> | 764 | 0.695 | 0.461 | 0 | 1 | 290 | 0.717 | 0.451 | 0 | 1 | 474 | 0.681 | 0.466 | 0 | 1 | 0.036 |
| <i>Physical</i> | 307 | 0.583 | 0.494 | 0 | 1 | 136 | 0.676 | 0.47 | 0 | 1 | 171 | 0.509 | 0.501 | 0 | 1 | 0.167 |
| <i>Sexual</i> | 119 | 0.832 | 0.376 | 0 | 1 | 50 | 0.8 | 0.404 | 0 | 1 | 69 | 0.855 | 0.355 | 0 | 1 | -0.055 |
| Justification for IPV | 3201 | 0.999 | 0.031 | 0 | 1 | 1034 | 0.999 | 0.031 | 0 | 1 | 2167 | 0.999 | 0.030 | 0 | 1 | -4.42E-05 |
| Report IPV | 821 | 0.118 | 0.323 | 0 | 1 | 305 | 0.157 | 0.365 | 0 | 1 | 516 | 0.095 | 0.294 | 0 | 1 | 0.062 |

4 Methods

This study mainly utilizes a combination of logistic regression aided by t-tests and OLS regression. The approach is provided in this section.

4.1 Binary Logistic Model

The following model was used to predict the outcome of the dependent variables of IPV Prevalence in the first instance, and IPV Level in the latter:

$$y = P(IPV = 1) = F(\beta_0 + \beta_i x_{child\ marriage} + \beta_i x_i + \varepsilon) \quad (1)$$

Where:
P is the probability that a woman experiences IPV OR the probability of experiencing higher levels of IPV
y = the probability that a woman experiences IPV. (i.e. Dichotomous dependent variable IPV outcome) OR the probability that a woman experiences higher levels of IPV. (i.e. Dichotomous dependent variable IPV outcome)
 β_0 = the constant
 β_i = the coefficient of the independent variables (1 to n)
 $x_{child\ marriage}$ = the main independent variable whether a woman was married as a child
 $\beta_i x_i$ = vector of independent variables
 ε = error term

The rationale for employing this model surrounds the fact that next to OLS regression models, binary outcome models are among the most used models in applied economics. These models are employed when attempting to model the relationship between one or more independent variables and a binary dependent variable. The dependent variable (*y*) therefore typically takes one of two values.

$$y = \begin{cases} 0, & \text{if no} \\ 1, & \text{if Yes} \end{cases}$$

Because of the binary nature of the outcome variable, the fundamental assumptions used in OLS models (linearity in the relationship between dependent and independent variables, normality of residuals and constant variance) are violated (Pituch & Stevens, 2016). The relationship between one or more independent variables and the probability of a target outcome is inherently non-linear (and takes on an S-shaped curve), as probabilities are bounded at 0 and 1. Modeling a binary outcome using OLS regression ignores this boundary and may result in yielding predicted probabilities that fall outside the 0-1 bound. The logit model however accounts for the fact that probabilities are bounded between 0 and 1 in the estimation of regression parameters. It also does not assume the normality of residuals and constant variance are also not assumed.

The magnitude of the coefficient from a logit regression cannot be interpreted at face value as with OLS regressions, as such odds ratios were used in the interpretation in this study.

The odds ratio measures the probability that $y=1$ relative to the probability that $y=0$. That is, the probability that a woman experiences IPV relative to the probability of her not experiencing IPV. The odds are derived and expressed as follows:

$$\begin{aligned}
 P &= \frac{\exp(x'\beta)}{1 + \exp(x'\beta)} \\
 \frac{P}{1 - P} &= \exp(x'\beta) \\
 \ln \frac{P}{1 - P} &= \frac{P}{1 - P} = x'\beta \quad (2)
 \end{aligned}$$

Such that the odds ratio is a value greater than 0. A value above 1 suggests greater odds of occurrence and values below 1 indicates reduced odds of the occurrence. Translated to this study, an odds ratio above 1 for a specific predictor variable suggests that the predictor is associated with increased odds of a woman being a victim of IPV (all other predictors held constant). The odds of IPV therefore decrease when the odds ratio is below 1.

Logit models use maximum likelihood in the estimation of model parameters. This can result in a limit to its use since it assumes large samples and, aside from issues of power, smaller sample sizes can create problems with model convergence and estimation of model parameters. However due the dichotomous nature of the outcome variables in this study this method was employed, and results presented acknowledging the limitations of sample size.

Estimates using average marginal effects were then applied to each result to assess the associated size of the effects of each predictor. The average marginal effect measures an effect on the probability of the IPV outcomes. It calculates the mean change in probability of the outcome variable with each unit increased in a specific independent variable. The logit model being non-linear means this effect will vary from one individual to the next. To account for this variation, the average marginal effect computes the effect for each individual and then averages these effects to give an overall effect. Since stepwise modelling was used the marginal effects are only reported alongside the odds ratios for the final model (6) in each analysis. Checks for accuracy of these estimates were made through assessing the predicted means for the two groups keeping all other variables at their means.

4.1.1 Test for fitness of the model

In addition to assessing the predicted values, two approaches were employed to assess the goodness of fit for the model. Firstly, the fitness of the full model was evaluated using the Hosmer-Lemeshow test and the pseudo-r-squared. The overall model fit is often assessed using the pseudo-r-squared indices and an evaluation of the degree to which the model can classify individuals into groups on the dependent variable (Smith & McKenna, 2013). Secondly, the Wald test was used to assess the independent variables' contribution to overall fitness of the model using the *estat classification* command in STATA.

4.2 The Approach

This study took the following layered approach.

First, lifetime prevalence of IPV was calculated for each of three types of IPV (emotional, physical, and sexual). The significance of any differences between the prevalence rates observed for women who married as children against who married in adulthood was assessed for each type of IPV using a series of t-tests.

Secondly, using the logistic model (1) described previously, and alternating the dependent variable to be whether women experienced emotional IPV, physical IPV, sexual IPV, or at least one type of IPV, the significance of the association between these and the list of covariates described in Chapter 3 were assessed. Association between child marriage and the odds of exposure was the main covariate assessed.

Thirdly, the previous assessment was repeated with the dependent variable levels of IPV (serious or very serious) as reported by women in the first instance. This was followed by the assessment using the calculated standardized estimate of the levels of violence (serious or very serious) experienced.

For the second and third phases of the analysis, the predictors were broadly categorized into three general groups of characteristics to link to assertions of theories discussed in Chapter 2. These groups were demographic, socio-economic, autonomy, gender norms and childhood experiences. Interactions with child marriage and selected variables were also included in the model at a later stage for more in-depth analysis. The variables selected for the interactions were chosen based on the associations observed in the previous research and theoretical assertions highlighted previously.

Finally, the existence of dissonance between the women's perception of IPV and the standardized level measure was assessed. This was done using the measure of the distance between the level of IPV estimated by 'standardized assessment' and the level of IPV proxied based on the women's responses. Analysis was done using a series of t-test and then OLS regression to examine significant factors in association.

5 Empirical Analysis

5.1 Results

This section presents the results of multivariate analyses in four phases. Firstly, the associations between the covariates and experiencing IPV. Secondly, the associations with the levels of IPV as reported by the women. Third, associations with levels of IPV using a standardized measure for IPV level. Lastly, the associations with the magnitude of the differences in IPV levels between the two measures of level.

In the results odds ratios are presented in the format [OR: #.#]. This may be interpreted as a unit increase in the specific independent variable is associated with an increase (if value is greater than 1) or decrease (if value is less than 1) in the odds of experiencing the IPV outcome, all other variables held constant. Marginal effects are also presented in the last column of each logistics regression table. Within the text, some marginal effects results are highlighted. These are presented as percentages. A result of “±#%” suggests that the specific independent variable is associated with increasing or decreasing the likelihood of the IPV outcome by #%.

5.1.1 Child Marriage and IPV Prevalence Rates by Type

The prevalence rates observed were 26%, for any IPV, 24% for emotional IPV, 10% for physical IPV and 4% for sexual IPV. The results (Table 5.1) show that there is a significant difference in the prevalence of IPV between women who married as children and those who married as adults. Women who married as children have significantly higher prevalence for all types of IPV compared to those who marry in adulthood. The differences in prevalence rates were largest for emotional IPV (6.7 points greater). For physical and sexual IPV the prevalence rates were 5.26 and 1.65 percentage points greater for women who married as children. Note that this study does not make causal assertions. Going forward, references to risk and protective factors in the results are associative interpretations and not causal ones.

Table 5.1 Result for t-test of means for the types of IPV across the two groups of women

| | Obs | Prevalence | | | Mean Diff adult-child | Std. Error | Std Dev | Conf. Interval | | T-stat | DF |
|---------------|------|------------|-------|-------|--------------------------|---------------|---------|----------------|-------|-----------|------|
| | | All | Adult | Child | | | | | | | |
| Any IPV | 3201 | 25.65 | 23.81 | 29.50 | -5.69 | 0.008 | 0.437 | 0.241 | 0.272 | -3.450*** | 3199 |
| Emotional IPV | 3201 | 23.87 | 21.87 | 28.05 | -6.17 | 0.008 | 0.426 | 0.224 | 0.253 | -3.839*** | 3199 |
| Physical IPV | 3201 | 9.59 | 7.89 | 13.15 | -5.26 | 0.005 | 0.295 | 0.086 | 0.106 | -4.743*** | 3199 |
| Sexual IPV | 3201 | 3.72 | 3.18 | 4.84 | -1.65 | 0.003 | 0.189 | 0.031 | 0.044 | -2.311*** | 3199 |

5.1.2 Odds of Experiencing Intimate Partner Violence

Tables 5.2 to 5.6 displays the results of multivariate logistic regressions of the odds that women encounter IPV. Firstly, the results are presented modeling the odds of experiencing any type of violence, highlighting the association to the main independent variable – being married in childhood. Subsequent models present the results of the odds of women experiencing one of the three types of IPV. The average marginal effects in percentages (%) are also highlighted for some results. It is important to highlight that these results are associations and causal inferences are not made.

Child marriage has a positive yet insignificant association with the likelihood of experiencing any type of violence [*OR: 1.17*]. Based on the results of the modeling presented in Table 5.2, experiencing any type of violence may be explained by demographic factors, women's level of autonomy, their position on egalitarianism and the childhood experiences of both themselves and their partner. Marriage, urban residence along with financial and decision-making autonomy were associated with lowered odds of any IPV. Among these factors, women's possession of decision-making abilities within the home was associated with the greatest decrease in odds of IPV [*OR: 0.13*], all other factors held constant. Decision making ability and her childhood experience of IPV were associated with the largest marginal effects in experiencing at least one type of IPV. Women with decision-making authority were 31% less likely to experience IPV. Those who had childhood experience of IPV were 17% more likely to be victims of IPV relative to those women who did not.

The odds of experiencing emotional violence (*Table 5.3*) for women who married as children were significantly greater than that for women who married as adults [*OR: 1.24*]. They were 3% more likely to experience emotional IPV. Other factors that were associated with the risk of emotional violence for women were demographic factors, autonomy, gender norms and childhood experiences. Protective factors included women living in urban areas [*OR: 0.05*], Financial independence [*OR: 0.77*], and decision-making ability [*OR: 0.13*]. Women with more children in the household, those holding positive views towards gender equality and those who reported a history of violence in their or their husband's childhood were associated with greater risk of experiencing emotional IPV. Women with decision-making authority were 29% less likely to experience emotional IPV. Those who had childhood experiences of IPV were 17% more likely to be victims of IPV.

When interactions with child marriage and selected predictors were incorporated in the model (*See Table 5.6 & Appendix 4*), only a few significant results were obtained. Decision-making abilities reduced the likelihood of child brides experiencing IPV by only 7%. While, witnessing IPV in childhood increased the likelihood only by 5%). Also, some predictors that were generally protective factors for all women, resulted in risk factors for child brides (vice versa). Particularly, marriage and financial independence which were generally protective factors, were risk factors for child brides. Husbands' childhood experience of abuse, which was a risk factor for all women, was a protective factor for child brides (albeit insignificant for the interactions).

Table 5.2 Regression output showing Odds of a woman experiencing any type of IPV

| VARIABLES | Any IPV | | | | | | Marginal |
|----------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | |
| Child marriage (=1) | 1.339*** (0.114) | 1.218** (0.109) | 1.201** (0.112) | 1.204* (0.119) | 1.195* (0.119) | 1.170 (0.119) | 0.024 (0.016) |
| Demographic | | | | | | | |
| 30-44 yrs (ref = 15-29 yrs) | | 1.052 (0.147) | 1.111 (0.159) | 1.059 (0.169) | 1.061 (0.170) | 1.116 (0.183) | 0.016 (0.023) |
| 45-64 yrs (ref = 15-29 yrs) | | 1.249 (0.178) | 1.293* (0.192) | 1.214 (0.200) | 1.217 (0.201) | 1.443** (0.247) | 0.055** (0.025) |
| 65+ yrs (ref = 15-29 yrs) | | 0.937 (0.161) | 0.943 (0.175) | 1.052 (0.214) | 1.038 (0.211) | 1.361 (0.283) | 0.046 (0.031) |
| Married (=1) | | 0.708*** (0.065) | 0.705*** (0.065) | 0.852 (0.086) | 0.842* (0.085) | 0.809** (0.085) | -0.033** (0.016) |
| No. of children | | 1.083** (0.039) | 1.080** (0.039) | 1.064 (0.042) | 1.065 (0.042) | 1.073* (0.044) | 0.011* (0.006) |
| Urban (=1) | | 0.730*** (0.065) | 0.742*** (0.067) | 0.707*** (0.070) | 0.709*** (0.070) | 0.707*** (0.071) | -0.054*** (0.016) |
| Socio-economic | | | | | | | |
| Secondary(ref = primary or none) | | | 1.069 (0.110) | 1.038 (0.116) | 1.070 (0.121) | 1.089 (0.126) | 0.013 (0.018) |
| Tertiary(ref = primary or none) | | | 0.941 (0.120) | 0.935 (0.127) | 0.979 (0.135) | 1.005 (0.144) | 0.001 (0.021) |
| Employed(=1) | | | 0.896 (0.083) | 1.017 (0.115) | 1.022 (0.115) | 0.968 (0.114) | -0.005 (0.018) |
| Average wealth (ref = poor) | | | 1.102 (0.118) | 1.150 (0.132) | 1.156 (0.133) | 1.098 (0.131) | 0.014 (0.018) |
| Rich(ref = poor) | | | 0.977 (0.103) | 1.008 (0.115) | 1.017 (0.116) | 0.942 (0.110) | -0.009 (0.017) |
| Autonomy | | | | | | | |
| Financial independence (=1) | | | | 0.717*** (0.078) | 0.722*** (0.078) | 0.759** (0.086) | -0.042** (0.017) |
| Decision making ability (=1) | | | | 0.110*** (0.013) | 0.111*** (0.013) | 0.126*** (0.016) | -0.313*** (0.015) |
| Gender norms | | | | | | | |
| Gender equality | | | | | 1.278** (0.129) | 1.255** (0.130) | 0.034** (0.016) |
| Childhood experiences | | | | | | | |
| Husband abused as child | | | | | | 1.514*** (0.243) | 0.063*** (0.024) |
| husband's mother experienced | | | | | | 1.341 (0.288) | 0.044 (0.032) |
| IPV in woman's childhood (=1) | | | | | | 3.222*** (0.316) | 0.177*** (0.014) |
| Constant | 0.313*** (0.016) | 0.413*** (0.067) | 0.411*** (0.076) | 2.881*** (0.670) | 2.497*** (0.601) | 0.995 (0.254) | |
| Observations | 3,201 | 3,201 | 3,201 | 3,201 | 3,201 | 3,201 | 3,201 |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 5.3 Regression output showing Odds of a woman experiencing Emotional IPV

