
article

From past to present: children's exposure of intimate partner violence and subsequent experience of IPV in adulthood among women

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The objective of this research is to analyse the prevalence of physical intimate partner violence (IPV) in ten developing countries in four regions as identified by the Demographics and Health Survey (DHS): Sub-Saharan Africa with Mali and Nigeria; North Africa/West Asia with Egypt and Jordan; South and Southeast Asia with Cambodia, Pakistan and the Philippines; and Latin America and the Caribbean with Haiti, the Dominican Republic and Peru. These countries are all tested with one primary research question: whether witnessing physical IPV in family-of-origin is associated with women's experience of physical IPV in adulthood. Past research has shown reason to believe witnessing parental violence is a significant risk factor in IPV in many nations, but the influence of IPV in these developing countries has not been examined.

The results indicate that having witnessed physical IPV in one's family-of-origin significantly increases the likelihood of experiencing later physical abuse, for respondents in *all* countries. By controlling for other factors, this finding provides robust support for the intergenerational transmission of violence theory, which explains the link between interparental aggression and physical IPV in subsequent relationships as a result of learned models of behaviour observed in childhood. Implications of this research for developing countries are also discussed.

Key words intimate partner violence • witnessing IPV • demographic and health survey • developing countries • intergenerational transmission of violence theory

Key messages

- The objective of this research is to analyse the prevalence of physical intimate partner violence in ten developing countries in four regions across the globe.
- The primary goal of this research is to test intergenerational transmission of violence theory that states individual views towards violence can be passed down through generations.
- The research question this study aims to answer is whether witnessing physical IPV in family-of-origin is associated with women's experience of physical IPV in adulthood.

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Introduction

Intimate partner violence (IPV) against women is a serious social and health issue and one of the most pervasive yet least recognised human rights violations in the world. Previous research on IPV found that over 50% of women in the world had experienced domestic violence at least once during their relationships (Heise et al, 2002; Garcia-Moreno et al, 2006). Research conducted in South India indicates that 56% of the respondents had experienced physical IPV, and 27% of them experienced physical abuse within the six months prior to the study (Rocca et al, 2008). For instance, studies in Thailand indicated that 34% of married women in Bangkok report physical abuse, and 15% of physical injuries caused by IPV (Xu et al, 2011).

The rate of physical IPV in developing countries, such as Bangladesh, Chile, Peru, Ecuador, Sri Lanka, Papua New Guinea, Tanzania, Korea, Kenya, Uganda, Zambia, Mexico, Costa Rica, and Guatemala ranges from 42% to 69%, which is generally higher than in developed countries (Flake, 2005; Kimuna and Djamba, 2008; Klomegah, 2008; Islam et al, 2017). The results from the World Health Organization (WHO) Study on women's health and domestic violence indicate that the highest rates of physical IPV were reported in Ethiopia and Peru (nearly 70%), while the lowest percentage of ever-partnered women reporting physical abuse by their intimate partner was found in Japan (approximately 17%) (Garcia-Moreno et al, 2005; 2006). Moving towards more developed countries, studies in Canada, the United States, and Great Britain demonstrated that at least one in four women experience some form of physical IPV perpetrated by their former or current partners (Michalski, 2005). Overall, the prevalence of physical IPV in developed European countries varies between 10% and 26% (Michalski, 2005; Papadakaki et al, 2009).

The objective of this research is to compare the prevalence of physical IPV in ten developing countries in four regions as identified by the Demographics and Health Survey (DHS): Sub-Saharan Africa with Mali and Nigeria; North Africa/West Asia with Egypt and Jordan; South and Southeast Asia with Cambodia, Pakistan and the Philippines; and Latin America and the Caribbean with Haiti, the Dominican Republic, and Peru. Specifically, this research asks whether witnessing physical IPV in family-of-origin is associated with the woman's experience of physical abuse perpetrated by their intimate partners, as well as to what extent this factor varies among the countries under investigation. This study contributes to the literature on IPV, prevalence and experiences of physical IPV against women in developing countries, and physical IPV risk factors, using recent nationally-representative, population-based data from the aforementioned countries.

Intergenerational transmission of violence

The primary goal of this research is to test the theory that individual views towards violence can be passed down through generations, in what is known as intergenerational transmission of violence (IGTV) theory. IGTV theory originates from social learning theory, which states that a person learns by viewing what other people who surround them do (Bandura, 1977). According to IGTV theory, an individual's behaviour, values and attitude are all socially learned during his or her childhood from observing behaviour and relationships of his or her significant others. The literature on IPV suggests that the developmental impacts of witnessing IPV in

family-of-origin may contribute to a female child's later vulnerability for intimate partner victimisation through mimicking the behaviours of the people involved in the original violence and adapting unhealthy relationships norms (Holt et al, 2008). Since the family is the most crucial source of learning and a primary agent of socialisation, aggression demonstrated by parents provides a pattern of behaviour and teaches children appropriateness and the consequences of such a behaviour.

Specifically, when children witness one parent slapping, hitting or abusing the other parent, the children learn that this is how their parents interact with each other and understand the rationale and benefits of violence. Children may also observe that abuse results in the achievement of certain goals and learn that violence is an effective and appropriate method to attain desirable outcomes and maintain power and, therefore, can be justified (Anderson and Kras, 2005; Kernsmith, 2006; Murrell and Henning, 2007; Kerley et al, 2010). Similarly, girls who observed their mothers being beaten by their fathers or other male partners learn their mother's behaviour as a victim and their acceptance of violence. In their own family, they are more likely to model the passive, victimised behaviour of their mothers, which they observed in their childhood. Growing up in an abusive family teaches children that aggression and violence is one of the ways (and often an effective way) of conflict resolution and maintaining control, especially when aggressive behaviour is perceived as leading to advantageous outcomes with minimal negative consequences (Anderson and Kras, 2005; Kerley et al, 2010). Children thus learn how to rationalise abusive behaviour in order to maintain power and control in the family unit (Kernsmith, 2006). As a result, children will see violence as a normal and acceptable part of family life and human interaction, and carry those values with them as they build their own families in adulthood.

