

A cross-national analysis of physical intimate partner violence against women

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Abstract

This study investigates the cross-national correlates of intimate partner violence against women with a sample of 40 developed and less developed countries. Specifically, we analyze physical intimate partner violence against women during the 12 months prior to data collection, using data from nationally representative surveys. In the process, we examine the evidence for three explanations we discern from the literature: empowerment of women, cultural context (i.e. religion, institutions), and globalization. The results of our analyses provide strong support for the empowerment of women explanation, which draws from feminist concerns regarding socio-economic status of women, and reveal some effect of cultural context and globalization. Female labor participation in non-agricultural sectors and women's secondary school enrollment decrease the likelihood of intimate partner violence while increasing total fertility rate signals more partner violence. Religious fractionalization and dependence on high-income countries as export partners also increase the likelihood of intimate partner violence against women.

Keywords

dependency, empowerment, gender, globalization, intimate partner violence, religion, violence against women

Violence against women is a serious global problem. Women suffer from various forms of violence, including physical, sexual, and psychological abuse, by partners and strangers, at alarming numbers all around the world. Research from individual countries shows that women are under significant but varying levels of risk worldwide (Ellsberg and Heise, 2005). The increase in the global trafficking of women and young girls for prostitution and labor in recent decades has added to this risk. After decades of global feminist activism, violence against women is now recognized as an important human rights violation by international institutions and many initiatives are taken by these institutions to research and alleviate it. For example, in 1993, United Nations started a major initiative targeting violence against women (Johnson et al., 2008). Similarly, the World

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Health Organization (WHO) now defines violence against women as a serious threat to women's health and has been running a major research initiative (Ellsberg and Heise, 2005). However, despite all the efforts violence against women remains pervasive.

This study analyzes the cross-national correlates of intimate partner violence against women (henceforth IPVAV). We specifically explore the role of women's empowerment in alleviating IPVAV, and propose that IPVAV will be lower in countries which are economically more developed and women are empowered more. In the process, we also assess the impact of cultural context (i.e. religion, institutions) and globalization on women's empowerment and IPVAV. There is a wide literature analyzing many forms of violence against women. The existing literature offers various explanations and has produced a number of theoretical tools to explain violence against women in general, and IPVAV in particular. However, despite clear and cumulative contributions, one noteworthy trend in the existing literature is the prevailing concentration on individual-level correlates of IPVAV in a single or a few countries. Research has shown that community and society-level factors beyond individual-level factors also influence women's risk of exposure to all forms of intimate partner violence. It is important that we acquire a better understanding of factors that affect violence against women at the society/country level.

Therefore, a significant contribution of this study is the assessment of country-level factors that influence IPVAV. In this study, we address this gap in the literature and conduct a cross-national analysis of the correlates of physical IPVAV with a sample of 40 developed and less developed countries using data from Ellsberg and Heise (2005) and Johnson et al. (2008). Second, this study contributes to the debate on the impact of modernization and economic development on women. Finally, this study also contributes to the ongoing debates regarding the role of culture and globalization on women's well-being. As mentioned above, we identify and test three major explanations of IPVAV in the literature: women's empowerment; cultural context; and globalization. The results of our analyses provide strong support for the feminist concerns for empowerment of women while revealing some effect of cultural context and globalization.

Past research

Studies of violence against women and IPVAV adopt various theories and methods. Most prominent theories used in the literature to explain gender-based violence are the ecological theory, the social learning theory, gender and masculinity, feminist theories, and the inter-generational transmission theory (Ellsberg and Heise, 2005; Johnson et al., 2008). Our cross-national analysis draws from all of these theories and specifically tests three explanations: 1) empowerment of women; 2) cultural context; 3) globalization. It is not possible to give a thorough review of IPVAV literature here, thus we discuss the relevant studies. Also, since most of the literature is based on analyses of individual-level factors in a single or few countries, our literature review depends mostly on individual-level analyses rather than cross-national studies. Although these studies are not entirely compatible with our unit of analysis, we believe that they can help to inform this cross-national study.