| VARIABLES | Emotional IPV | | | | | | Marginal |
|----------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | |
| Child marriage (=1) | 1.392*** (0.121) | 1.280*** (0.116) | 1.260** (0.120) | 1.274** (0.129) | 1.264** (0.128) | 1.240** (0.129) | 0.032** (0.015) |
| Demographic | | | | | | | |
| 30-44 yrs (ref = 15-29 yrs) | | 1.048 (0.150) | 1.100 (0.162) | 1.043 (0.170) | 1.045 (0.171) | 1.096 (0.183) | 0.012 (0.022) |
| 45-64 yrs (ref = 15-29 yrs) | | 1.258 (0.184) | 1.299* (0.198) | 1.215 (0.206) | 1.217 (0.206) | 1.439** (0.252) | 0.052** (0.024) |
| 65+ yrs (ref = 15-29 yrs) | | 0.926 (0.164) | 0.944 (0.181) | 1.057 (0.220) | 1.044 (0.217) | 1.368 (0.290) | 0.045 (0.03) |
| Married (=1) | | 0.736*** (0.069) | 0.735*** (0.070) | 0.900 (0.094) | 0.889 (0.093) | 0.861 (0.093) | -0.022 (0.016) |
| No. of children | | 1.083** (0.040) | 1.080** (0.040) | 1.064 (0.043) | 1.065 (0.043) | 1.072* (0.045) | 0.01* (0.006) |
| Urban (=1) | | 0.684*** (0.062) | 0.694*** (0.064) | 0.654*** (0.065) | 0.655*** (0.066) | 0.649*** (0.066) | -0.065*** (0.016) |
| Socio-economic | | | | | | | |
| Secondary(ref = primary or none) | | | 1.079 (0.114) | 1.047 (0.120) | 1.079 (0.125) | 1.096 (0.130) | 0.013 (0.017) |
| Tertiary(ref = primary or none) | | | 0.928 (0.121) | 0.918 (0.128) | 0.961 (0.136) | 0.982 (0.145) | -0.003 (0.021) |
| Employed(=1) | | | 0.933 (0.089) | 1.057 (0.122) | 1.062 (0.122) | 1.010 (0.122) | 0.001 (0.017) |
| Average wealth (ref = poor) | | | 1.105 (0.122) | 1.154 (0.136) | 1.160 (0.136) | 1.106 (0.134) | 0.015 (0.018) |
| Rich(ref = poor) | | | 0.978 (0.106) | 1.009 (0.118) | 1.017 (0.119) | 0.945 (0.114) | -0.008 (0.017) |
| Autonomy | | | | | | | |
| Financial independence (=1) | | | | 0.729*** (0.080) | 0.734*** (0.081) | 0.773** (0.089) | -0.037** (0.017) |
| Decision making ability (=1) | | | | 0.113*** (0.013) | 0.114*** (0.013) | 0.130*** (0.016) | -0.295*** (0.015) |
| Gender norms | | | | | | | |
| Gender equality | | | | | 1.279** (0.133) | 1.259** (0.134) | 0.033** (0.015) |
| Childhood experiences | | | | | | | |
| Husband abused as child | | | | | | 1.394** (0.228) | 0.048** (0.024) |
| husband's mother experienced | | | | | | 1.503* (0.326) | 0.059* (0.031) |
| IPV in woman's childhood (=1) | | | | | | 3.235*** (0.327) | 0.17*** (0.014) |
| Constant | 0.280*** (0.015) | 0.377*** (0.062) | 0.368*** (0.070) | 2.458*** (0.577) | 2.131*** (0.519) | 0.842 (0.219) | |
| Observations | 3,201 | 3,201 | 3,201 | 3,201 | 3,201 | 3,201 | 3,201 |

Robust

*** p<0.01, ** p<0.05, * p<0.1

Child marriage significantly increased the odds of experiencing physical IPV [OR: 1.42] as shown in the results of Table 5.4. Women married as children were 3% more likely to experience physical IPV. Unlike the outcome for emotional violence, the likelihood physical violence for all women included significant association factors spanning all five major categories. Factors that reduced the likelihood of physical violence were marriage [OR: 0.71], urban residence [OR: 0.79], wealth for the rich [OR: 0.67] and decision-making abilities [OR: 0.18]. The explanatory power of financial independence was diminished after factors relating to childhood experiences were included in the model. Significantly greater odds of experiencing physical IPV were observed in women aged 45-64 [OR: 1.60] relative to 15-29 year old, those who had childhood experience(s) of violence [OR: 2.62] and those whose husbands were either a victim of abuse [OR: 1.50] or witnessed their being a victim of IPV during childhood their childhood [OR: 1.90]. In relation to the size effect, all other variables held constant, decision making abilities and childhood experiences had the most sizeable effect on physical IPV, decreasing its likelihood by 13% in the first case, while increasing its likelihood by 7% in the latter.

Controlling for child marriage with selected predictors (See Table 5.6 & Appendix 4), only wealth was a protective factor against physical IPV for women who married as children. The likelihood reduced by 1%. All other interactions yielded insignificant results. However, a notable observation is that many predictors which were generally protective factors for all women (such as marriage, tertiary education, employment, and financial independence) were risk factors of physical IPV for women who married as children.

The association between child marriage and sexual IPV was insignificant. (See Table 5.5). However, all other major groups of factors except gender norms had some form of significant association to the odds of women on a whole experiencing sexual IPV. The results suggest that relative to women age 15-29, women in two age groups (30-44 and above 65 years) were more likely to have reported being victims of sexual IPV. Other factors that significantly resulted in increased odds of sexual violence included, women who were employed [OR: 1.78], those whose husbands either experienced abuse in childhood [OR: 1.61] or witnessed their mother experiencing IPV [OR: 2.38], and women who themselves experienced childhood violence [OR: 2.29]. All the size effects for these predictors were below 3%. Decreased odds of experiencing sexual IPV were associated with being married [OR:0.53], being rich [0.52:] and financial and household decision-making autonomy [OR:0.41] & [OR: 0.16]. Decision making abilities decreased the likelihood of sexual IPV by 6%.

When interactions between child marriage and selected predictors were considered (Table 5.6 & Appendix 4), only employment, decision-making abilities, marriage, and women's childhood experiences had significant associations with sexual IPV. Employment and decision-making abilities both decreased the likelihood of sexual IPV by 3%. While, marriage and women's childhood experiences both increased the likelihood of sexual IPV by 3%. All other interactions yielded insignificant results. However, predictors that were generally protective for all women (such as, marriage, urban residence, being rich, and financial independence) were found to be risk factors for women who married in childhood (albeit some results were insignificant).

Table 5.4 Regression output showing Odds of a woman experiencing Physical IPV

| VARIABLES | Physical IPV | | | | | | Marginal |
|----------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | |
| Child marriage (=1) | 1.768*** (0.215) | 1.549*** (0.200) | 1.452*** (0.195) | 1.462*** (0.203) | 1.455*** (0.203) | 1.420** (0.200) | 0.027** (0.011) |
| Demographic | | | | | | | |
| 30-44 yrs (ref = 15-29 yrs) | | 1.376 (0.299) | 1.493* (0.336) | 1.396 (0.336) | 1.399 (0.337) | 1.497 (0.376) | 0.028* (0.016) |
| 45-64 yrs (ref = 15-29 yrs) | | 1.469* (0.328) | 1.531* (0.355) | 1.368 (0.345) | 1.367 (0.345) | 1.573* (0.416) | 0.032* (0.017) |
| 65+ yrs (ref = 15-29 yrs) | | 0.863 (0.239) | 0.800 (0.236) | 0.880 (0.276) | 0.876 (0.274) | 1.146 (0.371) | 0.009 (0.02) |
| Married (=1) | | 0.585*** (0.078) | 0.600*** (0.082) | 0.741** (0.106) | 0.735** (0.105) | 0.714** (0.105) | -0.026** (0.012) |
| No. of children | | 1.086 (0.056) | 1.062 (0.055) | 1.044 (0.058) | 1.045 (0.058) | 1.039 (0.060) | 0.003 (0.004) |
| Urban (=1) | | 0.759** (0.099) | 0.808 (0.107) | 0.792* (0.110) | 0.791* (0.110) | 0.785* (0.112) | -0.019* (0.011) |
| Socio-economic | | | | | | | |
| Secondary(ref = primary or none) | | | 1.000 (0.148) | 0.964 (0.152) | 0.978 (0.155) | 0.993 (0.161) | -0.001 (0.012) |
| Tertiary(ref = primary or none) | | | 0.836 (0.164) | 0.823 (0.166) | 0.841 (0.171) | 0.825 (0.174) | -0.014 (0.015) |
| Employed(=1) | | | 0.856 (0.115) | 0.959 (0.157) | 0.959 (0.157) | 0.926 (0.157) | -0.006 (0.013) |
| Average wealth (ref = poor) | | | 0.819 (0.130) | 0.833 (0.139) | 0.834 (0.139) | 0.784 (0.136) | -0.019 (0.013) |
| Rich(ref = poor) | | | 0.714** (0.111) | 0.719** (0.118) | 0.720** (0.118) | 0.674** (0.113) | -0.029** (0.012) |
| Autonomy | | | | | | | |
| Financial independence (=1) | | | | 0.731** (0.114) | 0.733** (0.114) | 0.769 (0.124) | -0.02* (0.012) |
| Decision making ability (=1) | | | | 0.147*** (0.020) | 0.148*** (0.020) | 0.177*** (0.025) | -0.129*** (0.01) |
| Gender norms | | | | | | | |
| Gender equality | | | | | 1.129 (0.168) | 1.107 (0.167) | 0.008 (0.011) |
| Childhood experiences | | | | | | | |
| Husband abused as child | | | | | | 1.504* (0.321) | 0.03** (0.016) |
| husband's mother experienced IPV | | | | | | 1.896** (0.525) | 0.048** (0.021) |
| IPV in woman's childhood (=1) | | | | | | 2.618*** (0.390) | 0.072*** (0.011) |
| Constant | 0.086*** (0.007) | 0.104*** (0.026) | 0.128*** (0.036) | 0.622 (0.193) | 0.582* (0.189) | 0.241*** (0.086) | |
| Observations | 3,201 | 3,201 | 3,201 | 3,201 | 3,201 | 3,201 | 3,201 |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 5.5 Regression output showing Odds of a woman experiencing Sexual IPV

| VARIABLES | Sexual IPV | | | | | | Marginal |
|----------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|----------------------|
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | |
| Child marriage (=1) | 1.545** (0.293) | 1.231 (0.259) | 1.133 (0.243) | 1.145 (0.244) | 1.145 (0.246) | 1.098 (0.238) | 0.003 (0.007) |
| Demographic | | | | | | | |
| 30-44 yrs (ref = 15-29 yrs) | | 1.645 (0.610) | 1.797 (0.681) | 1.721 (0.659) | 1.721 (0.659) | 1.946* (0.746) | 0.017** (0.009) |
| 45-64 yrs (ref = 15-29 yrs) | | 1.621 (0.619) | 1.777 (0.719) | 1.602 (0.659) | 1.602 (0.659) | 1.918 (0.781) | 0.017* (0.009) |
| 65+ yrs (ref = 15-29 yrs) | | 1.418 (0.606) | 1.552 (0.711) | 1.870 (0.872) | 1.870 (0.872) | 2.613** (1.205) | 0.028** (0.014) |
| Married (=1) | | 0.416** (0.090) | 0.447** (0.096) | 0.533** (0.117) | 0.533** (0.118) | 0.525** (0.117) | -0.021*** (0.008) |
| No. of children | | 1.040 (0.088) | 1.001 (0.085) | 0.972 (0.088) | 0.972 (0.089) | 0.957 (0.091) | -0.001 (0.003) |
| Urban (=1) | | 0.893 (0.187) | 0.944 (0.200) | 0.982 (0.215) | 0.982 (0.215) | 0.973 (0.217) | -0.001 (0.007) |
| Socio-economic | | | | | | | |
| Secondary(ref = primary or none) | | | 1.204 (0.291) | 1.232 (0.309) | 1.232 (0.317) | 1.245 (0.320) | 0.008 (0.009) |
| Tertiary(ref = primary or none) | | | 0.709 (0.232) | 0.748 (0.253) | 0.748 (0.262) | 0.699 (0.254) | -0.01 (0.01) |
| Employed(=1) | | | 1.128 (0.233) | 1.780** (0.401) | 1.780** (0.401) | 1.782** (0.404) | 0.019** (0.008) |
| Average wealth (ref = poor) | | | 1.001 (0.226) | 1.095 (0.257) | 1.095 (0.256) | 1.003 (0.238) | 0 (0.009) |
| Rich(ref = poor) | | | 0.529** (0.136) | 0.576** (0.153) | 0.576** (0.153) | 0.518** (0.143) | -0.019*** (0.007) |
| Autonomy | | | | | | | |
| Financial independence (=1) | | | | 0.394** (0.082) | 0.394** (0.082) | 0.407** (0.086) | -0.029*** (0.007) |
| Decision making ability (=1) | | | | 0.136** (0.028) | 0.136** (0.028) | 0.164** (0.034) | -0.058*** (0.007) |
| Gender norms | | | | | | | |
| Gender equality | | | | | 1.001 (0.229) | 0.972 (0.224) | -0.001 (0.007) |
| Childhood experiences | | | | | | | |
| Husband abused as child | | | | | | 1.612* (0.456) | 0.015* (0.009) |
| husband's mother experienced | | | | | | 2.377** (0.811) | 0.028** (0.011) |
| IPV in woman's childhood (=1) | | | | | | 2.288** (0.547) | 0.027*** (0.008) |
| Constant | 0.033** (0.004) | 0.039** (0.016) | 0.040** (0.018) | 0.201** (0.096) | 0.200** (0.098) | 0.084** (0.043) | |
| Observations | 3,201 | 3,201 | 3,201 | 3,201 | 3,201 | 3,201 | 3,201 |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

In summary, the multivariate analysis across the different types of violence suggests child marriage is associated with greater odds of being victims of emotional and physical IPV relative to their adult marrying counterparts (Approximately 3% more likely in both cases). The associations between child marriage and sexual IPV yielded insignificant results. Generally, autonomy of women (proxied by financial independence and decision-making abilities within the household) was a protective factor against the likelihood of all three types of IPV. They also had the greatest independent reducing effect on IPV (Up to 30% in the case

of emotional IPV. However, this did not completely obtain for women who married as children. Results were insignificant but the direction of the association suggests that financial independence was a risk factor for child brides. Similarly, tertiary level education which was a protective factor for all women was a risk factor for women who married as children.

Urban residence was a protective factor for all women, but only against emotional [OR: 0.65] and physical violence [OR: 0.79], reducing their likelihood by 6% and 2% respectively. However, there was no significance in its association for women married in childhood.

Overall, being in a marital union versus another type of union significantly reduced the odds of experiencing physical [OR: 0.71] and sexual violence [OR: 0.53], while it had no significance in its association with emotional violence. For women who married as children however, marriage was associated with increased odds of IPV, albeit only significant in the case of sexual IPV, increasing its likelihood by 3%.

Generally, untoward violent childhood experiences for women and also for their husbands, significantly increased the likelihood of all types of IPV. Comparing all types of IPV, factors relating to childhood experiences, specifically the experience of the women were associated with the largest marginal effect in the increased likelihood of IPV. For women who married as children, this obtained only where women witnessed IPV in childhood and in the case of emotional and sexual IPV. This increased the likelihood by 5% and 3% respectively. Although having a husband who was abused in childhood was a significant risk factor for all types of IPVs for the overall group, this did not obtain for women who married as children. Instead this factor was associated with reduced likelihood of IPV (albeit insignificant).

Table 5.6 Risk & protective factors for IPV controlling for child marriage and selected variables

| VARIABLES | ALL WOMEN PREVALENCE | | | INTERACTION WITH CHILD MARRIAGE | | |
|--|----------------------|----------|--------|---------------------------------|----------|--------|
| | Emotional | Physical | Sexual | Emotional | Physical | Sexual |
| Demographic | | | | | | |
| Married (=1) | p | p* | p* | r | r | R* |
| Urban (=1) | p* | p* | p | p | p | r |
| Socio-economic | | | | | | |
| Secondary(ref = primary or none) | r | p | r | r | p | r |
| Tertiary(ref = primary or none) | p | p | p | r | r | - |
| Employed(=1) | r | p | R* | r | r | p* |
| Average wealth (ref = poor) | r | p | - | r | p* | r |
| Rich(ref = poor) | p | p* | p* | p | p | r |
| Autonomy | | | | | | |
| Financial independence (=1) | p* | p* | p* | r | r | r |
| Decision making ability (=1) | p* | p* | p* | p* | p | p* |
| Childhood experiences | | | | | | |
| Husband abused as child | R* | R* | R* | p | p | p |
| husband's mother experienced IPV | R* | R* | R* | r | r | r |
| IPV in woman's childhood (=1) | R* | R* | R* | R* | r | R* |
| Observations | 3201 | 3201 | 3201 | 3201 | 3201 | 3201 |
| P* = Significant Protective Factor ; p = Insignificant Protective Factor | | | | | | |
| R* = Significant Risk factor ; r = Insignificant Risk Factor | | | | | | |

5.1.3 The Odds of High Levels of IPV based on Women's Assessment

This section shows the results of levels of violence measured by using frequency of violent action and reported severity (one of the differences in this study's approach). Tables 5.7-5.10 show the results of the odds of women experiencing different levels of IPV highlighting child marriage as the main independent variable. Across all three types of IPV, child marriage was only significant in explaining the odds of experiencing higher levels of physical IPV. Child marriage was associated with increased odds of reporting higher levels of physical IPV [OR: 1.64]. Child marriage increased the likelihood of experiencing higher levels of physical IPV by 11%.