Further, according to some literature on IPV, a significant contributor to women's vulnerability to violence perpetrated by their intimate partners is the witnessing of interparental aggression in the family-of-origin (Roberts et al, 2010; Barrett et al, 2012), thus lending support to IGTV theory. Findings from Kenya, Bangladesh, Thailand, Russia, Moldova, Ukraine, Azerbaijan and Turkey demonstrate that witnessing IPV in childhood increases the risk of later use of violence among men (for example, Jewkes, 2002; Cubbins and Vanoy, 2005; O'Leary et al, 2008; Johnson and Das, 2009; Kerley et al, 2010; Barrett et al, 2012; Yuksel-Kaptanoglu et al, 2012). For example, research in Ukraine demonstrates that women who witnessed interparental abuse in their family-of-origin are over three times more likely to experience physical IPV in adulthood than women who did not observe IPV as a child (Cubbins and Vannoy, 2005; Barrett et al, 2012).

While IGTV theory emphasises the roots of family aggression in the parents and that children learn violent behaviour through observing it in their families, it has its limitations, however. First, the theory may be criticised for its gender-neutrality. IGTV theory does not respond to the question of the differential effects of parental violence on children based on the parent's and children's gender. Thus, IGTV theory lacks a gender-sensitive application and is gender invariant. However, in the original social learning research, it was mentioned that gender had an impact on the amount of imitated violence and that the witnessing of a father's violence might have a stronger relationship to IPV in subsequent relationships than if the violence against an intimate partner at the family-of-origin was perpetrated by a mother (Stith et al, 2000). The second weakness of IGTV theory is that it is not predictive of who will reproduce

violent behaviour in adulthood, and why they will do so. It has been argued that although children witness violence at their family-of-origin and learn the capacity to become violent, this does not mean that they will behave violently unless violence serves some functions for them (Hines and Saudino, 2002). Furthermore, violent behaviour can be prevented due to certain protective factors, among which are a caring parent or other family members who provide support for a child, dissociation from negative childhood experience, psychological treatment, meaningful life, and stable, satisfying and rewarding relationships with an intimate partner.

Therefore, according to IGTV theory, witnessing parental violence may lead to acceptance of IPV as a normal way to resolve conflicts (Jewkes, 2002; Stickley et al, 2008). Abuse thus becomes a model of behaviour: men who witnessed parental violence are more likely to utilise violence against their female partners, while women who observed their fathers beating their mothers learn to tolerate aggressive behaviour and violence. However, other studies in developing countries have found no significant association between witnessing IPV as a child and subsequent experience of IPV (Dude, 2007; O'Leary et al, 2008). Therefore, the association between witnessing IPV in childhood and adulthood IPV requires further attention, especially in developing countries, where the prevalence rate of IPV is high.

Other IPV risk factors

Some risk factors for physical IPV against women are fairly similar in all countries, both developed and developing. For example, disobeying or arguing with men, questioning men about adultery, spending money, not preparing food, refusing sex, or men's suspicion of women's infidelity are strongly associated with physical IPV and are regarded as situations when some men justify violence as a punishment for women's misbehaviour (Klomegah, 2008; Rani and Bonu, 2009; Dhaher et al, 2010). These risk factors speak to a sense of cultural acceptance of physical violence as a justification for disobedience in many forms. Social, economic and cultural configurations shape community standards of behaviour for men and women and, consequently, their attitudes towards IPV. Patriarchal ideology emphasises the male-dominated structure of the family and society and supports a patriarchal system that constructs gender-specific roles, obligations and expectations in public and private spheres. In societies with a strong patriarchal ideology, men and women perceive IPV as a normal act of family relations. Further, cultural standards, expectations and attitudes operate as discursive resources that are used to legitimise, justify, deny, or accept IPV. Thus, as feminists posit, IPV is an expression of male dominance and a result of the patriarchal structure of society and economic deprivation of women, which leads to victimisation, exploitation and devaluation of women in domestic and public spheres (Dobash and Dobash, 1979; Michalski, 2005).

The area of residence may also be a significant factor associated with physical IPV. Research shows that women living in urban areas are more likely to experience physical IPV than women living in a rural area (Klomegah, 2008; VanderEnde et al, 2015). It is argued that living in an urban area increases the risk of stress and alienation and that urban social and environmental conditions may be risk factors for physical IPV. Although people living in rural areas may have less access to services, education, employment and higher incomes, living in urban areas may aggravate the social and economic differences among households caused by stratification, which is more

typical for urban areas than rural areas, and leads to more frustration, bitterness and overall life dissatisfaction.

Another factor that has been found to be positively associated with physical IPV is household wealth as men with lower socioeconomic status tend to rely on the use of physical violence as an instrument of domination and control as they do not have the ability to exert control through economic means (Barrett et al, 2012). In cases where men have low levels of control or lack control over women, they may use physical violence as an ultimate resource to induce the desired response, demonstrate their power, and re-establish their superior position at home; and thus income or wealth should be accounted for in models.

Relatedly, previous research has also found that employed women are more likely to experience IPV than unemployed women (Rani and Bonu, 2009; Rocca et al, 2009; Rahman et al, 2011; Kaukinen and Powers, 2014). Women's employment may provoke physical violence because women's participation in the labour market or, using feminist terminology, entering the public sphere is viewed as a mechanism that undermines the men's authority and diminishes control over women. Women's employment may create tension between partners/spouses, particularly in countries where it is relatively uncommon. It can result in marital dissatisfaction and threaten men's status in the family and patriarchal gender relations dominant in these societies. Therefore, in situations when women's employment contradicts traditional role expectations and norms, the risk of marital conflicts and physical violence increases for employed women (Eswaran and Malhotra, 2011; Franklin and Menaker, 2014).