Empowerment of women

Empowerment of women refers to the process of women's participation in modern societies as independent individuals through employment, education, and acquirement of equal status with men. Modernization theories indicate that the radical transformation of traditional agrarian societies to modern industrial (and then post-industrial) societies also entailed the emancipation of

women from the traditional role of homemaking and submission to the male authority figure(s) in the family (e.g. Inkeles and Smith, 1974; Levy, 1966; Moore, 1965). A larger share of women in paid labor and women with formal education, and declining fertility rates in modern societies are often seen as indicators of this. Feminist scholars continue to debate the various types of discrimination against women in modern societies and how modernization and development affect the material conditions of life for women (Martin et al., 2006; Vieraitis et al., 2008). Similarly, gender and development (and its precursors women in development and women and development) perspectives argue that men and women differ in terms of gains from economic development (e.g. Boserup, 1970; Dixon-Mueller, 1985; Moffat et al., 1991; Overholt, 1985; Scanlan, 2004, 2010). Overall, they claim that women do not benefit from economic development as much as men although their contribution is vital to the development process (see Scanlan, 2004, 2010, for detailed reviews). However, we expect that as a society develops and women gain political and social rights, women who have access to work and education acquire greater chance of escaping male violence.

Early feminist scholars documented in extensive detail the degree to which women were subjected to domestic violence, brutality, sexual assault, and social isolation when seeking assistance (Browne, 1987; Dobash and Dobash, 1979). These scholars pointed out that women who are battered are often economically and socially dependent on their abusive male partners for material support and social 'respectability', which compounds economic and cultural influences. The bottom line was that abused women were socially and economically trapped in a situation they did not control and could not escape; where opportunities for self-determination, economic independence, educational achievement, and social respectability were extremely limited for women. Feminist activists translate the existence of the socio-economic trap into a cause for social action to empower women for economic independence, educational achievement, and social respectability independent of their male partner's status and resources (Stanko, 1985).

This research has generated multiple feminist theories about violence against women which have been empirically tested (Martin et al., 2006; Vieraitis et al., 2008). Because the empirical evidence has not, so far, clearly identified structural predictors of IPVAW using feminist theories, Martin et al. (2006) 'use exploratory factor analysis to create both a gender equality component and an absolute status component so that multiple hypotheses can be tested simultaneously' (p. 322) to understand rape rates in US cities. Their results 'indicate support for the socialist feminist model: that society is simultaneously structured along both class and gender lines . . . [and that] higher absolute status of women (which often accompanies higher gender equality) was associated with lower rape rates' (p. 334). Turning their attention to homicide rates and lethal victimization of women, using similar theoretical and empirical methods, Vieraitis et al. (2008) find that:

women's absolute status index is in the expected negative direction in both models, it is only statistically significant for [homicides by] intimates. Thus, our findings are consistent with feminist arguments that in cities where women are more economically advantaged, rates of female homicide victimization by male partners are lower. (p. 170)

As discussed above, education and employment are presented as the most important dimension of women's empowerment, in addition to equal political and social rights. Past research has shown that women's labor force participation generally follows a U-shaped pattern. It is high when the societies are rural and their economies are primarily agricultural and most women are employed as unpaid family workers (Goldin, 1990). During the early stages of industrialization, women's labor force participation declines since women initially had fewer chances for employment in urban industrial settings. However, women's employment increases in the later stages of economic

development with the shortages of male labor in industry and the expansion of the service sector (Goldin, 1990). In the literature, Klomegah (2008) argues that the lack of financial independence of women is a significant predictor of IPVAV in Zambia. Working with a sample of pregnant women in Peru, Perales and her colleagues (2009) find that economically marginalized women are more likely to be victims of partner violence during pregnancy. Similarly, Villareal (2007) finds that employment decreases the risk of violence by intimate partners among Mexican women. However, there is also some contradictory evidence in the literature. For example, Lawoko and colleagues (2007) find in their analysis of IPVAV in Kenya that labor force participation and having higher occupational status than the male partner increase the risk of violence. Fox and her colleagues (2002) find in their analysis of IPVAV in the US that the employment status of both partners does not have a significant impact on the likelihood of IPVAV.