While independently there was a significant association between the level of emotional violence and child marriage, the modeled results suggested an insignificant increase in odds of experiencing higher levels of emotional IPV for women married as children relative to those who married as adults (See Table 5.7). All other variables held constant, reduced odds of higher levels of emotional IPV was explained by wealth [OR: 0.59] and having autonomy in making household decisions [OR: 0.47]. These factors reduced the likelihood of experiencing emotional violence by 12% and 18% respectively.

When interactions between child marriage and selected variables were considered (See Table 5.10 & Appendix 5), significant results were obtained for only two predictors. Women who married as children had greater odds of experiencing higher levels of emotional IPV if they had tertiary level education or if they witnessed IPV in childhood.

Child marriage was associated with increased likelihood of reporting higher levels of physical IPV [OR: 1.64] (See Table 5.8). All other variables held constant, significant increases in odds of higher levels of physical violence were also associated with increased wealth [OR: 1.83] and cases where women had husbands who witness violence exerted towards their mothers [OR: 3.65]. These factors increased the likelihood of experiencing higher levels of physical violence by 13% and 28% respectively. Factors that contributed to reduced odds of higher levels of physical violence included education at the tertiary level only [OR: 0.41] and marriage [OR: 0.37]. Being married reduced the likelihood of higher levels of physical violence by 22%, and education at the tertiary level by 18%.

While marriage was a protective factor for women generally, it increased the likelihood of higher levels of violence for women who married as children by 3% (Table 5.10 & Appendix 5). All other interactions resulted in insignificance. However, a notable observation is that the demographic factors which seemed to mostly be risk factors for higher levels of physical violence for women generally, were protective factors when the women were married as children. This was the case for employment, and wealth.

Table 5.9 shows that there was no significance in the association between child marriage and sexual IPV. All other variables held constant, being employed and having household decision-making abilities were protective factors against higher levels of sexual violence, increasing their likelihoods by 35% [OR: 0.15] and 13% [OR: 0.31] respectively.

Table 5.7 Regression showing the odds of experiencing higher levels of Emotional IPV

| VARIABLES | Emotional IPV Level | | | | | | Marginal |
|----------------------------------|---------------------|--------------------|--------------------|--------------------|--------------------|--------------------|----------------------|
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | |
| Child marriage (=1) | 1.543** (0.234) | 1.333* (0.213) | 1.228 (0.203) | 1.215 (0.204) | 1.215 (0.205) | 1.229 (0.209) | 0.048 (0.039) |
| Demographic | | | | | | | |
| 30-44 yrs (ref = 15-29 yrs) | | 1.439 (0.395) | 1.525 (0.433) | 1.344 (0.394) | 1.343 (0.394) | 1.345 (0.405) | 0.02 (0.063) |
| 45-64 yrs (ref = 15-29 yrs) | | 1.648* (0.454) | 1.724* (0.499) | 1.424 (0.429) | 1.424 (0.429) | 1.446 (0.444) | 0.041 (0.066) |
| 65+ yrs (ref = 15-29 yrs) | | 1.382 (0.451) | 1.280 (0.448) | 1.254 (0.448) | 1.254 (0.448) | 1.317 (0.476) | 0.077 (0.078) |
| Married (=1) | | 0.527** (0.084) | 0.551** (0.090) | 0.631** (0.107) | 0.632** (0.108) | 0.635** (0.110) | -0.038 (0.039) |
| No. of children | | 0.915 (0.061) | 0.882* (0.061) | 0.874* (0.062) | 0.874* (0.062) | 0.879* (0.063) | -0.01 (0.016) |
| Urban (=1) | | 0.922 (0.149) | 1.003 (0.168) | 0.941 (0.162) | 0.941 (0.162) | 0.931 (0.161) | -0.003 (0.039) |
| Socio-economic | | | | | | | |
| Secondary(ref = primary or none) | | | 1.008 (0.190) | 1.000 (0.194) | 0.999 (0.194) | 1.000 (0.195) | 0.028 (0.044) |
| Tertiary(ref = primary or none) | | | 0.730 (0.180) | 0.710 (0.178) | 0.709 (0.180) | 0.682 (0.175) | 0.008 (0.057) |
| Employed(=1) | | | 1.002 (0.169) | 1.004 (0.203) | 1.003 (0.203) | 1.000 (0.205) | -0.027 (0.045) |
| Average wealth (ref = poor) | | | 0.599** (0.120) | 0.596** (0.121) | 0.596** (0.121) | 0.577** (0.118) | -0.034 (0.046) |
| Rich(ref = poor) | | | 0.640** (0.125) | 0.630** (0.127) | 0.629** (0.127) | 0.617** (0.126) | -0.123*** (0.045) |
| Autonomy | | | | | | | |
| Financial independence (=1) | | | | 0.954 (0.192) | 0.954 (0.192) | 0.968 (0.198) | -0.006 (0.046) |
| Decision making ability (=1) | | | | 0.379** (0.063) | 0.379** (0.063) | 0.381** (0.064) | -0.175*** (0.037) |
| Gender norms | | | | | | | |
| Gender equality | | | | | 0.990 (0.175) | 0.995 (0.177) | -0.032 (0.039) |
| Childhood experiences | | | | | | | |
| Husband abused as child | | | | | | 1.410 (0.341) | 0.068 (0.056) |
| husband's mother experienced | | | | | | 1.598 (0.541) | 0.075 (0.078) |
| IPV in woman's childhood (=1) | | | | | | 0.915 (0.166) | -0.015 (0.04) |
| Constant | 0.564** (0.054) | 0.715 (0.217) | 0.939 (0.317) | 2.001* (0.750) | 2.012* (0.776) | 1.912 (0.796) | |
| Observations | 764 | 764 | 764 | 764 | 764 | 764 | 764 |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 5.8 Regression showing the odds of experiencing higher levels of Physical IPV

| VARIABLES | Physical IPV Level | | | | | | Marginal |
|----------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | |
| Child marriage (=1) | 1.995*** (0.467) | 1.731** (0.429) | 1.724** (0.454) | 1.731** (0.458) | 1.734** (0.459) | 1.644* (0.450) | 0.108* (0.06) |
| Demographic | | | | | | | |
| 30-44 yrs (ref = 15-29 yrs) | | 1.887 (0.883) | 2.119 (1.053) | 1.902 (0.958) | 1.901 (0.958) | 2.109 (1.050) | 0.156 (0.099) |
| 45-64 yrs (ref = 15-29 yrs) | | 2.214* (1.020) | 2.161 (1.077) | 1.935 (0.987) | 1.916 (0.980) | 2.089 (1.076) | 0.154 (0.103) |
| 65+ yrs (ref = 15-29 yrs) | | 0.887 (0.505) | 0.925 (0.586) | 0.850 (0.539) | 0.840 (0.534) | 0.879 (0.561) | -0.025 (0.122) |
| Married (=1) | | 0.418*** (0.107) | 0.372*** (0.100) | 0.368*** (0.103) | 0.365*** (0.103) | 0.372*** (0.105) | -0.216*** (0.06) |
| No. of children | | 1.059 (0.110) | 1.080 (0.117) | 1.085 (0.120) | 1.085 (0.120) | 1.061 (0.120) | 0.013 (0.024) |
| Urban (=1) | | 0.862 (0.226) | 0.888 (0.246) | 0.899 (0.249) | 0.893 (0.248) | 0.919 (0.266) | -0.018 (0.062) |
| Socio-economic | | | | | | | |
| Secondary(ref = primary or none) | | | 1.232 (0.382) | 1.199 (0.378) | 1.219 (0.385) | 1.063 (0.355) | 0.013 (0.072) |
| Tertiary(ref = primary or none) | | | 0.463* (0.194) | 0.452* (0.190) | 0.462* (0.194) | 0.414** (0.170) | -0.18** (0.079) |
| Employed(=1) | | | 0.957 (0.269) | 1.087 (0.355) | 1.089 (0.356) | 1.057 (0.351) | 0.012 (0.071) |
| Average wealth (ref = poor) | | | 1.394 (0.457) | 1.417 (0.468) | 1.410 (0.465) | 1.462 (0.490) | 0.08 (0.07) |
| Rich(ref = poor) | | | 1.786* (0.610) | 1.868* (0.652) | 1.880* (0.660) | 1.826* (0.651) | 0.127* (0.074) |
| Autonomy | | | | | | | |
| Financial independence (=1) | | | | 0.770 (0.248) | 0.763 (0.245) | 0.824 (0.269) | -0.041 (0.069) |
| Decision making ability (=1) | | | | 0.779 (0.206) | 0.777 (0.206) | 0.752 (0.201) | -0.06 (0.056) |
| Gender norms | | | | | | | |
| Gender equality | | | | | 1.140 (0.311) | 1.198 (0.335) | 0.038 (0.059) |
| Childhood experiences | | | | | | | |
| Husband abused as child | | | | | | 0.539 (0.205) | -0.131 (0.079) |
| husband's mother experienced IPV | | | | | | 3.654*** (1.828) | 0.275*** (0.102) |
| IPV in woman's childhood (=1) | | | | | | 0.951 (0.278) | -0.011 (0.062) |
| Constant | 0.598*** (0.095) | 0.579 (0.291) | 0.482 (0.274) | 0.661 (0.407) | 0.626 (0.387) | 0.617 (0.404) | |
| Observations | 307 | 307 | 307 | 307 | 307 | 307 | 307 |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 5.9 Regression showing the odds of experiencing higher levels of Sexual IPV

| VARIABLES | Sexual IPV Level | | | | | | Marginal |
|----------------------------------|-------------------|-------------------|---------------------|---------------------|---------------------|---------------------|----------------------|
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | |
| Child marriage (=1) | 0.888 (0.337) | 0.862 (0.349) | 0.681 (0.314) | 0.549 (0.270) | 0.544 (0.269) | 0.531 (0.269) | -0.042 (0.09) |
| Demographic | | | | | | | |
| 30-44 yrs (ref = 15-29 yrs) | | 0.449 (0.363) | 0.383 (0.303) | 0.376 (0.305) | 0.404 (0.335) | 0.518 (0.442) | -0.022 (0.165) |
| 45-64 yrs (ref = 15-29 yrs) | | 1.542 (1.224) | 1.164 (0.896) | 1.086 (0.847) | 1.132 (0.885) | 1.488 (1.243) | 0.085 (0.158) |
| 65+ yrs (ref = 15-29 yrs) | | 1.616 (1.439) | 0.625 (0.565) | 0.606 (0.548) | 0.635 (0.577) | 0.861 (0.823) | 0.014 (0.179) |
| Married (=1) | | 0.476* (0.198) | 0.325** (0.153) | 0.416* (0.199) | 0.402* (0.194) | 0.463 (0.249) | -0.168* (0.1) |
| No. of children | | 1.220 (0.213) | 1.232 (0.237) | 1.237 (0.243) | 1.232 (0.241) | 1.215 (0.247) | 0.043 (0.037) |
| Urban (=1) | | 0.512 (0.241) | 0.672 (0.311) | 0.757 (0.375) | 0.784 (0.389) | 0.789 (0.421) | -0.033 (0.097) |
| Socio-economic | | | | | | | |
| Secondary(ref = primary or none) | | | 0.510 (0.240) | 0.503 (0.253) | 0.497 (0.254) | 0.496 (0.252) | -0.079 (0.094) |
| Tertiary(ref = primary or none) | | | 0.637 (0.531) | 0.533 (0.463) | 0.496 (0.448) | 0.438 (0.386) | -0.178 (0.17) |
| Employed(=1) | | | 0.364* (0.188) | 0.221** (0.133) | 0.218** (0.132) | 0.193** (0.118) | -0.349*** (0.106) |
| Average wealth (ref = poor) | | | 0.553 (0.328) | 0.528 (0.316) | 0.547 (0.328) | 0.510 (0.320) | -0.148 (0.118) |
| Rich(ref = poor) | | | 1.233 (0.700) | 1.366 (0.804) | 1.474 (0.911) | 1.570 (0.946) | 0.116 (0.098) |
| Autonomy | | | | | | | |
| Financial independence (=1) | | | | 1.912 (1.111) | 1.918 (1.119) | 2.116 (1.214) | 0.133 (0.113) |
| Decision making ability (=1) | | | | 0.391** (0.183) | 0.385** (0.180) | 0.369** (0.185) | -0.17* (0.083) |
| Gender norms | | | | | | | |
| Gender equality | | | | | 1.382 (0.694) | 1.273 (0.644) | 0.061 (0.095) |
| Childhood experiences | | | | | | | |
| Husband abused as child | | | | | | 0.737 (0.595) | 0.019 (0.14) |
| husband's mother experienced | | | | | | 2.891 (2.680) | 0.167 (0.162) |
| IPV in woman's childhood (=1) | | | | | | 0.680 (0.363) | -0.045 (0.094) |
| Constant | 1.556* (0.385) | 3.220 (2.974) | 11.891* (12.279) | 16.810* (17.491) | 13.687* (14.262) | 13.972* (15.753) | |
| Observations | 119 | 119 | 119 | 119 | 119 | 119 | 119 |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

In summary, child marriage was associated with the increased odds of experiencing a higher level of physical IPV only, increasing the likelihood by 11%. Decision-making abilities and wealth were associated with decreased likelihood of higher levels of emotional IPV. The odds of reporting higher levels of sexual violence decreased with marriage, women's employment and their freedom to make household decisions.

For women who married in childhood, the sole protective factor against high levels of violence was decision-making abilities, which reduced the likelihood of sexual IPV. Marriage which was generally a protective factor against higher levels of physical and sexual IPV, was a risk factor for women who married as children. Other risk factors of higher levels of violence for child brides included tertiary level education for emotional IPV and women's experience of IPV in childhood in the case of emotional and sexual IPV.

Table 5.10 Risk & protective factors for higher IPV level controlling for child marriage and selected variables

| VARIABLES | ALL WOMEN LEVEL | | | INTERACTIONS WITH CHILD MARRIAGE | | |
|--|-----------------|----------|--------|----------------------------------|----------|--------|
| | Emotional | Physical | Sexual | Emotional | Physical | Sexual |
| Demographic | | | | | | |
| Married (=1) | r | p* | p* | p | R* | R* |
| Urban (=1) | p | p | p | r | p | r |
| Socio-economic | | | | | | |
| Secondary(ref = primary or none) | r | r | p | r | r | r |
| Tertiary(ref = primary or none) | r | p* | p | R* | p | - |
| Employed(=1) | p | r | p* | p | p | p* |
| Average wealth (ref = poor) | p | r | p | p | p | r |
| Rich(ref = poor) | p* | R* | r | p | p | r |
| Autonomy | | | | | | |
| Financial independence (=1) | p | p | r | r | p | r |
| Decision making ability (=1) | p* | p | p* | p | r | p* |
| Childhood experiences | | | | | | |
| Husband abused as child | r | p | r | p | r | p |
| husband's mother experienced | r | R* | r | r | p | r |
| IPV in woman's childhood (=1) | p | p | p | R* | r | R* |
| Observations | 764 | 307 | 119 | 764 | 307 | 119 |
| P* = Significant Protective Factor ; p = Insignificant Protective Factor | | | | | | |
| R* = Significant Risk factor ; r = Insignificant Risk Factor | | | | | | |

5.1.4 The Odds of High levels of IPV based on ‘Clinical’ Assessment

Tables 5.11 show the comparative results for the analysis of associations of the odds of women experiencing different levels of IPV using the standardized measure compared to the measure estimated using women’s reported assessment of the severity. Again, the main independent variable – child marriage is highlighted. The odds ratios along and the average marginal effect on the likelihood of higher levels of the three types of IPV are presented. The stepwise modeling for each category of IPV for the outcome using the standardized measure are found in Appendix 6.