Further, educational attainment is also associated with physical IPV (for example, Kimuna and Djamba, 2008; Okenwa et al, 2009; Barrett et al, 2012; Yuksel-Kaptanoglu et al, 2012). Specifically, a low level of education is strongly associated with justification and acceptance of physical IPV by both sexes, which in turn may result in the occurrence of physical IPV. By contrast, more educated women are at a lower risk of experiencing physical IPV. For instance, women who completed at least high school are at lower risk of physical violence than women with no high school diploma (Flake, 2005; Kimuna and Djamba, 2008; Okenwa et al, 2009; Yuksel-Kaptanoglu et al, 2012). Notably, however, previous research in Ukraine, Nicaragua and Haiti finds no significant association between physical IPV and education (Gage, 2005; Barrett et al, 2012).

Although not many studies have included the number of children in their analyses, some studies demonstrate that greater numbers of children increase the likelihood of physical IPV (Romans et al, 2007; Basile et al, 2013; Sabri et al, 2014). Having children may impact women's position in a family, as some feminist literature suggests. Since women are more often responsible for the care of their children, having more children hampers women's employment and educational opportunities, and leads to their dependence on men.

Finally, studies on IPV demonstrate that a woman's age is a factor associated with this violence as well. While research in the USA, Canada and Bangladesh show that younger women are at higher risk of IPV compared to older women (Michalski, 2005; Naved and Persson, 2005; Romans et al, 2007), studies in Ukraine, Moldova, Russia and Palestine indicate the opposite results: the increase in a woman's age increases the risk of physical IPV (Haj-Yahia, 2000; Stickley et al, 2008; Barrett et al, 2012). At the same time, no significant relationship between physical IPV and the age of women was found in Kenya, Haiti and India (Gage, 2005; Kimuna and Djamba, 2008; Rocca

et al, 2008). Therefore, the results of the previous studies are inconsistent, suggesting the need for understanding the unique histories and cultures of different countries.

Countries under investigation

This research focuses on ten countries that are located in different regions across the world, representing diverse development situations and low gross national income per capita. Regions (classification is based on the categorisation of the Demographic and Health Surveys programme) include, Sub-Saharan Africa (Mali and Nigeria), North Africa/West Asia (Egypt and Jordan), South and Southeast Asia (Cambodia, Pakistan, The Philippines), and Latin America and the Caribbean (Dominican Republic, Haiti, Peru). All of these countries, usefully, are investigated and data is compiled for research in the Demographic and Health Surveys (DHS), in association with USAID. These countries were primarily chosen to test for regional differences in countries unexamined in the current literature, and because these were the countries that were available in this most recent time frame.

These countries represent several where acceptance and attitudes towards domestic violence and more specifically intimate partner violence vary. While there are a number of similarities between the countries, there are some significant social and cultural differences that could affect interpersonal relationships. For instance, civil conflicts have plagued many of the countries, and several conflicts continue to this day. From April to September 1965, the Dominican Republic was involved in a civil war that started when civilian and military supporters overthrew the acting president. Elsewhere, the Haitian slave rebellion has influenced a modern cry for human rights, universal citizenship, and government participation in the newly freed colony.

Economically, these countries are differently situated as well. The economy in Egypt changed in the 1990s to a market-oriented economy to increase foreign investment and trading affairs while Mali's economy is recovering from the 2012 crisis that plummeted economic growth. On the other hand, Peru contains one of the fastest-growing economies and has experienced a multitude of structural changes in the past three decades leading to a predominately upper-middle-class society. In sum, the examination of only one country would not provide a holistic picture of physical IPV risk-markers; investigating such a diverse swath will allow a better understanding of the association between witnessing and experiencing physical IPV regardless of economic and political differentiators.

Methods

Research question

With this understanding, two primary research questions are raised:

RQ1: *Is witnessing physical IPV in family-of-origin associated with a woman's experience of physical IPV in consequent intimate relationships during adulthood?*

RQ2: *If IGTV is supported, to what extent does this factor vary among the countries under investigation?*

Data set

The data used in this research are derived from the USAID Demographic and Health Surveys (DHS) conducted from 2012–2016 in the ten following countries: Jordan (2012), the Dominican Republic (2013), Haiti (2013), Pakistan (2013), the Philippines (2013), Cambodia (2014), Egypt (2014), Peru (2014), Mali (2015) and Nigeria (2015). The selection of these countries was based on four factors: 1) similar economic development, 2) a diverse range of locations of the countries with the aim to include developing countries from different continents and regions, 3) the utilisation of comparative data and survey method protocols which is provided by the DHS programme, 4) and the availability of most recent DHS datasets.

Largely towards points three and four, the Demographic and Health Survey data are widely used by researchers on developing countries as nationally-representative DHS data are a source of high quality and comprehensive information about women, their children, their partners and their households. In addition, the DHS has a special standardised module to collect information from women of reproductive age (15–49 years old) about whether they ever experienced violence at the hands of their spouses/partners. Finally, the DHS provides a variety of resources on running appropriate survey analysis using their weighting mechanisms, making this a particularly useful database for secondary data analysis (Elkasabi, 2015).

Variables

Dependent variable

The dependent variable employed is whether the respondent reports having experienced any physical abuse by their husband or partner. This is a simple dummy variable where 0 corresponds to no physical abuse, and 1 corresponds with the respondent answering in the affirmative to any of the following (in the language of the DHS surveyor): having being pushed, shaken or having something thrown at the respondent; being slapped; being punched with a fist or hit; being kicked or dragged; being strangled or burnt; being threatened with a weapon; or having one's arm twisted or hair pulled.