Formal education of women is another significant factor influencing the likelihood of IPVAV. Flake (2005) argues that women's educational attainment significantly decreases the risk of intimate partner violence for women. In their analysis of violence against women during pregnancy in Malatya, Turkey, Karaoglu and colleagues (2005) find that increasing educational attainment of both husband and wife decrease the risk of violence. In a comparative analysis of IPVAV in Chile, Egypt, India, and Philippines, Jeyaseelan and colleagues (2004) find that the low education of both spouses contributes to physical IPVAV in these countries. Similarly, Perales and her colleagues (2009) also find in Peru that women with little or no education have a higher risk of exposure to intimate partner violence. Thus, our analysis of IPVAV includes measures of women's employment, education, fertility, and the existence of equal rights cross-nationally.

Cultural context

Although modernization and economic development of a society can bring about empowerment of women and thus decrease IPVAV, cultural context (i.e. religion, institutions) may mediate, accelerate, or hinder women's empowerment. For example, it is argued that patriarchal religions create a social environment where women are culturally dependent on men for legitimacy and where violence against women is accepted by the society (West, 1999). In addition, some religious beliefs may suppress educational attainment and labor force participation of women. Two religious traditions among others are presented most often for condoning violence against women: Islam and Catholic Christianity. In this study, we focus on the impact of these two religious traditions. Since broad cultural patterns influence how states interpret and apply law (Hajjar, 2004), we examine some of the cultural roots to violence against women in Islamic and Catholic societies. While there is much diversity within each of these categories, we argue that most states apply a fairly conventional interpretation of theological precepts when considering the foundations of law. According to Hajjar (2004), 'the most important issue for understanding domestic violence and impunity is the relationship between religion and state power' (p. 1).¹

Many of the countries whose dominant religion is Islam subscribe to *shari'a* to varying degrees when considering women's rights in general and issues of violence against women in particular. A specific passage from the Qur'an (4:34) is generally interpreted as endorsing violence against wives who are perceived by their husbands as 'disobedient' to their authority (Hajjar, 2004; Kort, 2005). Scholars argue that the overriding cultural message in Islamic societies maintains male dominance and male entitlement to use violence against women in order to secure family structure. For example, Boy and Kulczycki (2008) argue that studies on individual countries in the Middle East report relatively high levels of violence against women.

Most Islamic countries have adopted the United Nations Convention on the Elimination of All Forms of Discrimination against Women (CEDAW)² but many have done little to apply its intent. According to Hajjar (2004), three different approaches to religion and law have circumvented the effective use of CEDAW in the Islamic countries: communalization, nationalization, and theocratization. Communalization exists in ‘countries where members of different religious communities are subject to separate systems of personal status laws, there are two tiers of law’ (Hajjar, 2004: 20). Two examples of communalization include India and Nigeria. Nationalization exists in ‘any state that identifies Islam as the official religion and draws on religious law and jurisprudence to shape national legislation and policies, but does not derive or base its own authority on *shari’a*’ (Hajjar, 2004: 24). Hajjar offers Egypt as an example of nationalization of Islam into law. Finally, theocratization exists ‘where the state defines itself as Islamic, [and] religious law *is* the law of the state’ (Hajjar, 2004: 27). Iran and Pakistan are examples of theocratization. Overall, the role assigned to women in society by the religious texts and the relationship between law and religion in Islamic countries is believed to make women in Islamic societies vulnerable to IPVAV.

Christianity has been long-considered one of the cultural foundations contributing to violence against women (Nash, 2006; Wendt, 2008; West, 1999). One of the cornerstones of traditional Christian marriage is that a wife vows to ‘obey’ her husband and is to be ‘submissive’ to him, which is believed to be most apparent in the Roman Catholic tradition (Nash, 2006). Furthermore, an additional characteristic within traditional Christianity is the tendency towards punitive reactions to violations of moral codes believed to be ‘sinful’ (Cook and Powell, 2003). Christianity has historically splintered into many diverse denominations, but the underlying foundations remain in place: Christ is the Lord and Savior, men are to be dominant over women, and governments should endorse ‘godly’ practices. While there are no formal Christian theocratic states currently operating, one could certainly argue that many Western countries remain heavily influenced by traditional Christian ideals regarding family life. It is also true that in countries where Christianity remains the dominant religion, the form of Christian influence tends towards traditional interpretations of Biblical law regarding family lifestyle regulations, particularly the Roman Catholic version of traditional family life.