As with the measure using the respondents’ assessment of severity, child marriage only had significant association with the reporting of higher levels of physical violence [*OR: 1.63*]. Child marriage increased the likelihood of experiencing higher levels of physical violence by 10%. A slightly lower effect than the previous measure.

For the likelihood of women experiencing higher levels of emotional IPV, Autonomy in decision making remained significant with a greater average marginal effect, reducing the likelihood of emotional violence by 23% compared to 18% from the previous results. Financial independence, which was previously insignificant, reduced the likelihood of emotional violence by 7%. The significance and of wealth disappeared with the use of the standardized estimate of emotional IPV level.

For the likelihood of women experiencing higher levels of physical violence, two factors (employment and decision-making) which were previously insignificant and showed minimal effect when using the women’s reported assessment of severity turned out to be significant with relatively large effects. They decreased the likelihood of experiencing higher levels of physical IPV by 14% and 17% respectively. The significance and effect of wealth also disappeared with the use of the standardized estimate of physical IPV level. Other variables had similar predictive power or lack thereof relative to the previous results.

All but one of the factors that were previously significant in predicting the likelihood of higher levels of sexual IPV remained significant when the standardized measure of severity was applied. Marriage and employment disappeared as predictors leaving decision making. Decision making decreased the likelihood of higher levels of sexual violence by 13%, down from 17% in the previous results. Financial independence, previously insignificant now increased the likelihood of sexual IPV by 18%.

Table 5.11 Odds of experiencing different levels of IPV, comparing results based on women's reported level and standardized measure of level

| VARIABLES | Emotional IPV Level | | | | Physical IPV Level | | | | Sexual IPV Level | | | |
|----------------------------------|---------------------|---------------------|------------------|-------------------|---------------------|--------------------|---------------------|---------------------|---------------------|---------------------|------------------|-------------------|
| | Woman Level | Marginal Effect | Std. Level | Marginal Effect | Woman Level | Marginal Effect | Std. Level | Marginal Effect | Woman Level | Marginal Effect | Std. Level | Marginal Effect |
| Child marriage (=1) | 1.230 (0.205) | 0.048 (0.039) | 1.127 (0.211) | 0.023 (0.037) | 1.644* (0.450) | 0.108* (0.06) | 1.633* (0.452) | 0.102* (0.057) | 0.790 (0.401) | -0.042 (0.09) | 0.469 (0.309) | -0.091 (0.078) |
| Demographic | | | | | | | | | | | | |
| 30-44 yrs (ref = 15-29 yrs) | 1.087 (0.291) | 0.02 (0.063) | 0.984 (0.273) | -0.003 (0.057) | 2.109 (1.050) | 0.156 (0.099) | 1.683 (0.799) | 0.108 (0.099) | 0.891 (0.790) | -0.022 (0.165) | 0.581 (0.727) | -0.076 (0.156) |
| 45-64 yrs (ref = 15-29 yrs) | 1.193 (0.334) | 0.041 (0.066) | 1.122 (0.330) | 0.023 (0.059) | 2.089 (1.076) | 0.154 (0.103) | 1.448 (0.732) | 0.078 (0.107) | 1.624 (1.423) | 0.085 (0.158) | 1.728 (2.319) | 0.057 (0.156) |
| 65+ yrs (ref = 15-29 yrs) | 1.390 (0.466) | 0.077 (0.078) | 1.571 (0.562) | 0.085 (0.067) | 0.879 (0.561) | -0.025 (0.122) | 1.169 (0.713) | 0.033 (0.129) | 1.080 (1.045) | 0.014 (0.179) | 3.512 (6.280) | 0.106 (0.167) |
| Married (=1) | 0.850 (0.143) | -0.038 (0.039) | 1.090 (0.205) | 0.017 (0.037) | 0.372*** (0.105) | 0.216*** (0.06) | 0.421*** (0.121) | 0.182*** (0.06) | 0.401* (0.221) | -0.168* (0.1) | 2.735 (1.767) | 0.113 (0.074) |
| No. of children | 0.957 (0.064) | -0.01 (0.016) | 0.982 (0.068) | -0.004 (0.014) | 1.061 (0.120) | 0.013 (0.024) | 0.995 (0.117) | -0.001 (0.024) | 1.274 (0.274) | 0.043 (0.037) | 0.842 (0.188) | -0.02 (0.026) |
| Urban (=1) | 0.988 (0.167) | -0.003 (0.039) | 0.918 (0.168) | -0.017 (0.036) | 0.919 (0.266) | -0.018 (0.062) | 1.054 (0.297) | 0.011 (0.058) | 0.829 (0.458) | -0.033 (0.097) | 1.408 (0.900) | 0.041 (0.079) |
| Socio-economic | | | | | | | | | | | | |
| Secondary(ref = primary or none) | 1.128 (0.216) | 0.028 (0.044) | 1.079 (0.228) | 0.015 (0.042) | 1.063 (0.355) | 0.013 (0.072) | 0.963 (0.328) | -0.008 (0.069) | 0.643 (0.335) | -0.079 (0.094) | 0.662 (0.395) | -0.046 (0.066) |
| Tertiary(ref = primary or none) | 1.034 (0.253) | 0.008 (0.057) | 1.050 (0.279) | 0.01 (0.052) | 0.414** (0.170) | -0.18** (0.079) | 0.400** (0.165) | -0.192** (0.084) | 0.386 (0.342) | -0.178 (0.17) | 0.417 (0.483) | -0.109 (0.16) |
| Employed(=1) | 0.891 (0.174) | -0.027 (0.045) | 1.347 (0.298) | 0.059 (0.043) | 1.057 (0.351) | 0.012 (0.071) | 1.936** (0.634) | 0.136** (0.066) | 0.149*** (0.098) | 0.349*** (0.106) | 0.434 (0.337) | -0.096 (0.087) |
| Average wealth (ref = poor) | 0.864 (0.171) | -0.034 (0.046) | 0.908 (0.198) | -0.019 (0.043) | 1.462 (0.490) | 0.08 (0.07) | 0.888 (0.296) | -0.025 (0.07) | 0.455 (0.284) | -0.148 (0.118) | 0.967 (0.794) | -0.004 (0.098) |
| Rich(ref = poor) | 0.594*** (0.115) | 0.123*** (0.045) | 0.775 (0.161) | -0.051 (0.042) | 1.826* (0.651) | 0.127* (0.074) | 1.712 (0.615) | 0.108 (0.07) | 2.025 (1.305) | 0.116 (0.098) | 1.283 (1.079) | 0.028 (0.09) |

| VARIABLES | Emotional IPV Level | | | | Physical IPV Level | | | | Sexual IPV Level | | | |
|----------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-------------------|-------------------|--------------------|---------------------|
| | Woman Level | Marginal Effect | Std. Level | Marginal Effect | Woman Level | Marginal Effect | Std. Level | Marginal Effect | Woman Level | Marginal Effect | Std. Level | Marginal Effect |
| Autonomy | | | | | | | | | | | | |
| Financial independence (=1) | 0.974 (0.192) | -0.006 (0.046) | 0.694* (0.153) | -0.072* (0.043) | 0.824 (0.269) | -0.041 (0.069) | 0.613 (0.202) | -0.1 (0.067) | 2.107 (1.309) | 0.133 (0.113) | 4.878** (3.693) | 0.183** (0.088) |
| Decision making ability (=1) | 0.472*** (0.078) | 0.175*** (0.037) | 0.313*** (0.061) | -0.23*** (0.036) | 0.752 (0.201) | -0.06 (0.056) | 0.448*** (0.121) | 0.165*** (0.053) | 0.387* (0.189) | -0.17* (0.083) | 0.314** (0.184) | -0.134** (0.064) |
| Gender norms | | | | | | | | | | | | |
| Gender equality | 0.872 (0.148) | -0.032 (0.039) | 1.218 (0.222) | 0.039 (0.036) | 1.198 (0.335) | 0.038 (0.059) | 1.146 (0.318) | 0.028 (0.057) | 1.409 (0.755) | 0.061 (0.095) | 1.660 (1.122) | 0.059 (0.077) |
| Childhood experiences | | | | | | | | | | | | |
| Husband abused as child | 1.337 (0.324) | 0.068 (0.056) | 1.050 (0.281) | 0.01 (0.053) | 0.539 (0.205) | -0.131 (0.079) | 0.631 (0.233) | -0.095 (0.075) | 1.112 (0.874) | 0.019 (0.14) | 0.321 (0.319) | -0.131 (0.113) |
| husband's mother experienced IPV | 1.380 (0.466) | 0.075 (0.078) | 1.675 (0.676) | 0.102 (0.079) | 3.654*** (1.828) | 0.275*** (0.102) | 2.757** (1.367) | 0.208** (0.1) | 2.550 (2.332) | 0.167 (0.162) | 4.503 (5.044) | 0.174 (0.13) |
| IPV in woman's childhood (=1) | 0.936 (0.162) | -0.015 (0.04) | 0.903 (0.177) | -0.02 (0.039) | 0.951 (0.278) | -0.011 (0.062) | 1.094 (0.336) | 0.019 (0.063) | 0.778 (0.408) | -0.045 (0.094) | 0.748 (0.537) | -0.034 (0.084) |
| Constant | 2.451** (0.960) | | 5.085*** (2.194) | | 0.617 (0.404) | | 1.743 (1.163) | | 8.036* (8.856) | | 8.992 (15.175) | |
| Observations | 764 | 764 | 764 | 764 | 307 | 307 | 307 | 307 | 119 | 119 | 119 | 119 |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

5.1.5 Tendency to undermine the seriousness of IPV

A set of t-tests were used to compare the difference in levels of IPV reported by women and the ‘standardized’ estimate generated. A dissonance variable (continuous variable) which was constructed by taking the difference between women’s self-assessment of the level of violence she experienced and the standardized estimate of the level of violence was used to determine whether significant differences existed between the two groups of women across the three types of IPV. The results are presented in Table 5.12.

The results suggest significant differences in the reporting of the level of IPV across the two categories of women for emotional and physical violence only. Insignificant results were obtained in for sexual IPV levels. On average the dissonance in the level of emotional IPV was 3.4 percentage points lower for child brides compared to those who married in adulthood.

Similarly, for the reporting of physical violence, women who married as children were more likely to report a level of violence closer to the standardized assessment than women who married in adulthood. Women who married as children deviated approximately 4.9 percent lower from the standardized estimate of the level of physical violence on average relative to those who married in adulthood (7.31% lower deviation) -an average deviation of 2.41 percentage points lower. (*See scatter plots in Appendix 7*)

Table 5.12 T-test of dissonance in IPV levels between women married in/out of childhood (H_0 : adult minus child marriage > 0)

| | Obs | Mean | Mean Diff | Std Err | Std Dev | Conf. Interval | | T-stat | DF |
|--------------------------|-----|-------|-----------|---------|---------|----------------|-------|----------|-----|
| Emotional IPV Dissonance | 764 | 7.570 | 3.401 | 0.379 | 10.464 | 6.827 | 6.827 | 4.412*** | 762 |
| Physical IPV Dissonance | 307 | 6.243 | 2.408 | 0.533 | 9.331 | 5.195 | 7.291 | 2.261** | 305 |
| Sexual IPV Dissonance | 119 | 7.550 | 0.970 | 0.906 | 9.883 | 5.756 | 9.344 | 0.527 | 117 |

After establishing that there was significance in the tendency to under-estimate the level of severity of violence, a model using dissonance as the dependent variable was used to make a cursory analysis to assess predictors of variations in the tendency for women to under-estimate the level of violence experienced. The model was only applied to the Emotional and Physical Dissonances because of their significance and results presented in Table 5.13

Child marriage was associated with narrowing the gap between the self-assessed measure and the standardized measure of the level of emotional violence by 1.7%. The variation in dissonance was mostly explained by demographic and socio-economic factors. Those that widened the dissonance included women over 65 years (by 4.1%), married women (by 2.6%), with the addition of a child in the household (1%), women with tertiary education relative to those with below secondary education (by 2.5%), middle and upper-class women (by 2.4% & 3.4%). Women with decision making autonomy also surprising widened the dissonance by 2.6%. Women whose spouses witnessed their mothers being victims of IPV was associated with narrowing of the dissonance by 3.9%.

For physical levels of violence, marriage widened the dissonance by 2.5% while women whose spouses witnessed their mothers being victims of IPV narrowed the dissonance by 3.9%.

Table 5.13 Associations between dissonance levels and predictors

| VARIABLES | Dissonance | |
|----------------------------------|----------------------|---------------------|
| | Emotional | Physical |
| Child marriage (=1) | -1.710** (0.790) | -1.556 (1.093) |
| Demographic | | |
| 30-44 yrs (ref = 15-29 yrs) | -1.166 (1.296) | 0.731 (2.121) |
| 45-64 yrs (ref = 15-29 yrs) | -0.393 (1.353) | 0.520 (2.172) |
| 65+ yrs (ref = 15-29 yrs) | 4.055** (1.676) | 2.779 (2.826) |
| Married (=1) | 2.583*** (0.821) | 2.516** (1.181) |
| No. of children | 0.985*** (0.320) | -0.093 (0.461) |
| Urban (=1) | 0.148 (0.841) | 0.596 (1.175) |
| Socio-economic | | |
| Secondary(ref = primary or none) | 1.094 (0.934) | -0.057 (1.304) |
| Tertiary(ref = primary or none) | 2.457** (1.151) | 1.184 (1.823) |
| Employed(=1) | 0.600 (0.907) | 0.596 (1.314) |
| Average wealth (ref = poor) | 2.377** (0.930) | -1.339 (1.369) |
| Rich(ref = poor) | 3.363*** (0.981) | 1.526 (1.509) |
| Autonomy | | |
| Financial independence (=1) | -1.044 (0.930) | 0.012 (1.338) |
| Decision making ability (=1) | 2.631*** (0.754) | -1.012 (1.109) |
| Gender norms | | |
| Gender equality | 1.254 (0.825) | -0.395 (1.208) |
| Childhood experiences | | |
| Husband abused as child | 0.165 (1.155) | 0.940 (1.515) |
| husband's mother experienced IPV | -3.882*** (1.360) | -3.459** (1.674) |
| IPV in woman's childhood (=1) | 0.716 (0.787) | 1.348 (1.241) |
| Constant | 0.700 (1.774) | 3.942 (3.002) |
| Observations | 764 | 307 |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

5.2 Robustness Check

A test of robustness was undertaken by adjusting the threshold that was used to identify higher levels of IPV increasing it (80%). By increasing the threshold, it is assumed that this might result in either increased significance of some of the predicted variables, changes in the size effect of these predictors on higher IPV levels or both. The directions of associations were also anticipated to remain the same. The results show that the direction of associations remained the same with fairly the same number of significant predictors with some increase in the confidence levels of the predictors. Loss of explanatory power was observed in two instances. This might have been due to reduced sub-group sizes resulting from the increased threshold. As expected, changes were also observed in the size effect of the predictor variables as shown in Table 5.13. The threshold changed to 80% showed that child marriage increased the likelihood of higher levels of IPV by 13%, (2 percentage points higher than with the 66.67% threshold). While this robustness check helped to justify the applicability of the measure of IPV level used in this study, it also highlighted reinforced difference in the association of child marriage at different levels of IPV.