Key independent variable

To test IGTV theory, the key independent variable is whether the respondent reports having lived in a family where the respondent observed her father physically abusing her mother (coded as 1), or not (coded as 0). This question serves as a proxy for witnessing physical abuse and allows for interpretation of whether women who were raised in abusive families are more likely to experience physical abuse later in life. Furthermore, it allows for a test of IGTV, as having witnessed physical IPV in childhood is something these women report having experienced in the past, and thus we are able to test if this past event influences their current situation of experiencing some sort of physical IPV in a present relationship.

Control variables

In addition to testing our key variable of interest, we control for a variety of characteristics that the literature suggests will influence the presence of physical abuse, as well as demographic characteristics to best specify the model. Specifically, we

control for the respondent's age (measured in three ten-year age groupings and one five-year age grouping as provided by the DHS: 15–24, 25–34, 35–44, and 45–49), their status as a rural resident (1 = rural citizen, 0 = non-rural), wealth (measured as the household wealth index presented by DHS in quintile form), whether they have received any formal education (1 = at least some formal education, 0 = no formal education), whether they were employed (1 = employed, 0 = not employed) and the number of children they have had (measured in real numbers). While these instruments are relatively blunt in testing the nuanced effects of each variable, the rationale is that it is necessary to take whatever steps needed to provide cross-cultural comparability with the understanding that by breaking these variables down into broader points we can access more of the variability that can be compared versus the kind that cannot be. In other words, employment status types differ from country-to-country, but if we simply measure employment versus non-employment, we can find something that is much more universal country-to-country. Attempts have been further made by DHS to make these coefficients comparable by including survey weights and by asking similar questions, this practice adds another step to that.

It should be noted, however, that there is a current active debate on the acceptability and practice of comparing logistic regression results across different populations, even if attempts are made to ensure the same questions are asked (for example, Allison, 1999; Williams, 2009). Essentially, the argument is that unobserved heterogeneity in the residual variation across groups can produce artificial differences in confidence intervals as well as point estimates that make directly comparing coefficients from model to model untenable (Allison, 1999). Thus, it is important to test models with a variety of specifications. However, one should be able to interpret each of these countries' factors independently – that is by itself each country's results speak true to that country – and also, we have taken into account the most pressing and testable factors that might influence physical IPV. Furthermore, as mentioned earlier, in our assessment of the literature and what questions are available in the DHS, this is as clear a model as is tenable in comparing these ten countries. Nevertheless, it is important to 'consider whether model misspecification could be the cause of any seemingly major differences in conclusion' (Williams, 2009: 556).

Data analysis

To complete this analysis, multivariate logistic regressions were run for each of the countries, in order to determine if our independent variables influence the odds of reporting later abuse, and thus results are presented with odds ratios to highlight the effect of witnessing physical IPV controlling for other factors. Importantly, this is done in order to highlight the differences country-to-country, rather than to state overall what the influences are on a grander scale.

For ease of understanding, coefficient figures for each subsection of countries are also graphically represented, wherein one can see the actual effect of each factor in the model. These coefficient plots are best interpreted as how much a key independent variable (in this case, having witnessed physical domestic abuse as a child) influences the likelihood of experiencing a dependent variable (in this case, physical IPV in adulthood), controlling for all other factors in the model.

Table 1: Witnessing and experiencing physical IPV by country

| Country | Witnessing IPV | 95% C.I. | | Experienced IPV in current partnership | 95% C.I. | |
|--|----------------|----------|-------|--|----------|-------|
| | | LL | UL | | LL | UL |
| Sub-Saharan Africa | | | | | | |
| Mali | 9.59 | 7.94 | 11.24 | 25.40 | 22.95 | 27.86 |
| Nigeria | 9.29 | 8.75 | 9.82 | 11.05 | 10.36 | 11.74 |
| North Africa/West Asia | | | | | | |
| Egypt | 18.21 | 16.86 | 19.56 | 25.23 | 23.87 | 26.58 |
| Jordan | 19.87 | 18.2 | 21.53 | 21.11 | 19.28 | 22.95 |
| South and Southeast Asisa | | | | | | |
| Cambodia | 18.25 | 16.69 | 19.8 | 12.2 | 11.79 | 13.61 |
| Pakistan | 20.7 | 18.78 | 22.62 | 26.85 | 24.64 | 29.05 |
| The Philippines | 17.7 | 17.75 | 18.64 | 8.30 | 7.68 | 8.92 |
| Latin America and the Caribbean | | | | | | |
| Dominican Republic | 14.62 | 13.38 | 15.87 | 14.69 | 13.42 | 15.96 |
| Haiti | 14.31 | 13.23 | 15.39 | 9.76 | 8.81 | 10.71 |
| Peru | 43.69 | 42.96 | 44.43 | 28.59 | 27.93 | 29.26 |

To situate this research in an appropriate context, however, descriptive statistics on witnessing and experiencing physical abuse are first presented.

Findings

Descriptive statistics

Table 1 presents the percentage of the sample that reported to have witnessed physical IPV between their parents growing up, and the percentage of the sample that has experienced physical abuse in intimate relationships in adulthood. In terms of witnessing violence, the present study revealed substantial variations between countries, with the lowest report, of 9.3% in Nigeria, and the highest report of 43.7% in the Philippines. The average percent of individuals reporting having witnessed physical IPV is 18.62% ($SD = 9.65$). In terms of experiencing physical violence as an adult, the Philippines has the lowest percentage of women reporting to experience physical IPV (8.3%). Peru, Pakistan, Mali and Egypt all report a quarter of individuals experiencing physical abuse in their current relationship (28.6%, 26.7%, 25.4% and 25.23%, respectively). The average reporting percentage is 18.32% ($SD = 7.90$). In all, in some countries, such as Haiti and Peru, fewer women report having been physically abused than report having witnessed physical abuse as they grew up, though there is no telling relationship between witnessing physical IPV and experiencing physical IPV as an adult shown in this table.