In addition to the role of religion, the existence of war, ethnic and religious conflicts, and militarization in a society can create an environment where violence is normalized and accepted, which can create greater risk of IPVAV. Prominent anti-colonial writer and activist Frantz Fanon observed during the Algerian Independence War against France that the widespread violence spilled into the families with men who commit or were exposed to violence directing it to their wives and children (Fanon, 1966). Enloe (2000) argues that the militarization of a society can create an environment which creates a greater risk of partner violence against women. In her analysis of militarization in Israel, Adelman (2003) cites similar concerns. However, Baron and Straus (1989) conduct a state-level analysis of rape rates in the USA, finding that as the legitimate violence index is higher in some states so are the rape rates in those states, lending empirical support not for the cultural spill-over theory, but rather for the ‘gender inequality’ and feminist theories (pp. 185–186).

Finally, the existence of a democratic system and protection of human rights in a society may help to prevent IPVAV. Women’s rights are often regarded as a significant part of human rights; thus increasing awareness and protection of human rights may also lead to the decline of IPVAV in a society (Johnson et al., 2008). Weldon (2002) examines how ‘countries that have been continuously democratic from 1974–1994’ (p. 4) generate official responses to violence against women. The crux of her findings suggest that ‘women’s policy agencies’ (p. 5) play a pivotal role in shaping state responses to violence against women. Peffley and Rohrschneider (2003: 245) argue

that citizens in democracies have 'more opportunities to practice or observe toleration through elections, pluralistic conflicts of interest and so forth', so develop more tolerance. Another study finds that 'the persistence and quality of democracy increases levels of civic culture attitudes' (Muller and Seligson, 1994: 635), which may also decrease IPVAW.

Globalization

Globalization emerged as a compelling concept in the early 1990s in social sciences and the popular discourse (Guillen, 2001). Scholars observe that the ongoing integration of national economies since the eighteenth and nineteenth centuries has intensified in the last two or three decades (e.g. Held et al., 1999). Many cite the increase in flows of capital, goods and services, and information across borders in recent decades (see Brady et al., 2007). As it changes the global economic, political, and social geography, globalization can be a force for decreasing IPVAW by empowering women through increased chances of employment, access to outside world and ideas, and by raising awareness of violence against women as a social problem. Friedman (2006) makes optimistic observations about the impact of increasing outsourcing to India by global companies on the empowerment of young women employed by the growing outsourcing sector. Bhagwati (2004) makes similar observations for women in India and elsewhere in the developing world. He states that although the employment conditions and remuneration are not ideal, women find a chance of paid employment and independence through the export industries as opposed to sitting at home or working as unpaid family workers in agriculture. Fernández-Kelly (2008) argues that with the rise of globalization, gender definitions around the world have changed rapidly. The decline of family wage economy and atomization of labor force influenced traditional role of women and created an impetus for labor force participation.

However, not everybody agrees that globalization has been a positive influence. Many argue that women are exploited by export industries and do not really benefit from employment since they are many times hired and employed through existing patriarchal structures (Dikmen, 2000; Lee, 1998). Women are generally hired informally by export sectors and paid less. Many of the young women, who constitute the majority of women working for export industries, leave the labor force once they get married and do not reap the long-term benefits (Dikmen, 2000; Kaya, 2008; Wood, 1991). Earlier, Enloe (1990) argued that plantation economies and export industries worsened the exploitation of women and increased various forms of violence against them around the world. In addition, Radford and Tsutsumi (2004) claim that globalization created 'new and more' opportunities for men to exercise violence against women with increasing trafficking of women and sex tourism worldwide. Kuokkannen (2008) argues that risk of violence against indigenous women has increased with economic globalization.

Dependency and world-system theories have long argued that economic development and integration to the global economy that is dependent on more developed countries do not create the expected benefits from these processes. These theories challenged the modernization theories and advanced the position that there is a relationship of dependency and exploitation between developing and developed countries, which world-systems theorists refer as the core and the periphery (Cardoso and Faletto, 1979; Wallerstein, 1979, 1989). Core countries do most of the industrial production and use peripheral countries as markets, and the source for raw materials. As Cardoso and Faletto (1979) observed in Latin America, a dependent development and integration into the global economy can create a skewed social structure where a small minority reaps all the benefits of the integration to the global economy, while the rest of the society sees limited gains. Thus, in this study we also control for the impact of dependency while assessing the impact of globalization.