Table 5.14 Comparison of results of the likelihood of experiencing higher levels of IPV varying the cut-off points for high level

| VARIABLES | Marginal Effects (66.67%) | | | Marginal Effects (80%) | | |
|---------------------------------|---------------------------|---------------------|----------------------|------------------------|----------------------|----------------------|
| | Emotional | Physical | Sexual | Emotional | Physical | Sexual |
| Child marriage (=1) | 0.048 (0.039) | 0.108* (0.06) | -0.042 (0.09) | 0.044 (0.228) | 0.132** (0.027) | -0.116 (0.197) |
| Demographic | | | | | | |
| 30-44 yrs (ref = 15-29 yrs) | 0.02 (0.063) | 0.156 (0.099) | -0.022 (0.165) | 0.062 (0.314) | 0.138 (0.151) | -0.128 (0.425) |
| 45-64 yrs (ref = 15-29 yrs) | 0.041 (0.066) | 0.154 (0.103) | 0.085 (0.158) | 0.077 (0.22) | 0.164 (0.105) | 0.07 (0.642) |
| 65+ yrs (ref = 15-29 yrs) | 0.077 (0.078) | -0.025 (0.122) | 0.014 (0.179) | 0.057 (0.445) | -0.041 (0.731) | -0.028 (0.875) |
| Married (=1) | -0.038 (0.039) | -0.216*** (0.06) | -0.168* (0.1) | -0.099*** (0.01) | -0.189*** (0.002) | -0.146 (0.159) |
| No. of children | -0.01 (0.016) | 0.013 (0.024) | 0.043 (0.037) | -0.028* (0.068) | 0.013 (0.578) | 0.036 (0.323) |
| Urban (=1) | -0.003 (0.039) | -0.018 (0.062) | -0.033 (0.097) | -0.015 (0.682) | 0.002 (0.969) | -0.043 (0.655) |
| Socio-economic | | | | | | |
| Secondary(ref = primary or | 0.028 (0.044) | 0.013 (0.072) | -0.079 (0.094) | 0 (0.999) | 0.031 (0.669) | -0.132 (0.167) |
| Tertiary(ref = primary or none) | 0.008 (0.057) | -0.18** (0.079) | -0.178 (0.17) | -0.08 (0.13) | -0.185** (0.02) | -0.156 (0.361) |
| Employed(=1) | -0.027 (0.045) | 0.012 (0.071) | -0.349*** (0.106) | 0 (0.999) | 0.005 (0.941) | -0.307*** (0.003) |
| Average wealth (ref = poor) | -0.034 (0.046) | 0.08 (0.07) | -0.148 (0.118) | -0.118 (0.006) | 0.092 (0.192) | -0.128 (0.283) |
| Rich(ref = poor) | -0.123*** (0.045) | 0.127* (0.074) | 0.116 (0.098) | -0.104*** (0.016) | 0.098 (0.185) | 0.079 (0.437) |
| Autonomy | | | | | | |
| Financial independence (=1) | -0.006 (0.046) | -0.041 (0.069) | 0.133 (0.113) | -0.007 (0.873) | -0.025 (0.719) | 0.138 (0.203) |
| Decision making ability (=1) | -0.175*** (0.037) | -0.06 (0.056) | -0.17* (0.083) | -0.205*** (0) | -0.047 (0.406) | -0.184** (0.032) |
| Gender norms | | | | | | |
| Gender equality | -0.032 (0.039) | 0.038 (0.059) | 0.061 (0.095) | -0.001 (0.977) | 0.033 (0.571) | 0.045 (0.63) |
| Childhood experiences | | | | | | |
| Husband abused as child | 0.068 (0.056) | -0.131 (0.079) | 0.019 (0.14) | 0.073 (0.153) | -0.145* (0.076) | -0.056 (0.702) |
| husband's mother experienced | 0.075 (0.078) | 0.275*** (0.102) | 0.167 (0.162) | 0.1 (0.164) | 0.273*** (0.008) | 0.196 (0.238) |
| IPV in woman's childhood (=1) | -0.015 (0.04) | -0.011 (0.062) | -0.045 (0.094) | -0.019 (0.627) | -0.041 (0.512) | -0.071 (0.467) |
| Observations | 764 | 307 | 119 | 764 | 307 | 119 |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

5.3 Discussion

The results, their association to the research questions, relations to previous literature along with the approach to their interpretation are presented here.

Several important findings have emanated from this study. Firstly, women in Dominican Republic who marry as children have significantly higher prevalence rates for all types of IPV compared to those who marry in adulthood. Not only are the rates higher, but the level of violence perpetrated was found to be significantly higher for women who married as children versus those who married as adults in cases where they experienced emotional and/or physical IPV. The first set finding replicates those of previous researched assessing prevalence of IPV in women who marry as children. The second set of results also supports some previous research and adds to the narrative of others.

Although women who married in childhood had significantly higher prevalence rates in all three types of IPV, child marriage was only associated with the increased odds of experiencing emotional and physical IPV. The results were insignificant for sexual violence. This result deviates slightly from some previous research of the association of IPV and child marriage (Gage, Hotchkiss & Godha, 2012; Kidman, 2016; Santhya et al., 2010). However, a few studies found similar insignificance of sexual IPV, suggesting that the predictive power became insignificant for sexual IPV after controlling for demographic and socio-economic factors (Rahman et al., 2011; Tenkorang, 2019). This could have been a factor in this study for sexual IPV prevalence as the explanatory power disappeared after the inclusion of demographic variables. There could also be issues associated with the size of this sub-group. Only 119 women had reported sexual violence. Explanatory linkages may also be associated with the fact that mostly un-married, widowed, separated women reported sexual violence. There might be a tendency of unwillingness of married women to report sexual violence (Raj et al., 2010) for various reasons including financial dependence or culturally embedded notions of the issue being a 'private matter' (Rahman et al., 2011; Straus, Gelles & Steinmetz, 1981). Further to this, the questions assessing sexual violence were very few compared to those for emotional and physical IPV, this could possibly impede positive responses to sexual IPV.

From the assessment of the level of IPV, child marriage was only associated with increased odds of experiencing higher levels of physical violence, increasing its likelihood by 11%. This result is one which highlights difference in results of previous studies. Using prevalence - the common method of assessment in many previous research, this study yielded an effect of 3% increased likelihood as highlighted earlier. However, accounting for frequency and severity when measuring the level of IPV we find that its associated effect on higher levels of IPV is almost fourfold (11%). Emotional level of IPV was explained by decision making abilities and wealth. Nasrullah, Zakar & Zakar, 2014 and Sambisa et al's., 2010 study confirms this finding as they found decisions making and wealth were associated with higher levels of emotional violence, especially towards women who marry as children.

Some factors that may be regarded as risk factors for prevalence of IPV were found to be protective factors against experiencing higher levels of IPV (vice versa). This result may be of valuable contribution to narrative on IPV. While knowledge of the associated factors of the prevalence is important, effective interventions should not be void of adequate assessment of the levels of IPV and their associated factors. For example, while employment was a risk factor for the prevalence of sexual IPV, it was a protective factor against higher levels of sexual IPV. In the case of physical IPV, employment was a protective factor against prevalence (albeit insignificant), however, it was a significant risk factor for higher levels of IPV. What obtained throughout, was that the changes from being risk factors for prevalence to protective factors for level of IPV were notably more numerous than the reverse scenario. This might be a highlight suggestive of the importance of inclusion the measure of the level of IPV in assessments to inform how interventions are developed to tackle existing situations of IPV.

Studies have reported the significance of education as a protective factor against intimate partner violence (Rahman et al., 2011; Sambisa et al., 2010; Yount et al., 2016). Education was insignificant in this study except for it being a protective factor against higher levels of physical violence, Significance was only observed in in the association between the level of physical IPV and women who had tertiary level education. This obtained even after interactions with child marriage and education were done. Education at the tertiary level was also a significant risk factor for women who married in childhood. Upon examining the data, the proportions of women who reported that they experienced abuse were fairly similar across all three levels of education (27% for Primary and Secondary, and 22% for Tertiary). This relatively even share across the groups may offer some explanation for mostly insignificant results. Notwithstanding, results of protection against physical IPV and the risk for emotional IPV for tertiary educated child brides confirms the findings of previous literature suggesting resource effects from structural theories of violence in the first case and backlash in the latter.

Employment of women, while a risk factor for the prevalence of sexual IPV in women generally, it was a protective factor for women who married as children. This protection obtained for both the prevalence and the level of IPV. The first result adds to the debate on the evidence of backlash in women generally (Tenkorang, 2019), where women's empowerment may be seen as a threat to male dominance in the home and result in violence towards them from their partners. The fact that the trajectory shifts for child brides might imply a lower significance of the backlash effect for women who marry as children. There may also be linkages to the discriminatory restrictive nature of women's re-marriage. Adult marrying women might therefore opt to remain in abusive situations because of the decreased likelihood of re-marriage. Divorced men often marry younger women. An employed child bride might be more likely to leave a sexually abusive partner since she has the younger-age advantage. Employment offers her financial autonomy to seek union dissolution and, in this way, might protect her against an abusive partner since he might understand that she is more empowered to leave. This may be a basis for targeted intervention for sexual IPV. Further research exploring the characteristics of the partners for this group of women could help in a better dissection of this result.

Urban residence, while significant in reducing the emotional and physical IPV for women generally. This did not obtain for child marriage. In fact, it was a risk factor for sexual and emotional IPV (albeit insignificant). The general association confirms previous results of Logan, Walker & Leukefeld, 2001 and Strand & Storey, 2019. Insignificance in the sexual IPV results might be linked to sample size of the sub-group, while the direction might have relations to sex tourism and prostitution.

How we measure the level of IPV may significantly influence the results that we obtain. When a standardized measure of the severity of a certain action was combined with the frequency of such action to estimate a level of violence, the results suggests that more of the covariates explained variations in the outcome variable. This highlights the deficiencies that may exist in self-reported measures. This especially for matters of a personal nature such as IPV.

There was a significant tendency for women to under-estimate the severity of the violence that they experience. Whether this is as a result of inability to identify the action as a type of violence or unwillingness to admit that they were aware of the effect of such violence is something that this study would not directly be able to address. However, this finding is in line with previous studies which purport the existence of this phenomenon where women don't identify some actions as violent actions, either because of learnt behaviour or deeply rooted cultural or gender normative ideals (Rahman et al., 2011; Straus, Gelles & Steinmetz, 1981). Results also support the literature which suggests that women often do not directly identify with emotional IPV because the signs are sometimes subtle and/or are routine occurrences (Straus, Gelles & Steinmetz, 1981). While in this study emotional violence was the most reported form of violence, the dissonance measure was greatest for emotional violence. Information driven interventions on emotional violence might be important considering this finding.

Women whose husband's mother experienced IPV reported assessments of physical and emotional violence closer to the standardized measure. I interpret this result to be suggestive of an indirect measure of these women's ability or likelihood to identify violence versus the characteristic itself being associated with the narrowing of the dissonance. Having this detailed knowledge of her partners mother might be suggestive of descriptive knowledge gathering, (possibly voluntarily by her spouse). This allows her to make better and informed assessments of the presence and severity of violence. It is therefore not surprising that the data showed that 7 in 10 of the women who had dissonances less than 1% points indicated that they had lodged a report about their violent partner. It could also be indicative that in such a relationship (say the information was given to her by the husband), then the man is also aware of IPV because of what he witnessed.

Why he would transfer such a treatment to his spouse is beyond the scope of this study. What this type of result shows, is that knowledge can bolster the fight against IPV. While having the knowledge does not preclude one from being a victim, it may help in their protection. They are enabled to make a fair assessment of the severity of violence, increasing the chances that they seek help.

Another interesting, yet rather dismal find, is that the characteristics known to act as protective factors against the occurrence of IPV may probably also be factors that indirectly perpetuate its occurrence. The assessment of the dissonance variable which in the end was used as a proxy for the level of awareness or knowledge of IPV levels of seriousness showed that married, tertiary educated, middle and upper-class women along with those with decision making abilities within the home were associated with widening the dissonance in the level of physical IPV reported.

The encouraging take-away is that child marriage was associated with lower dissonance. This might either suggest that this group of women might be more aware of IPV, or it's a reflection of their life's fear or simply they are just more truthful in self-reporting. A proper analysis of this causes for more focused research in this area.

Finally, the presence of much insignificant results in the level of violence may be related to absence of the characteristics of men (who are the perpetrators of this level of violence) from this study. Characteristics such as the age disparity between himself and his spouse, educational attainment, employment status or his views of egalitarianism are absent from this analysis. Other household characteristics such as the family structure, ethnic make-up and religion could potentially add value to the study. Focus may need to be placed on Family Structure. For example, women living in extended family households potentially might have household support, hence the 'wife' and 'husband' may be more egalitarian, and employment does not pose a risk factor. Whereas, in nuclear families, the women might mostly be homemakers, more likely to be unemployed and egalitarianism might be a threat to male dominance—result in violence.

These are important variables that were not captured by the survey. Research in the assessment of both parties (victim and perpetrator) are lacking. This underscores the need to reiterate that best assessment of intimate partner violence requires assessment of the perpetrator and the victim.

5.4 Limitations

It is important that the following limitations are considered when using the results of this study.

5.4.1 Scope

Child marriage was measures by all women married before 18 years. The broad sample of women 15+ years could prevent conclusions specific to the recency of child marriage and IPV in Dominican Republic today. Girls currently under 15 years who could be in unions were not accounted for since they were not included in the survey.

5.4.2 Inability to establish causality

Cross-sectional data are used and so causal connections between child marriage and IPV cannot be established. Longitudinal Study would provide better analysis by capturing the effect of change in characteristics of the individuals over time on their IPV experience.

5.4.3 Omitted Variable Bias

Omitted variable bias could be an issue with this study. There are several other variables that could be used to test the associations, e.g. the age of the husband or household structure. However, the ones included were used referencing previous scholars coupled with the limitations of the data available from the survey.

5.4.4 Recall Bias

Survey data may suffer from recall bias. Questions in the study reference lifetime experiences. Surveys of these nature tend to be limited by recall bias and intentional non-reporting or under-reporting for some questions. The situation of intentional non-reporting or falsification may be more pronounced in these surveys where personal questions which may even stir unpleasant memories are asked. This may explain the low number of respondents who indicated sexual violent experiences.

5.4.5 Reference Period

The reference period for variables used in this study were not consistent across the board. Lifetime experience of IPV was used as opposed to using past year. The use of past year experience would have been a better approach since the with lifetime experience, the situation associated with the experience may have varied at different points in their lives. Therefore, the interpretation of the associations between partner violence experiences and time varying variables need to be done with caution. A woman's socio-economic demographic situation changes with time and so the associations may be comparing present socio-economic conditions with historic occurrences of violence.

5.4.6 Sample Size

More favorable results could possibly be obtained with a larger sample. While the sample may have been sufficient to assess the general situation of women, a larger sample would allow for more robust analysis of the sub-groups. This could compromise the power of the results, especially in the case for the sexual IPV results.

5.4.7 Household members

Interpretation of the number of children of the couple/woman living in the household has to be done with caution since no information about the age or relations of these children have been provided. It could be that some of these children are adults. Being able to separate those off-springs who are under the age of 18 from those who are adults could possibly offer better insight into the results. An adult child living in the household might be a protective factor for the prevalence of IPV.

5.4.8 Variable Creations, Recoding

The reliability of the outcome variables used in this study rely on the robustness of the creation process. For some variables principal component analysis was used. While PCA is a good and recommended variable creation method, there is the risk of pertinent data loss if there are exceptional peculiarities in the data. Also, heterogeneity could exist in the grouped frequency and/or severity of violence reported by women. Eg. “Many times” could mean 4 times, 50 times, every day. Inability to accurately quantify is worth being aware of.

5.4.9 External validity

The results of this study may be limited in its generalization to the Dominican Republic owing to any unique characteristics that exist within the country might have influenced the results.

5.4.10 Missing Values and Exclusions

1100 women (26%) of the sample was lost due to missing values or exclusions. Observations were also lost due to being outliers or being unrealistic (10 women reported being married by their 1st birthday, when crossed checked, they indicated both parties willing agreed to get married). There were 355 women excluded who reported their marital status to be single never married.

6 Conclusion

This study sought to determine whether differences in prevalence and levels of IPV existed between women who married as child and those who married as adults and identify associated factors. It also sought to determine the existence of a tendency to under-estimate the level of IPV experienced, whether there was variation in this tendency across the two groups of women and the factors that may be associated with these differences.

The objective of doing this undertaking was to help to bring more empirical evidence to the study on intimate partner violence and the comparative nature of its existence in women who marry as children. The study was also purposed to explore whether existing approaches to reporting on the levels of violence and factors associated with increased levels may warrant some introspection especially given the fact that studies of this nature rely almost entirely self-reported recall data.

The study finds that 3 in 10 women in Dominican Republic were married in childhood. 26 % of all women experienced at least one type of IPV throughout their lifetime. With rates higher for women who married as children (30%) versus 24% in other women. Highest prevalence was observed for emotional violence (24%), followed by physical violence (10%) and lowest rate of 4% for sexual violence. Women who marry as children are significantly more likely to be victims of emotional and physical IPV relative to their adult marrying counterparts (Approximately 3% more likely in both cases). The associations between child marriage and sexual IPV yielded insignificant results.