Table 2: Logistic regression results on experiencing physical IPV for Sub-Saharan Africa

| | Mali, N = 3,457 | | | Nigeria, N = 27,420 | | |
|-----------------|-----------------|----------|------|---------------------|----------|------|
| | Odds ratio | 95% C.I. | | Odds ratio | 95% C.I. | |
| | | L.L. | U.L. | | L.L. | U.L. |
| Respondent age | 1.26*** | 1.12 | 1.42 | 1.44*** | 1.36 | 1.53 |
| Rural residence | 1.38 | 0.90 | 2.11 | 1.13 | 0.98 | 1.32 |
| Wealth | 1.03 | 0.90 | 1.17 | 0.88*** | 0.83 | 0.94 |
| Education | 0.84 | 0.64 | 1.12 | 2.76*** | 2.29 | 3.33 |
| Employment | 1.27* | 1.02 | 1.59 | 1.97*** | 1.71 | 2.27 |
| Children | 1.10* | 1.02 | 1.20 | 1.12*** | 1.07 | 1.16 |
| Witness IPV | 2.54*** | 1.92 | 3.38 | 2.85*** | 2.49 | 3.26 |
| Intercept | 0.11*** | 0.11 | 0.23 | 0.02*** | 0.01 | 0.02 |
| Pr. > F | .000 | | | .000 | | |

Logistic regression models

Next, logistic regression models were run country by country, to examine any country-specific influences on physical IPV, and to determine if the key IV held predictive power in each context.

Tables 2–5 present the countries under investigation here as broken down in the subgroupings determined by DHS. However, they will be dealt with as a whole unit. First and foremost, in line with the first research question, the present study found a significant positive association between witnessing physical IPV and experiencing later physical IPV for every country under investigation, allowing us to fail to reject the null hypothesis of no effect. At its lowest level, witnessing physical IPV increases the odds of experiencing later physical abuse by 50% ($p < 0.001$) for Haitians (Table 5), and, at its highest level, it increases the odds of experiencing later physical abuse by nearly 500% ($p < 0.001$) for Pakistanis (Table 4), both controlling for other factors. In other words, witnessing physical IPV early in life significantly increases the odds of experiencing later physical abuse, controlling for one's age, rurality, income, education, employment status or a number of children. Importantly for this study, this effect is felt to a greater or lesser degree in all of these developing countries and is the only independent variable able to do so, though, as mentioned earlier, it is difficult to suss out the direct comparisons with potential unobserved heterogeneity.

Moving towards the control variables, there are cross-cultural influencers of later physical abuse that are important to note. First, the higher a woman's age, the more likely she is to experience later physical abuse in Sub-Saharan African countries, Cambodia, The Philippines, The Dominican Republic and Peru. There is no influence of age for either country in North Africa/West Asia. On the other hand, there is a significant relationship between rural residence and experience of later physical abuse in these countries, Egypt and Jordan, as well as in Latin American and Caribbean countries and the Philippines. However, this is in the opposite direction – where we see lower odds of experiencing physical abuse for these individuals, which shows some support for previous literature.

In all countries except for Mali and Haiti, where it is not significant, wealth lowers the odds of experiencing later physical abuse. A woman's being employed also led to higher odds of experiencing physical abuse as an adult, in all countries except for

Table 3: Logistic regression results on experiencing physical IPV for North Africa/West Asia

| | Egypt, N = 6,990 | | | Jordan, N = 9,361 | | |
|-----------------|------------------|----------|------|-------------------|----------|------|
| | Odds ratio | 95% C.I. | | Odds ratio | 95% C.I. | |
| | | L.L. | U.L. | | L.L. | U.L. |
| Respondent age | 0.93 | 0.85 | 1.03 | 1.07 | 0.95 | 1.20 |
| Rural residence | 0.71** | 0.58 | 0.88 | 0.64*** | 0.52 | 0.78 |
| Wealth | 0.83*** | 0.77 | 0.89 | 0.78*** | 0.71 | 0.86 |
| Education | 0.76** | 0.63 | 0.91 | 0.92 | 0.51 | 1.66 |
| Employment | 1.21 | .99 | 1.47 | - | | |
| Children | 1.09* | 1.01 | 1.17 | 1.09 | 0.97 | 1.22 |
| Witness IPV | 3.28*** | 2.79 | 3.85 | 3.15*** | 2.49 | 3.98 |
| Intercept | 0.74 | 0.46 | 1.18 | 0.36** | 0.17 | 0.73 |
| Pr. > F | .000 | | | .000 | | |

Cambodia, Pakistan, Egypt and Jordan (where the question was not asked). This is similar to the effect of the number of children: for every other child a woman reports having, her likelihood of physical abuse increases, except in Pakistan and Jordan.

Interestingly, a significant, negative effect of wealth on experiencing physical IPV was found, net all. In other words, if women report being in higher income brackets, they are less likely to report being physically abused by their partners, which might indicate that a better financial state leads to less interpersonal stressors. It is somewhat surprising, then, that a woman's employment has a significant, *positive* association with experiencing physical IPV in all countries, except Cambodia, Egypt and Jordan (where the question about women employment was not asked), controlling for other factors. This seems to contrast the aforementioned finding that wealth reduces the likelihood of physical IPV, though this result might be interpreted as follows: due to the control for wealth, the women in the sample who report being employed are most likely working jobs that do not add much to the family wealth; thus, families might feel more economic stress that could, in turn, lead to more physical IPV. Another possible explanation for this association is that women's employment may be a trigger for partner's physical violence because it affects power dynamics within intimate relationships, gives women more autonomy, reduces men's control over women, and challenges men's authority.

The only variable that showed mixed effects in terms of lowering or raising the odds of later physical abuse was that of education. In Nigeria and the Dominican Republic, the effect of having some education versus none increased the odds of experiencing physical abuse by 170% for Nigerians ($p < 0.001$) and 85% for Dominicans ($p < 0.001$). However, in Egypt and Cambodia, the education effect lowered the odds of later physical abuse. Therefore, the effect of education must indeed be culturally specific, warranting further examination.