Data and methods

To explore the correlates of physical IPVAV at the country level, this study analyzes a sample of 40 countries. The sample includes all countries that have nation-level data on physical IPVAV in and after 1993.³ We limit our analysis to the post-1993 era to control for the period effect. In 1993, the United Nations started a major initiative targeting violence against women (Ellsberg and Heise, 2005). This initiative increased the awareness of violence against women and intensified and improved data collection efforts. In addition, the last 15 years have been marked by increasing levels of integration of most countries to the global economy and the global culture, which might again have a significant effect on awareness and data collection. The sample includes both developed and less-developed countries from all regions of the world. The data are collected for each country for the year that the data on intimate partner violence were available.⁴

Dependent variable

Table 1 presents descriptive statistics and sources for all variables. The dependent variable is the physical violence against women by intimate male partners in the last 12 months. Data on physical IPVAV come from Ellsberg and Heise (2005) and Johnson et al. (2008). Johnson et al. (2008) present the results of a multi-country survey comprising 11 countries on violence against women. Ellsberg and Heise (2005) compile the results of over 80 individual-level studies in a single or few countries. We use these two sources because Johnson et al. (2008) carried out one of the most comprehensive cross-national analysis and data collection efforts on IPVAV in recent years. Ellsberg and Heise's (2005) survey of the literature is very comprehensive and detailed. Therefore, we decided to use the data they report, while combining it with Johnson et al. (2008).

We limited our analyses to physical violence by intimate partners in the last 12 months both for methodological and theoretical reasons. The definition of sexual and psychological violence varies across countries and cultures more than the definition of physical violence. In addition, although it may be valuable to collect information on violence against women over life course, it is prone to recall error. We are aware and share the concerns that data from individual country-level studies may not be totally comparable, but by limiting our sample to nationally representative studies and to the physical violence in the previous 12 months we believe that we address some of these concerns. In addition, even with differences in sample sizes and possibly in wording, our cross national analysis should provide valuable information about the country-level correlates of IPVAV.

In our sample, the highest levels of physical IPVAV were in Zambia and Kenya with 27 and 24 percent of women reporting physical violence by an intimate partner in the last 12 months, respectively. The lowest levels of physical IPVAV were in Denmark, Hong Kong, Switzerland, and the United States where around 1 percent of women reported physical violence by an intimate partner in the last 12 months. Appendix 1 presents the level of physical IPVAV and the year of data collection for each country in our sample.

Independent variables

Our first independent variable is the level of economic development measured by *real Gross Domestic Product (GDP) per capita* (World Bank, 2010). If the modernization and development theories are correct, as countries economically develop, physical IPVAV should decline (e.g. Inkeles and Smith, 1974; Levy, 1966; Moore, 1965). For example, Campbell et al. (2004) find that violence against women during pregnancy is higher in developing countries than industrialized

Table 1. Descriptive statistics: Means and standard deviations in parentheses, and sources