Women's autonomy proxied by financial independence and decision-making abilities were protective factors against all types of IPV. They also had the greatest independent effect on IPV. Urban residence was a significant protective factor for women generally, however no significance was obtained for child brides. In fact, it was a risk factor for sexual IPV (though insignificant). Marriage and financial independence reduced the odds of experiencing IPV for women generally but was a risk factor for child brides (albeit only significant in the case of sexual IPV). Childhood experiences were significant risk factors for women generally. Less significance was seen in the results for child brides, but the direction of the association remained, except in the case where husbands were abused in childhood. In such cases, there was protective association (although insignificant).

While child marriage was associated with greater odds of the prevalence for all types of IPV, significant results were only obtained for the odds of higher levels of physical IPV. Child marriage increased the likelihood of experiencing higher levels of physical IPV by 11%. Protective factors against higher levels of IPV included decision making abilities and employment which reduced its likelihood by 14% and 17% respectively.

Women have a tendency to under-estimate the level of violence that they experience. Significance exists in the differences in the reporting of the level of IPV across the two categories of women for emotional and physical violence only. Adult marrying women had greater tendencies to under-estimate the level of violence they experienced. Being a woman married in childhood was associated with reducing the disparity between their reported measure and the standardized measure of the level of emotional violence.

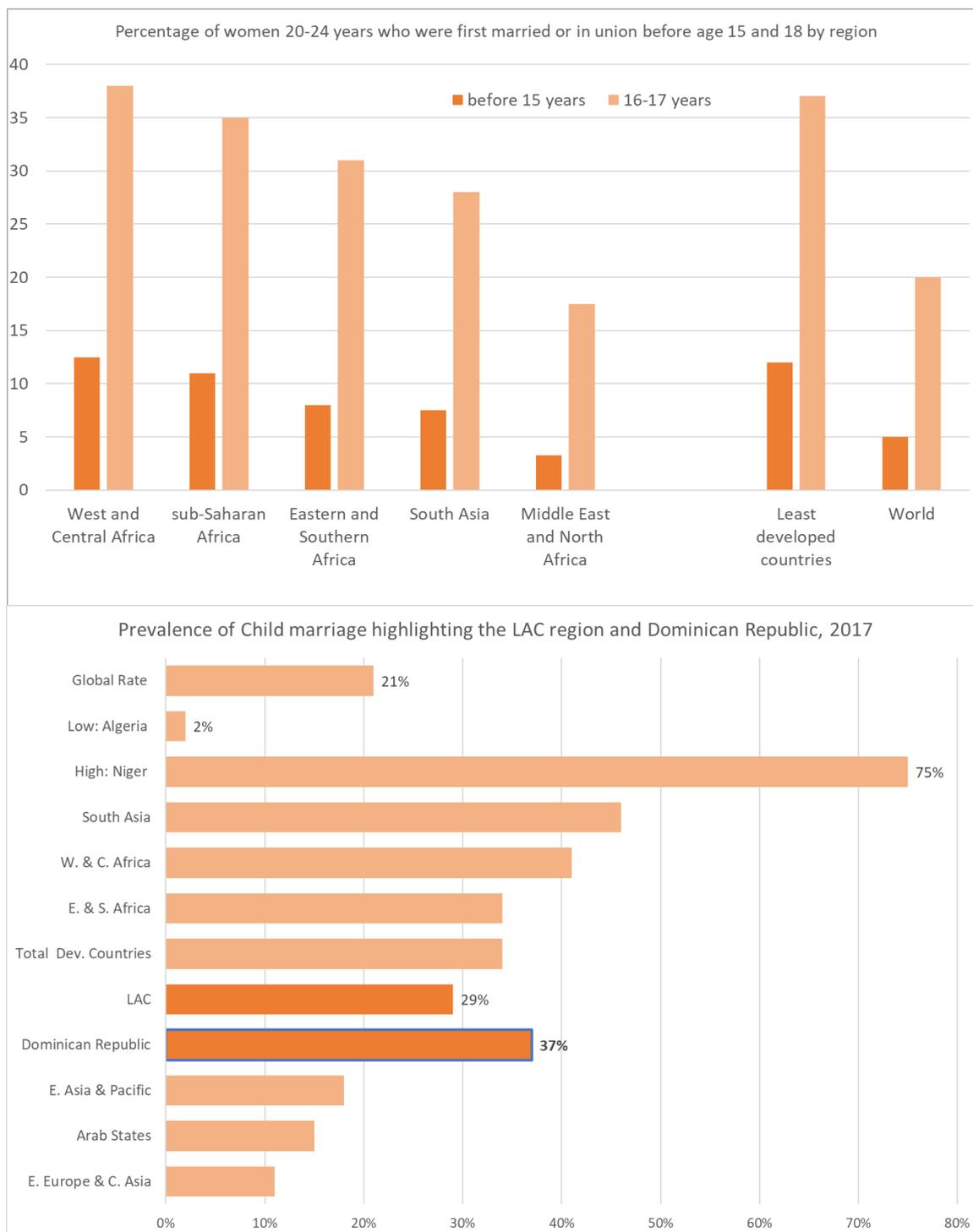
A part of the analysis that this study did not touch upon is the reported effects of intimate partner violence. Future research could explore any heterogeneity that may exist between the two groups and resultant reported effects of the intimate partner violence experience between the two groups of women. In addition to this a look at the response of these two groups of women to being victims perpetuated by their spouses could shed more light on the situation of women who marry as children. In doing such a research focus could be placed on whether women made reports, the results of the reports, and factors surrounding why those who didn't make the report chose not to, whether favorable outcomes came from making these reports or why no favorable outcome came. This type of analysis would offer insight into the prevalence of learned helplessness and may present with its result better thoughts towards the direction of policy formation and targeted interventions. The results also suggest that while characteristics of the women helps in understanding the phenomenon, a large part of understanding the nature of IPV may be unearthed with more in depth focus on men. It begs the question, are we looking for needles in a haystack in some of the approach we take to analyzing this phenomenon of violence against women.

Heterogeneities exist among the types of IPV women experience. As such it is important that studies of this nature not only look at IPV generally, but also delve into the differences that may exist across the different types of IPV.

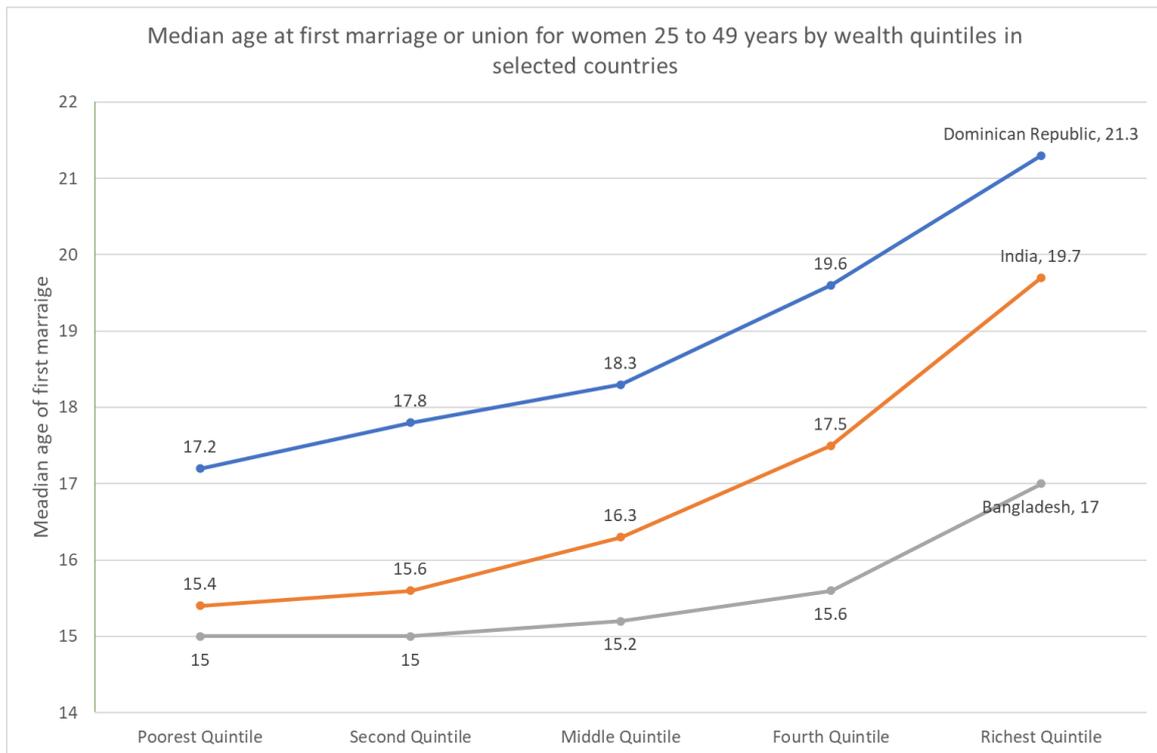
It also calls for a possible Knowledge, Attitudes, Practices and Behaviour study on intimate partner violence to help in establishing a better idea of the knowledge gap in the population where violence against women is concerned. Whilst studies such as this one helps to shed light on the prevalence, most successful interventions will require women to first be able to identify the tell-tale signs and manifestations of intimate partner violence in order to tackle the issue from the onset.

7 Appendix

7.1 Appendix 1



Source: Author's replication of charts using data from UNICEF Child marriage database

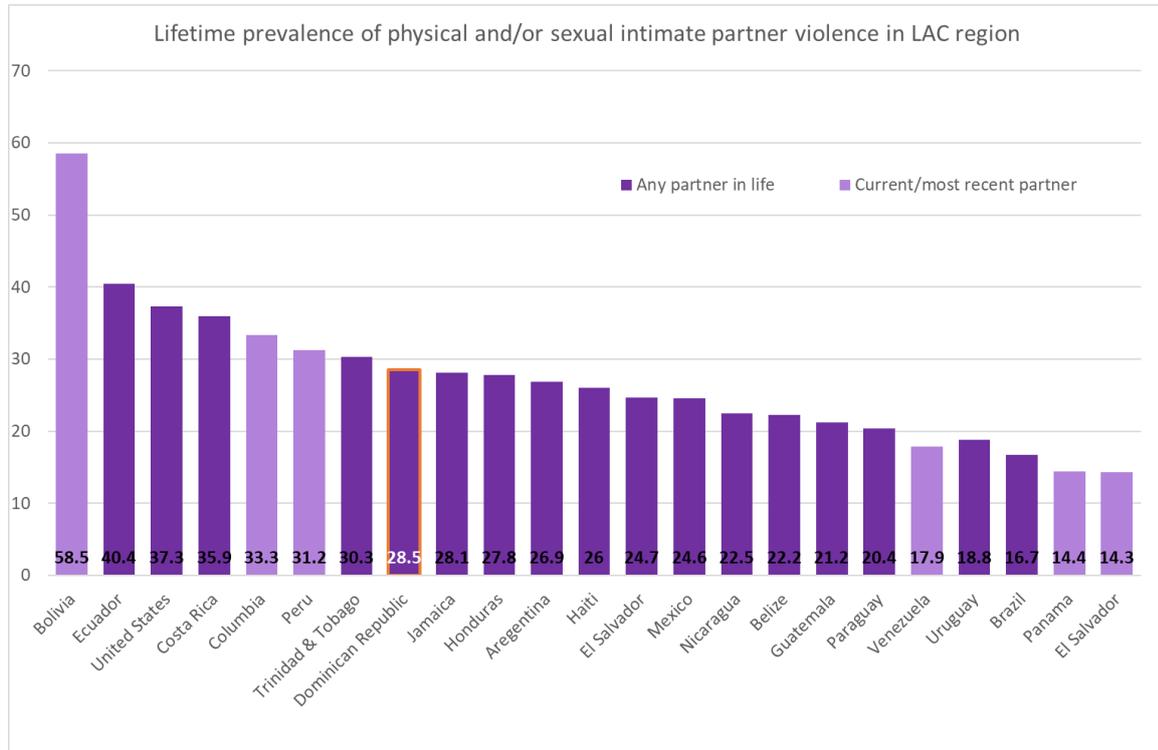


Source: Author's replication of charts using data from UNICEF Child marriage database

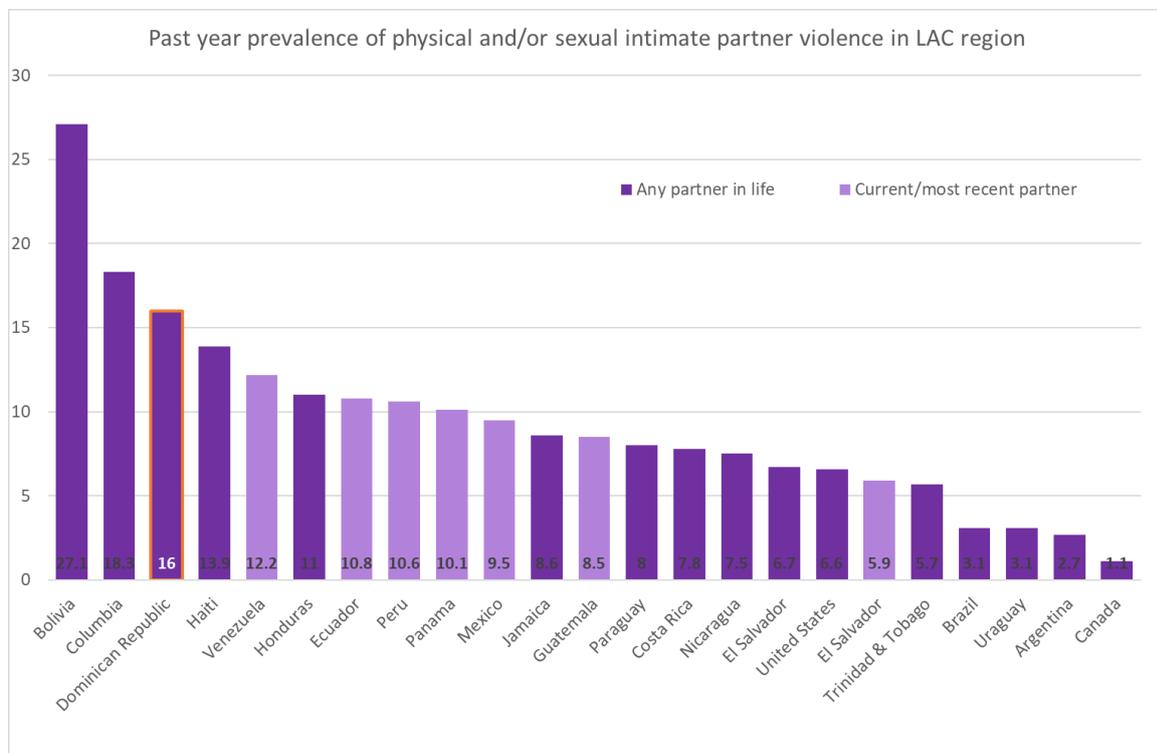


Source: Author's replication of charts using data from UNICEF Child marriage database