Finally, it is important to reiterate the caution that must be taken in directly comparing these results country-to-country as if these coefficients were standardised. However, the influence of these variables – especially that of witnessing physical IPV as a youth – speaks quite clearly to their potential effects.

Table 4: Logistic regression results on experiencing physical IPV for South and Southeast Asia

| | Cambodia, N = 4,304 | | | Pakistan, N = 3,683 | | |
|-----------------|-----------------------------|----------|----------|---------------------|----------|------|
| | Odds ratio | 95% C.I. | | Odds ratio | 95% C.I. | |
| | | L.L. | U.L. | | L.L. | U.L. |
| Respondent age | 1.70*** | 1.51 | 1.91 | 1.08 | 1.03 | 1.34 |
| Rural residence | 1.03 | 0.66 | 1.60 | 0.86 | 0.63 | 1.19 |
| Wealth | 0.81*** | 0.72 | 0.90 | 0.80*** | 0.71 | 0.91 |
| Education | 0.68* | 0.49 | 0.95 | 0.96 | 0.70 | 1.31 |
| Employment | 1.10 | 0.75 | 1.60 | 1.18 | 0.90 | 1.54 |
| Children | 1.22** | 1.05 | 1.42 | .97 | 0.90 | 1.07 |
| Witness IPV | 2.21*** | 1.68 | 2.91 | 5.85*** | 4.51 | 7.54 |
| Intercept | 0.07*** | 0.03 | 0.15 | 0.34*** | 0.18 | 0.62 |
| Pr. > F | .000 | | | .000 | | |
| | The Philippines, N = 10,961 | | | | | |
| | | | 95% C.I. | | | |
| | Odds ratio | L.L. | U.L. | | | |
| Respondent age | 1.46*** | 1.36 | 1.57 | | | |
| Rural residence | 0.78** | 0.65 | 0.93 | | | |
| Wealth | 0.81*** | 0.77 | 0.86 | | | |
| Education | 1.32 | 0.74 | 2.40 | | | |
| Employment | 1.42*** | 1.24 | 1.67 | | | |
| Children | 1.25*** | 1.16 | 1.35 | | | |
| Witness IPV | 2.03** | 1.71 | 2.41 | | | |
| Intercept | 0.03*** | 0.02 | 0.07 | | | |
| Pr. > F | .000 | | | | | |

Predicted probabilities

Finally, [Figures 1–4](#) show the actual effects of the variables under investigation, once again grouped into their country categories by the DHS. Odds ratios, as useful as they are to take a first look at the effects of independent variables on the dependent variable, are often difficult to interpret. Therefore, predicted probabilities were employed to analyse the influence of witnessing physical IPV on the probability of experiencing domestic physical abuse, holding all other variables at their means. In other words, these predicted probabilities demonstrate how likely experiencing physical IPV in adulthood will happen with or without the influence of having witnessed physical IPV (the key variable of witnessing) in family-of-origin for a respondent who scores the average answer on all control variables ([Long and Freese, 2014](#)). The control variables are also presented, which are interpreted in the same manner.

Table 5: Logistic regression results for Latin America and the Caribbean

| | Dominican Republic, N = 6,994 | | | Haiti, N = 9,361 | | |
|-----------------|-------------------------------|----------|------|------------------|----------|------|
| | Odds ratio | 95% C.I. | | Odds ratio | 95% C.I. | |
| | | L.L. | U.L. | | L.L. | U.L. |
| Respondent age | 1.37*** | 1.25 | 1.51 | 1.09 | 0.96 | 1.23 |
| Rural residence | 0.83*** | 0.61 | 1.13 | 0.68* | 0.47 | 1.00 |
| Wealth | 0.73*** | 0.66 | 0.81 | 0.97 | 0.86 | 1.10 |
| Education | 1.85* | 1.03 | 3.28 | .86 | 0.65 | 1.16 |
| Employment | 1.99*** | 1.60 | 2.47 | 2.04*** | 1.62 | 2.55 |
| Children | 1.27*** | 1.14 | 1.43 | 1.20*** | 1.11 | 1.30 |
| Witness IPV | 1.72*** | 1.39 | 2.15 | 1.54*** | 1.24 | 1.92 |
| Intercept | 0.06*** | 0.03 | 0.12 | 0.07*** | 0.04 | 0.14 |
| Pr. > F | .000 | | | .000 | | |
| | Peru, N = 17,707 | | | | | |
| | | 95% C.I. | | | | |
| | Odds ratio | L.L. | U.L. | | | |
| Respondent age | 1.74*** | 1.68 | 1.81 | | | |
| Rural residence | 0.68*** | 0.62 | 0.75 | | | |
| Wealth | 0.84*** | 0.81 | 0.87 | | | |
| Education | 1.06 | 0.88 | 1.28 | | | |
| Employment | 1.59*** | 1.46 | 1.74 | | | |
| Children | 1.27*** | 1.21 | 1.33 | | | |
| Witness IPV | 2.00*** | 1.87 | 2.14 | | | |
| Intercept | 0.08*** | 0.07 | 0.11 | | | |
| Pr. > F | .000 | | | | | |

As is clear, each country presents itself as experiencing a higher predicted probability of physical IPV with the key variable of witnessing physical abuse growing up. Answering ‘Yes’ to the question of having witnessed physical IPV corresponds with a significant increase in the likelihood of experiencing later physical abuse for respondents in all countries. Table 1 is interpreted that the effect size is a 10–percentage point increase in the probability of experiencing physical IPV as an adult with witnessing physical IPV as a youth for citizens of Mali. For Nigerians, that expected percentage increase is something closer to 17%. Age increases the predicted probability for both countries by about 0.03, and the number of children increases the predicted percentage point increase by about 1–2%. Employment status also increases the predicted probability of experiencing physical IPV, but the confidence range for citizens of Mali makes making definite claims difficult.

Figure 1: Predicted probability plot for Sub-Saharan Africa

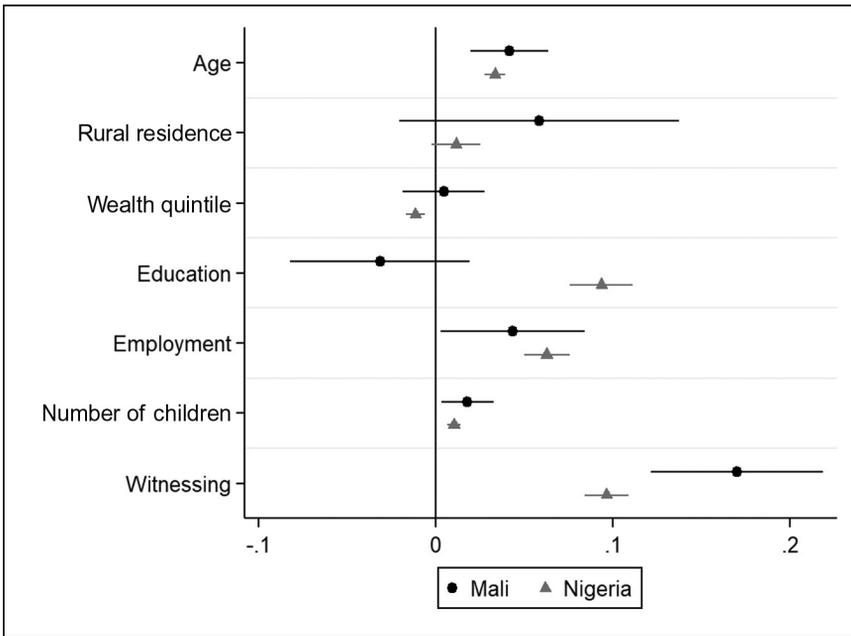


Figure 2: Predicted probability plot for North Africa/West Asia

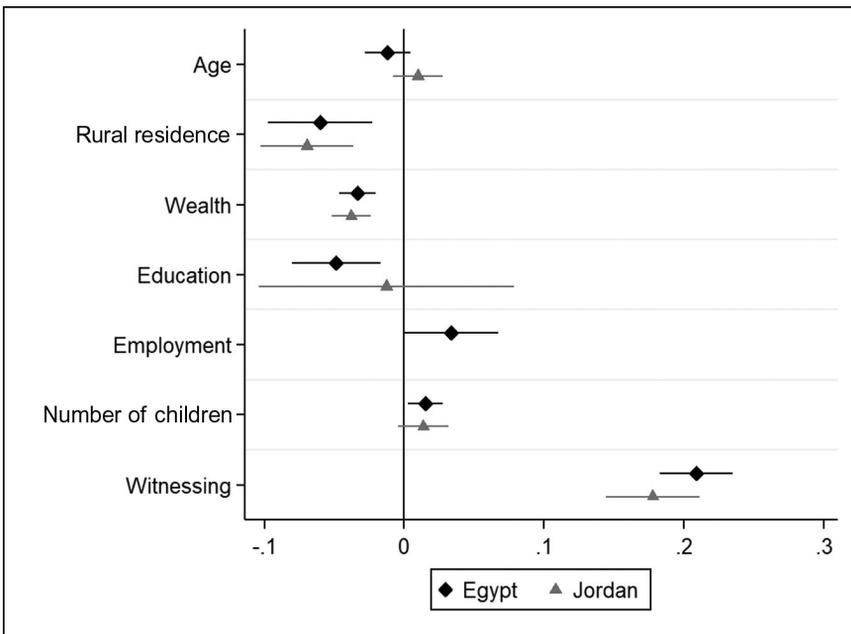


Figure 3: Predicted probability plot for South and Southeast Asia

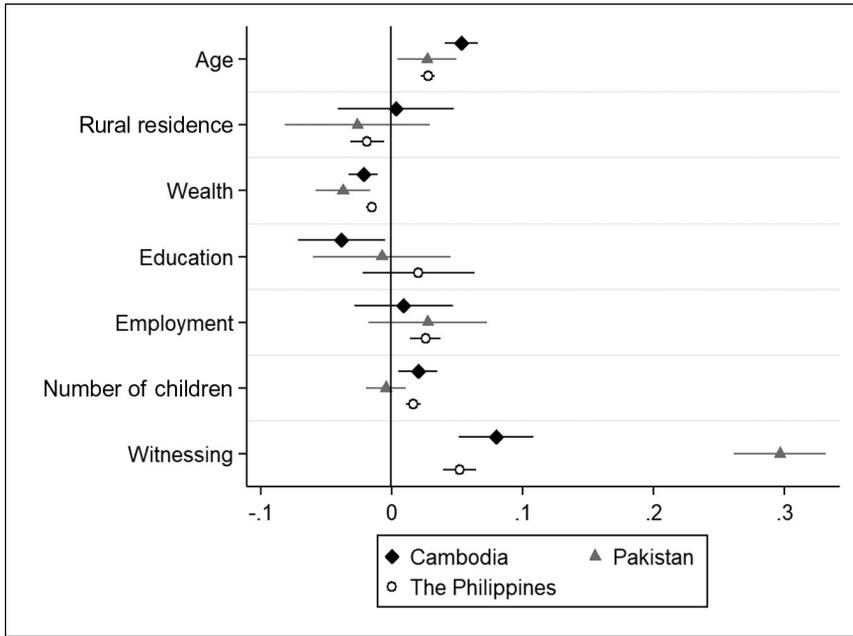


Figure 4: Predicted probability plot for Latin America and the Caribbean

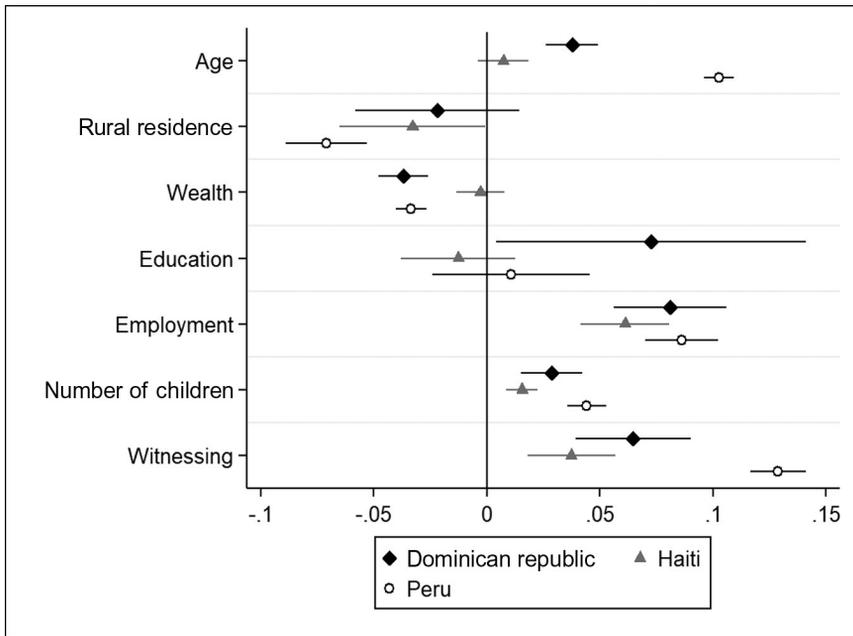


Figure 4 is the only figure which shows a wider spread of variables that influence experiencing physical abuse beyond the effect of witnessing interpersonal physical violence, and that is only for the Dominican Republic and Peru. For the Dominican Republic, the point estimates for education and employment both suggest about

7% points increase in respondents claiming to have experienced physical abuse, whereas witnessing physical IPV only corresponds to a 6% point increase, though the confidence intervals overall suggest that these might all have the same effect. Employment (at 0.06) seems to be more influential than witnessing physical IPV for Haitians (at 0.04), though the confidence interval overlap exists here as well.

Discussion

The results of this study provide evidence that observing physical IPV in childhood increases the risk of women's victimisation perpetrated by men. Specifically, between 10% and 29% of women in the countries under investigation experience physical IPV perpetrated by their intimate partner while the rate of witnessing physical IPV in the family-of-origin varies from 10% to approximately 44%. The high prevalence rate of witnessing and experiencing physical IPV furthers researchers in their understanding that domestic violence against female partners is not a rare phenomenon in developing countries. Although several variables predict women's vulnerability for physical IPV, results from the current analysis indicate that witnessing physical IPV in childhood is the most significant correlate of physical IPV and multiplies the risk of women's victimisation perpetrated by her intimate partner by two to six times. This finding is consistent with the results documented in many studies on IPV in developed and developing countries across the globe and provides robust support for the IGTV theory.

Furthermore, the present study adds to the existing literature on IPV by offering evidence of the strong association between physical IPV experience and witnessing physical IPV in family-of-origin in different social and cultural contexts, formalising the argument that this association is a trend rather than an exception, and further providing a rigid support for IGTV theory. This article focuses on ten countries in different regions across the world, representing diverse developments that are often categorised by low human development index and low GNI per capita. As mentioned, while there are a number of similarities, there are some significant social and cultural differences among these societies, and the IGTV theory holds steady through all.

Limitations