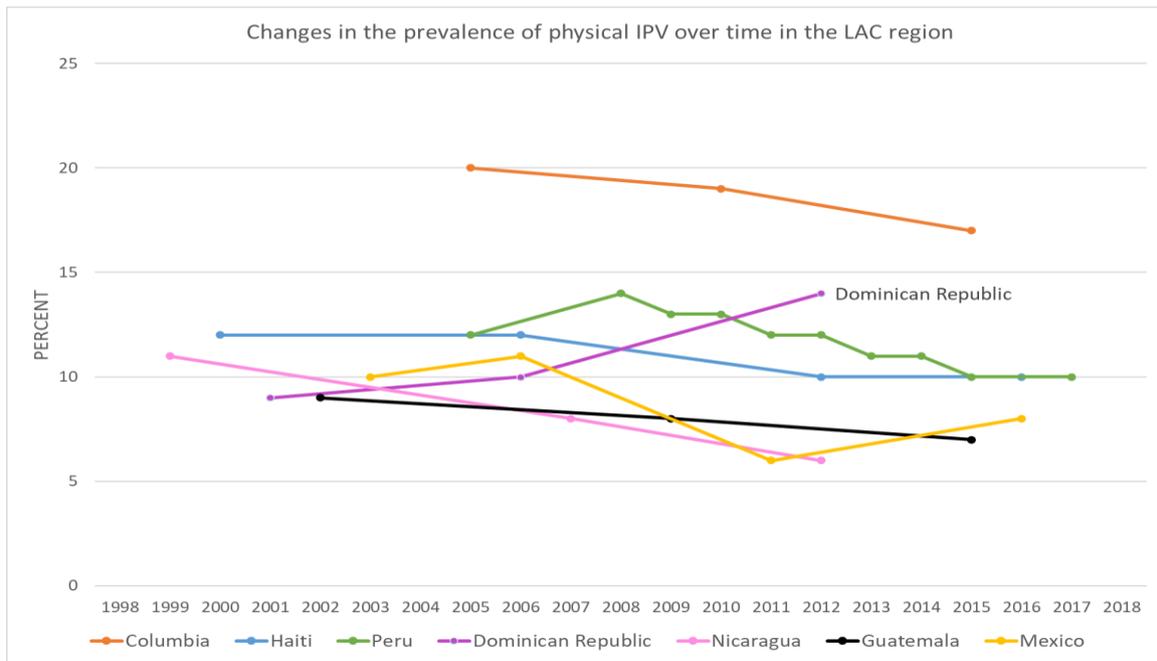
7.2 Appendix 2



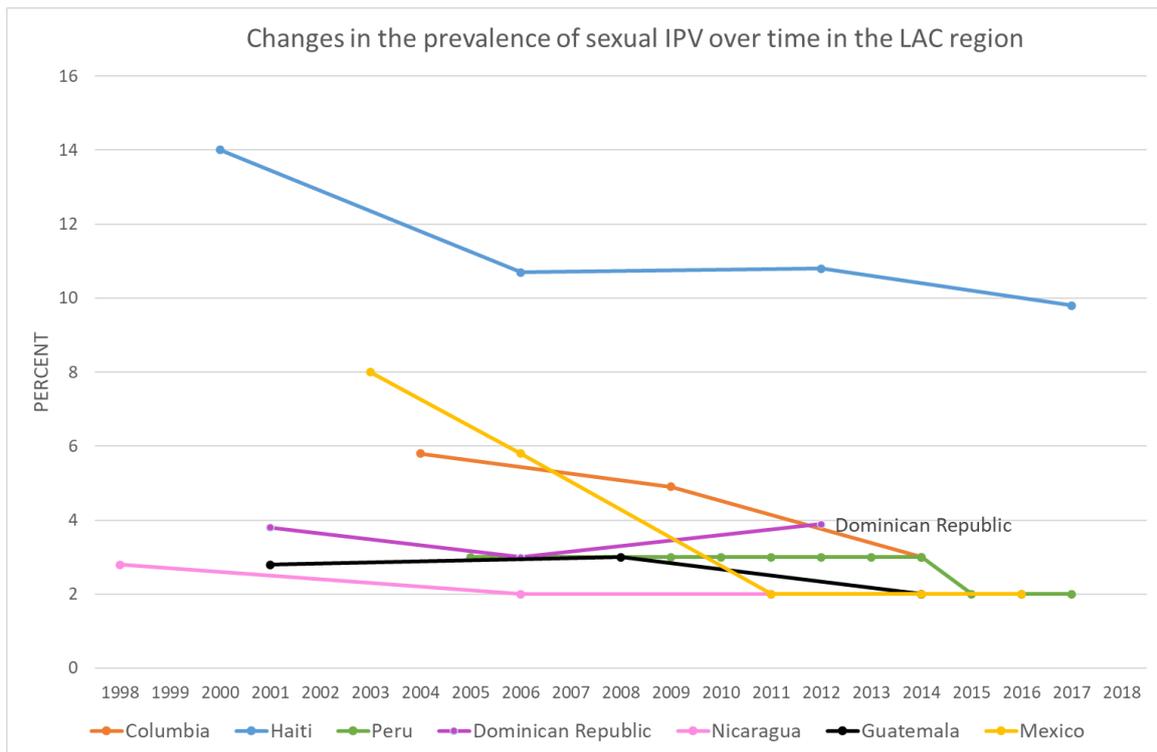
Source: Author's representation of results from PAHO-WHO Report by Bott S., Guedes A., Ruiz- Celis A.P. & Mendoza J.A. (2019)



Source: Author's representation of results from PAHO-WHO Report by Bott S., Guedes A., Ruiz- Celis A.P. & Mendoza J.A. (2019)

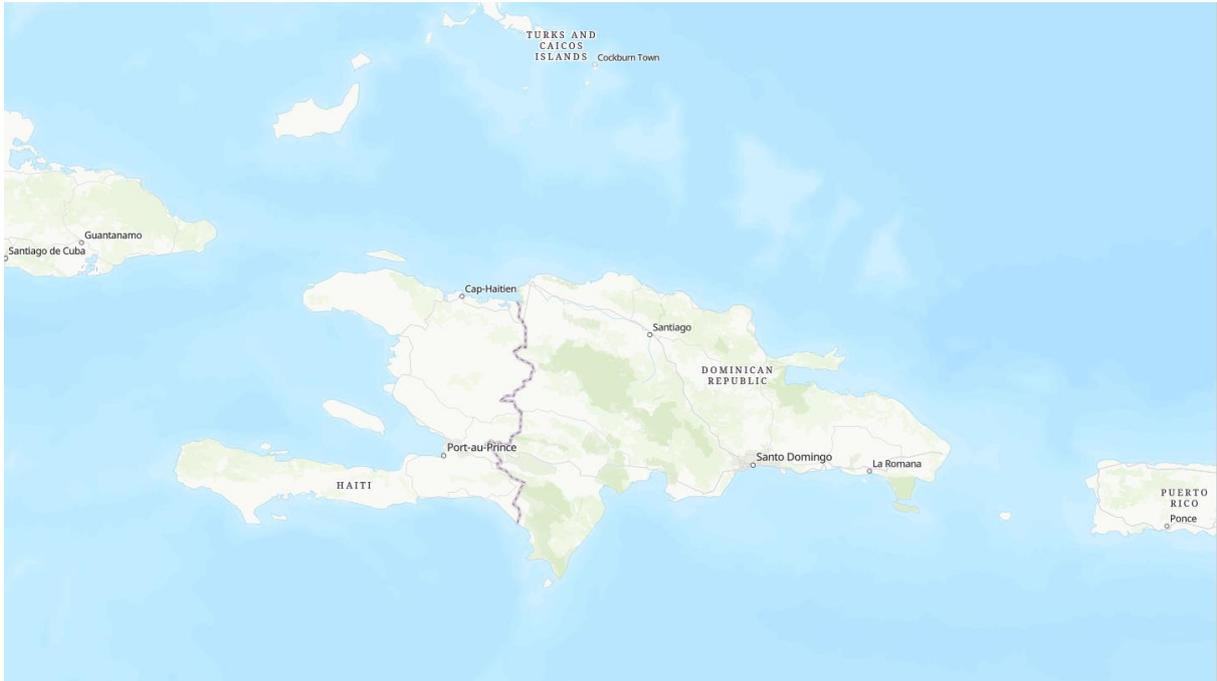


Source: Author's representation of results from PAHO-WHO Report by Bott S., Guedes A., Ruiz-Celis A.P. & Mendoza J.A. (2019)



Source: Author's representation of results from PAHO-WHO Report by Bott S., Guedes A., Ruiz-Celis A.P. & Mendoza J.A. (2019)

7.3 Appendix 3



Source: ESRI, ArcGIS Pro, 2020

7.4 Appendix 4

Odds of prevalence of IPV with Interactions included in the model

| VARIABLES | IPV PREVALENCE | | |
|----------------------------------|---------------------|---------------------|---------------------|
| | Emotional | Physical | Sexual |
| Child marriage (=1) | 1.230 (0.439) | 1.583 (0.712) | 0.440 (0.315) |
| Demographic | | | |
| 30-44 yrs (ref = 15-29 yrs) | 1.078 (0.182) | 1.444 (0.366) | 2.009* (0.827) |
| 45-64 yrs (ref = 15-29 yrs) | 1.411* (0.248) | 1.537 (0.407) | 1.923 (0.821) |
| 65+ yrs (ref = 15-29 yrs) | 1.370 (0.293) | 1.150 (0.374) | 2.716** (1.316) |
| Married (=1) | 0.805 (0.108) | 0.601*** (0.113) | 0.388*** (0.102) |
| Married##Child marriage | 1.201 (0.252) | 1.487 (0.402) | 2.260* (0.967) |
| No. of children | 1.073* (0.046) | 1.048 (0.061) | 0.975 (0.093) |
| Urban (=1) | 0.652*** (0.083) | 0.853 (0.169) | 0.791 (0.234) |
| Socio-economic | | | |
| Secondary(ref = primary or none) | 1.071 (0.153) | 1.001 (0.211) | 0.926 (0.327) |
| Tertiary(ref = primary or none) | 0.895 (0.150) | 0.785 (0.198) | 0.902 (0.366) |
| Secondary##Child marriage | 1.023 (0.233) | 0.967 (0.292) | 2.035 (0.943) |
| Tertiary##Child marriage | 1.589 (0.507) | 1.224 (0.546) | |
| Employed(=1) | 1.043 (0.155) | 0.852 (0.189) | 2.595*** (0.781) |
| Employed##Child marriage | 0.934 (0.228) | 1.246 (0.415) | 0.401** (0.177) |
| Average wealth (ref = poor) | 1.098 (0.168) | 1.007 (0.228) | 0.954 (0.305) |
| Rich(ref = poor) | 0.979 (0.144) | 0.820 (0.175) | 0.489** (0.170) |
| Average wealth##Child marriage | 1.040 (0.262) | 0.538* (0.193) | 1.344 (0.676) |
| Rich##Child marriage | 0.920 (0.235) | 0.617 (0.216) | 1.080 (0.651) |
| Autonomy | | | |
| Financial independence (=1) | 0.758* (0.109) | 0.700* (0.148) | 0.374*** (0.108) |
| Fin. Indep.##Child marriage | 1.055 (0.258) | 1.249 (0.417) | 1.092 (0.491) |
| Decision making ability (=1) | 0.150*** (0.023) | 0.195*** (0.036) | 0.209*** (0.057) |
| Decision##Child marriage | 0.634* (0.169) | 0.799 (0.231) | 0.450* (0.200) |
| Gender norms | | | |
| Gender equality | 1.250** (0.134) | 1.093 (0.166) | 0.906 (0.212) |
| Childhood experiences | | | |
| Husband abused as child | 1.569** (0.297) | 1.803** (0.484) | 1.655 (0.638) |
| Husband abused##Child marriage | 0.680 | 0.579 | 0.918 |

| VARIABLES | IPV PREVALENCE | | |
|----------------------------------|-----------------------------|-----------------------------|-----------------------------|
| | Emotional | Physical | Sexual |
| husband's mother experienced IPV | (0.251) 1.201 (0.323) | (0.254) 1.584 (0.574) | (0.545) 1.638 (0.801) |
| hus. mom IPV##Child marriage | 1.937 (0.899) | 1.735 (0.955) | 1.928 (1.347) |
| IPV in woman's childhood (=1) | 2.852*** (0.352) | 2.601*** (0.504) | 1.703* (0.500) |
| childhood IPV##Child marriage | 1.453* (0.309) | 1.023 (0.307) | 2.470* (1.326) |
| Constant | 0.873 (0.248) | 0.235*** (0.095) | 0.116*** (0.061) |
| Observations | 3,201 | 3,201 | 3201 |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

7.5 Appendix 5

Odds of prevalence of IPV with Interactions included in the model

| VARIABLES | IPV LEVEL | | |
|----------------------------------|---------------------|---------------------|---------------------|
| | Emotional | Physical | Sexual |
| Child marriage (=1) | 0.646 (0.270) | 1.852 (1.222) | 0.541 (0.466) |
| Demographic | | | |
| 30-44 yrs (ref = 15-29 yrs) | 1.221 (0.271) | 2.093* (0.847) | 1.829 (0.995) |
| 45-64 yrs (ref = 15-29 yrs) | 1.579** (0.366) | 2.316** (0.924) | 2.261 (1.311) |
| 65+ yrs (ref = 15-29 yrs) | 1.638* (0.447) | 0.995 (0.514) | 2.977* (1.881) |
| Married (=1) | 0.792 (0.129) | 0.273*** (0.077) | 0.300*** (0.104) |
| Married##Child marriage | 1.055 (0.264) | 2.534** (0.965) | 2.252 (1.151) |
| No. of children | 1.017 (0.056) | 1.085 (0.090) | 1.086 (0.130) |
| Urban (=1) | 0.692** (0.112) | 0.748 (0.245) | 0.742 (0.282) |
| Socio-economic | | | |
| Secondary(ref = primary or none) | 1.030 (0.190) | 1.299 (0.412) | 0.819 (0.357) |
| Tertiary(ref = primary or none) | 0.845 (0.183) | 0.484* (0.205) | 0.764 (0.400) |
| Secondary##Child marriage | 1.234 (0.335) | 0.713 (0.303) | 1.853 (1.079) |
| Tertiary##Child marriage | 1.915* (0.734) | 1.374 (0.914) | |
| Employed(=1) | 1.011 (0.196) | 0.947 (0.317) | 1.806 (0.675) |
| Employed##Child marriage | 0.896 (0.265) | 0.994 (0.451) | 0.268** (0.148) |
| Average wealth (ref = poor) | 1.185 (0.229) | 0.846 (0.334) | 0.897 (0.386) |
| Rich(ref = poor) | 0.810 (0.155) | 1.158 (0.388) | 0.575 (0.251) |
| Average wealth##Child marriage | 0.663 (0.203) | 1.203 (0.608) | 0.780 (0.527) |
| Rich##Child marriage | 0.741 (0.231) | 0.584 (0.282) | 0.996 (0.730) |
| Autonomy | | | |
| Financial independence (=1) | 0.689** (0.126) | 1.031 (0.352) | 0.442** (0.159) |
| Fin. Indep.##Child marriage | 1.480 (0.437) | 0.625 (0.295) | 0.957 (0.516) |
| Decision making ability (=1) | 0.140*** (0.023) | 0.151*** (0.046) | 0.130*** (0.047) |
| Decision##Child marriage | 1.044 (0.280) | 1.307 (0.546) | 0.662 (0.379) |
| Gender norms | | | |
| Gender equality | 1.102 (0.149) | 1.221 (0.272) | 0.973 (0.298) |
| Childhood experiences | | | |
| Husband abused as child | 1.635** (0.367) | 0.814 (0.411) | 1.652 (0.829) |
| Husband abused##Child marriage | 0.785 | 1.171 | 0.789 |

| VARIABLES | IPV LEVEL | | |
|-------------------------------|---------------------|---------------------|---------------------|
| | Emotional | Physical | Sexual |
| | (0.302) | (0.812) | (0.583) |
| husband's mother experienced | 1.363 (0.440) | 5.783*** (3.116) | 2.116 (1.261) |
| hus. mom IPV##Child marriage | 1.870 (0.913) | 0.489 (0.371) | 1.798 (1.596) |
| IPV in woman's childhood (=1) | 1.967*** (0.312) | 2.214*** (0.675) | 1.417 (0.536) |
| childhood IPV##Child marriage | 1.951** (0.519) | 1.040 (0.448) | 2.627 (1.777) |
| Constant | 0.517* (0.179) | 0.073*** (0.045) | 0.104*** (0.069) |
| Observations | 3,201 | 3,201 | 3201 |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