While the present findings suggest that there are meaningful effects for the study's independent variables, it is also important to understand the limitations of this data. Importantly, this study is a cross-sectional dataset, asked in each country at one certain point in time, which allows for only the possibility to analyse associations between IVs and DVs, but not state causality. As mentioned earlier, drawing substantive conclusions in terms of comparing the actual effects country-to-country could fail to account for the untapped variation in the countries themselves. While using more variables as controls would reduce the degrees of freedom, in order to provide cross-cultural comparisons that could similarly situate individuals in similar contexts, using simpler measurements was employed.

Other limitations stem from the data themselves. First, for the key independent variable, respondents were asked by DHS surveyors whether they *saw* abusive behaviour occur, and thus this question does not measure individuals who lived in abusive households but did not actually see such abuse. However, the major test of this research is on the effect of seeing such abuse in the intergenerational transmission

model, and thus witnessing such violence is actually beneficial to the model specificity, speaking to the way that this attitude towards IPV might be learned.

Other issues with the data include that these respondents were all speaking from the context of heterosexual relationships, and thus examining same-sex relationships' physical IPV is impossible using the current data. The present study also did not analyse factors associated with physical abuse perpetrated by women, which may also be a reason for women's experience of physical IPV. However, as multiple studies on IPV (including the present research) suggest, experiencing physical IPV is more in line with the IGTV theory, which was the main focus of this research. In line with this, it should be noted that Maximum Likelihood Multilevel modelling returned results that speak to the power of witnessing physical IPV as the most important factor in experiencing later physical abuse. However, we chose to portray each country individually in order to provide valuable information for individuals studying one of the individual countries as well as provide support for IGTV theory overall. Furthermore, the question of experiencing physical abuse in adulthood does not refer to any specific period, and thus, we do not know if an individual experienced physical IPV in their current relationship or in former relationships. Finally, this data does not include questions on religiosity or religious activities, which does not allow researchers to test the influence of certain beliefs on physical IPV.

While physical IPV is a problem that has been plaguing women in many countries across the world, attention has increasingly been drawn to this social issue with the central theme in IPV literature focused on identification and examination of risk and protective factors. A deeper understanding of women's experiences of physical IPV and what causes physical IPV is essential for promoting women's wellbeing and may contribute to the development of programmes and policies aimed at combating this social epidemic. This research suggests, however, that unless practitioners and policymakers work to end the ability for children to witness domestic altercations, this violence will continue from generation to generation.

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Conflict of interest

The authors declare that there is no conflict of interest.

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