7.6 Appendix 6

Odds of experiencing higher levels of emotional IPV (using standardized measure for level)

| VARIABLES | Emotional IPV Level | | | | | | Marginal Effect |
|----------------------------------|---------------------|--------------------|-------------------|---------------------|---------------------|---------------------|---------------------|
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | |
| Child marriage (=1) | 1.186 (0.194) | 1.167 (0.201) | 1.148 (0.206) | 1.130 (0.209) | 1.124 (0.207) | 1.127 (0.211) | 0.023 (0.037) |
| Demographic | | | | | | | |
| 30-44 yrs (ref = 15-29 yrs) | | 1.117 (0.295) | 1.117 (0.297) | 0.976 (0.267) | 0.981 (0.269) | 0.984 (0.273) | -0.003 (0.057) |
| 45-64 yrs (ref = 15-29 yrs) | | 1.306 (0.354) | 1.345 (0.379) | 1.114 (0.322) | 1.110 (0.322) | 1.122 (0.330) | 0.023 (0.059) |
| 65+ yrs (ref = 15-29 yrs) | | 1.523 (0.505) | 1.576 (0.551) | 1.556 (0.552) | 1.536 (0.545) | 1.571 (0.562) | 0.085 (0.067) |
| Married (=1) | | 0.908 (0.157) | 0.946 (0.167) | 1.087 (0.203) | 1.075 (0.201) | 1.090 (0.205) | 0.017 (0.037) |
| No. of children | | 1.011 (0.066) | 0.992 (0.066) | 0.985 (0.068) | 0.981 (0.068) | 0.982 (0.068) | -0.004 (0.014) |
| Urban (=1) | | 0.972 (0.165) | 0.981 (0.174) | 0.925 (0.167) | 0.923 (0.168) | 0.918 (0.168) | -0.017 (0.036) |
| Socio-economic | | | | | | | |
| Secondary(ref = primary or none) | | | 1.045 (0.211) | 1.063 (0.221) | 1.084 (0.228) | 1.079 (0.228) | 0.015 (0.042) |
| Tertiary(ref = primary or none) | | | 0.997 (0.251) | 1.025 (0.267) | 1.061 (0.280) | 1.050 (0.279) | 0.01 (0.052) |
| Employed(=1) | | | 1.131 (0.201) | 1.334 (0.291) | 1.341 (0.295) | 1.347 (0.298) | 0.059 (0.043) |
| Average wealth (ref = poor) | | | 0.896 (0.188) | 0.908 (0.196) | 0.909 (0.197) | 0.908 (0.198) | -0.019 (0.043) |
| Rich(ref = poor) | | | 0.757 (0.152) | 0.774 (0.160) | 0.783 (0.162) | 0.775 (0.161) | -0.051 (0.042) |
| Autonomy | | | | | | | |
| Financial independence (=1) | | | | 0.688* (0.150) | 0.687* (0.151) | 0.694* (0.153) | -0.072* (0.043) |
| Decision making ability (=1) | | | | 0.311*** (0.060) | 0.312*** (0.061) | 0.313*** (0.061) | -0.23*** (0.036) |
| Gender norms | | | | | | | |
| Gender equality | | | | | 1.204 (0.218) | 1.218 (0.222) | 0.039 (0.036) |
| Childhood experiences | | | | | | | |
| Husband abused as child | | | | | | 1.050 (0.281) | 0.01 (0.053) |
| husband's mother experienced IPV | | | | | | 1.675 (0.676) | 0.102 (0.079) |
| IPV in woman's childhood (=1) | | | | | | 0.903 (0.177) | -0.02 (0.039) |
| Constant | 2.139*** (0.211) | 1.899** (0.591) | 1.955* (0.677) | 5.558*** (2.173) | 5.051*** (2.032) | 5.085*** (2.194) | |
| Observations | 764 | 764 | 764 | 764 | 764 | 764 | 764 |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Odds of experiencing higher levels of physical IPV (using standardized measure for level)

| VARIABLES | Physical IPV Level | | | | | | Marginal |
|----------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | |
| Child marriage (=1) | 2.019*** (0.483) | 1.761** (0.440) | 1.705** (0.458) | 1.713** (0.466) | 1.715** (0.467) | 1.633* (0.452) | 0.102* (0.057) |
| Demographic | | | | | | | |
| 30-44 yrs (ref = 15-29 yrs) | | 1.890 (0.878) | 2.028 (0.986) | 1.573 (0.753) | 1.566 (0.751) | 1.683 (0.799) | 0.108 (0.099) |
| 45-64 yrs (ref = 15-29 yrs) | | 1.908 (0.886) | 1.823 (0.912) | 1.365 (0.684) | 1.349 (0.681) | 1.448 (0.732) | 0.078 (0.107) |
| 65+ yrs (ref = 15-29 yrs) | | 1.182 (0.670) | 1.368 (0.839) | 1.142 (0.694) | 1.128 (0.688) | 1.169 (0.713) | 0.033 (0.129) |
| Married (=1) | | 0.447*** (0.114) | 0.425*** (0.114) | 0.426*** (0.121) | 0.425*** (0.120) | 0.421*** (0.121) | - (0.06) |
| No. of children | | 0.993 (0.103) | 0.994 (0.111) | 1.011 (0.118) | 1.010 (0.118) | 0.995 (0.117) | -0.001 (0.024) |
| Urban (=1) | | 1.003 (0.260) | 1.013 (0.276) | 1.046 (0.287) | 1.040 (0.285) | 1.054 (0.297) | 0.011 (0.058) |
| Socio-economic | | | | | | | |
| Secondary(ref = primary or none) | | | 1.164 (0.375) | 1.058 (0.351) | 1.071 (0.355) | 0.963 (0.328) | -0.008 (0.069) |
| Tertiary(ref = primary or none) | | | 0.479* (0.190) | 0.429** (0.177) | 0.436** (0.180) | 0.400** (0.165) | -0.192** (0.084) |
| Employed(=1) | | | 1.525 (0.415) | 2.011** (0.645) | 2.011** (0.645) | 1.936** (0.634) | 0.136** (0.066) |
| Average wealth (ref = poor) | | | 0.841 (0.273) | 0.860 (0.285) | 0.856 (0.283) | 0.888 (0.296) | -0.025 (0.07) |
| Rich(ref = poor) | | | 1.526 (0.521) | 1.706 (0.602) | 1.712 (0.608) | 1.712 (0.615) | 0.108 (0.07) |
| Autonomy | | | | | | | |
| Financial independence (=1) | | | | 0.590 (0.191) | 0.587* (0.190) | 0.613 (0.202) | -0.1 (0.067) |
| Decision making ability (=1) | | | | 0.458*** (0.124) | 0.456*** (0.123) | 0.448*** (0.121) | - (0.053) |
| Gender norms | | | | | | | |
| Gender equality | | | | | 1.108 (0.303) | 1.146 (0.318) | 0.028 (0.057) |
| Childhood experiences | | | | | | | |
| Husband abused as child | | | | | | 0.631 (0.233) | -0.095 (0.075) |
| husband's mother experienced IPV | | | | | | 2.757** (1.367) | 0.208** (0.1) |
| IPV in woman's childhood (=1) | | | | | | 1.094 (0.336) | 0.019 (0.063) |
| Constant | 1.036 (0.159) | 1.008 (0.527) | 0.844 (0.497) | 1.953 (1.223) | 1.879 (1.184) | 1.743 (1.163) | |
| Observations | 307 | 307 | 307 | 307 | 307 | 307 | 307 |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Odds of experiencing higher levels of sexual IPV (using standardized measure for level)

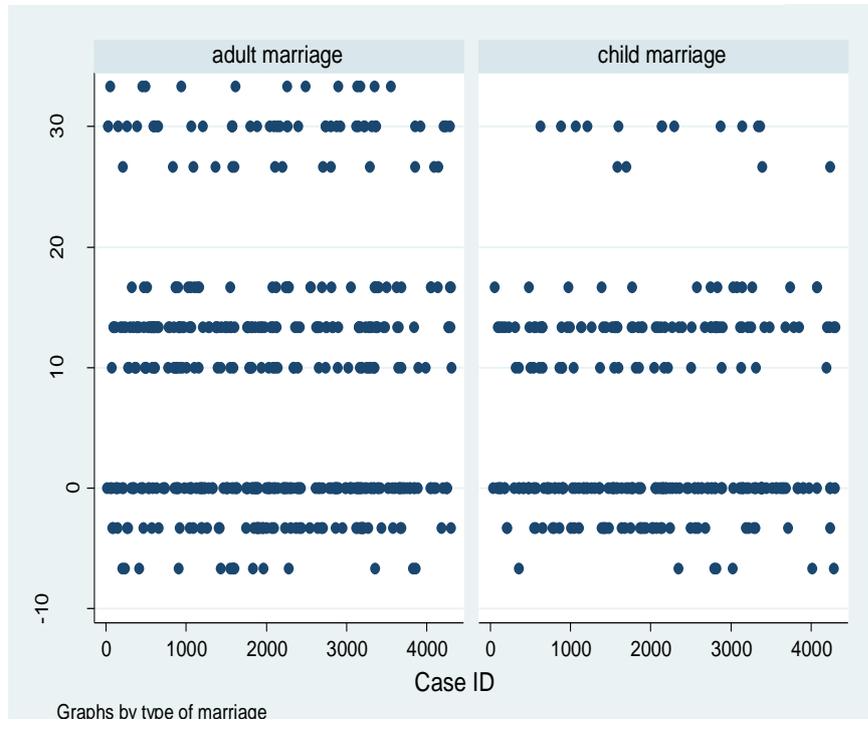
| VARIABLES | Sexual IPV Level | | | | | | Marginal |
|----------------------------------|---------------------|-------------------|-------------------|---------------------|--------------------|--------------------|---------------------|
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | |
| Child marriage (=1) | 0.678 (0.335) | 0.638 (0.333) | 0.670 (0.397) | 0.490 (0.323) | 0.477 (0.322) | 0.469 (0.309) | -0.091 (0.078) |
| Demographic | | | | | | | |
| 30-44 yrs (ref = 15-29 yrs) | | 0.361 (0.431) | 0.326 (0.385) | 0.342 (0.400) | 0.402 (0.491) | 0.581 (0.727) | -0.076 (0.156) |
| 45-64 yrs (ref = 15-29 yrs) | | 1.195 (1.448) | 1.079 (1.354) | 1.045 (1.339) | 1.188 (1.500) | 1.728 (2.319) | 0.057 (0.156) |
| 65+ yrs (ref = 15-29 yrs) | | 2.254 (3.352) | 1.965 (3.092) | 2.081 (3.481) | 2.262 (3.765) | 3.512 (6.280) | 0.106 (0.167) |
| Married (=1) | | 1.496 (0.756) | 1.548 (0.830) | 2.278 (1.249) | 2.035 (1.144) | 2.735 (1.767) | 0.113 (0.074) |
| No. of children | | 0.933 (0.203) | 0.926 (0.204) | 0.902 (0.195) | 0.894 (0.199) | 0.842 (0.188) | -0.02 (0.026) |
| Urban (=1) | | 1.032 (0.574) | 1.092 (0.648) | 1.181 (0.754) | 1.200 (0.773) | 1.408 (0.900) | 0.041 (0.079) |
| Socio-economic | | | | | | | |
| Secondary(ref = primary or none) | | | 0.610 (0.352) | 0.670 (0.412) | 0.667 (0.412) | 0.662 (0.395) | -0.046 (0.066) |
| Tertiary(ref = primary or none) | | | 0.674 (0.636) | 0.477 (0.508) | 0.423 (0.469) | 0.417 (0.483) | -0.109 (0.16) |
| Employed(=1) | | | 1.497 (1.047) | 0.559 (0.428) | 0.526 (0.422) | 0.434 (0.337) | -0.096 (0.087) |
| Average wealth (ref = poor) | | | 0.863 (0.616) | 0.771 (0.572) | 0.835 (0.612) | 0.967 (0.794) | -0.004 (0.098) |
| Rich(ref = poor) | | | 1.069 (0.904) | 0.969 (0.840) | 1.094 (0.924) | 1.283 (1.079) | 0.028 (0.09) |
| Autonomy | | | | | | | |
| Financial independence (=1) | | | | 4.075* (2.927) | 4.184* (3.109) | 4.878** (3.693) | 0.183** (0.088) |
| Decision making ability (=1) | | | | 0.340* (0.190) | 0.344* (0.193) | 0.314** (0.184) | -0.134** (0.064) |
| Gender norms | | | | | | | |
| Gender equality | | | | | 1.627 (1.068) | 1.660 (1.122) | 0.059 (0.077) |
| Childhood experiences | | | | | | | |
| Husband abused as child | | | | | | 0.321 (0.319) | -0.131 (0.113) |
| husband's mother experienced IPV | | | | | | 4.503 (5.044) | 0.174 (0.13) |
| IPV in woman's childhood (=1) | | | | | | 0.748 (0.537) | -0.034 (0.084) |
| Constant | 5.900*** (2.026) | 8.536 (11.172) | 9.675 (13.962) | 14.749* (22.643) | 10.865 (16.560) | 8.992 (15.175) | |
| Observations | 119 | 119 | 119 | 119 | 119 | 119 | 119 |

Robust standard errors in parentheses

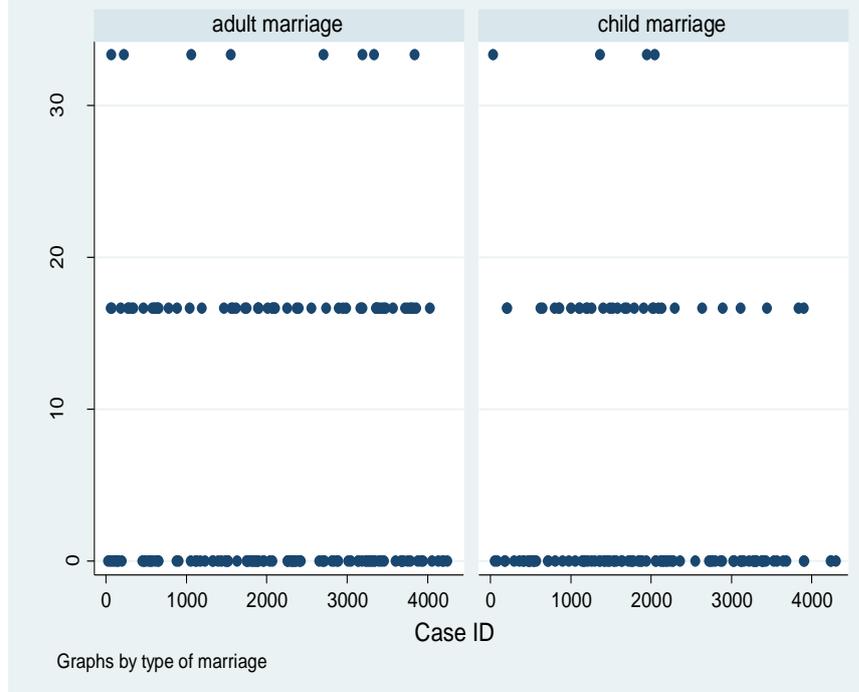
*** p<0.01, ** p<0.05, * p<0.1

7.7 Appendix 7

Emotional IPV Level Dissonance by type of marriage

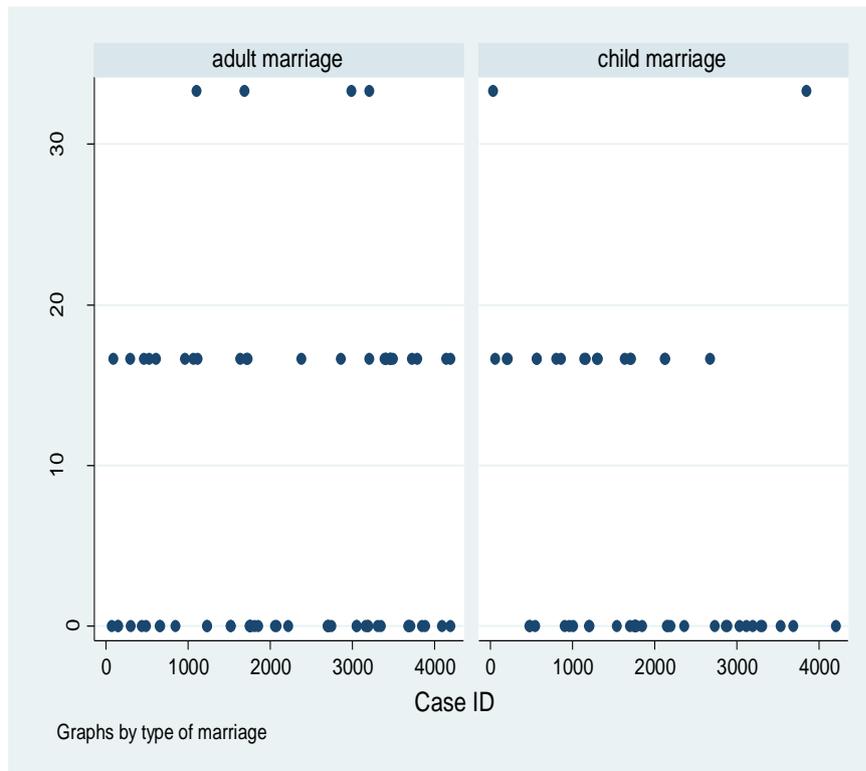


Physical IPV Level Dissonance by type of marriage



Source: Author's own estimates

Sexual IPV Level Dissonance by type of marriage



Source: Author's own estimates

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