Variable	Mean and standard deviation	Source
Intimate partner violence in the last 12 months	8.12 (6.30)	Elsberg and Heise (2005); Johnson et al. (2008)
Real GDP per capita (log)	7.89 (1.59)	World Development Indicators, World Bank
Female labor force participation (%)	58.75 (13.77)	World Development Indicators, World Bank
Female labor force participation in non-agricultural sectors (%)	42.41 (8.26)	World Development Indicators, World Bank
Female secondary school enrollment (%)	77.96 (32.31)	World Development Indicators, World Bank
Total fertility rate	2.68 (1.29)	World Development Indicators, World Bank
Women's political rights	2.10 (.49)	The Cingranelli-Richards (CIRI) Human Rights Dataset (Cingranelli and Richards, 2010)
Women's social rights	1.56 (.84)	The Cingranelli-Richards (CIRI) Human Rights Dataset
Catholic population (%)	40.88 (36.18)	Cheney (2005)
Muslim population (%)	9.01 (24.22)	Pew Research Center (2009)
Ethnic fractionalization	.35 (.23)	Alesina et al. (2003)
Language fractionalization	.32 (.28)	Alesina et al. (2003)
Religious fractionalization	.43 (.23)	Alesina et al. (2003)
Democracy	7.57 (2.67)	Polity IV project
Civil liberties	3.00 (1.56)	Freedom House
Military expenditures (%)	1.68 (.86)	World Development Indicators, World Bank
Trade openness as % of GDP (log)	4.20 (.48)	World Development Indicators, World Bank
Inward FDI flow as % of GDP (log)	.71 (.94)	World Development Indicators, World Bank
International migration stock (log)	.85 (1.46)	World Development Indicators, World Bank
Internet users (%)	14.62 (22.58)	World Development Indicators, World Bank
Raw material exports (%) (log)	3.50 (.87)	World Development Indicators, World Bank
Exports to high-income countries (%) (log)	4.21 (.39)	World Development Indicators, World Bank

Notes: $N = 40$ for all variables.

countries on average. We logged *GDP* to control for outliers and skew. This variable constitutes our base model.⁵

To test for women's empowerment, we first explore the impact of women's employment, measured by *female labor force participation rate* and *female labor force participation in non-agricultural sectors* on physical IPVAV (World Bank, 2010).⁶ We expect these two variables to decrease physical IPVAV.⁷ Then we analyze the impact women's educational attainment on physical IPVAV. We measure education by *secondary school enrollment rate* (World Bank, 2010). We expect increasing

educational attainment of women to decrease the risk of victimization. Third, we assess the impact of *total fertility rate* (World Bank, 2010). Total fertility rate may signal women's empowerment especially in the cases when its decline is a result of women's own choices (Scanlan, 2004, 2010).⁸ We expect that the higher the *total fertility rate* the higher women's likelihood of exposure to physical IPVAV. Finally, we assess the impact of *women's political rights* and *women's social rights*. Women's political rights refer to rights such as the right to vote or to run for political office, while women's social rights refer to rights such as the right to travel or to initiate divorce (Cingranelli and Richards, 2010). Cingranelli and Richards (2010) assign each country a score between 0 and 3. A higher score means that women's rights are protected and guaranteed. We expect that the higher a country's score the lower the level of physical IPVAV.⁹

Then, we assess the impact of cultural context on physical IPVAV. First, we assess the impact of the size of *Catholic population* and *Muslim population* as a percent of total population in a country (Cheney, 2005; Pew Research Center, 2009).¹⁰ Then, we assess the impact of *ethnic, language, and religious fractionalization* in a country (Alesina et al., 2003). Alesina and colleagues (2003) assign each country a score ranging between 0 and 1, where a higher score signals higher fractionalization. We expect that as each dimension of fractionalization increases, the physical IPVAV will also increase. We then explore the effect of *democracy* and *civil rights*. We measure *democracy* by Polity score, which is a 21-point scale ranging from -10 (hereditary monarchy) to +10 (consolidated democracy) (Marshall et al., 2005). *Civil rights* are measured with a 1–7 scale where a lower score represents a broader range of civil rights (Freedom House, 2009). We expect that as a democracy develops and civil rights broaden in a society the likelihood of IPVAV will decline. Finally, we analyze the impact of militarization measured by *military expenditures* as a percent of GDP (World Bank, 2010).¹¹ We expect that as militarization increases in a country so will physical IPVAV.

Lastly, we assess the impact of globalization on physical IPVAV. We measure globalization through the international flows of goods and services, capital, people, and information. Our first globalization measure is *trade openness* (exports as a percent of GDP + imports as a percent of GDP). Data on exports and imports come from the World Bank (2010). Second, we add inward *FDI flow* as a percent of GDP to the models (World Bank, 2010). Third, we add *international migration stock* to the models. It is measured as a percentage of migrants to the total population in a country (World Bank, 2010). Fourth, we add the percentage of *internet users* into the models. Then, to test for dependency we add *raw material exports* (food exports + fuel exports + metal and ore exports + agricultural raw material exports) and *exports to high-income countries* as a percentage of all exports to the models (World Bank, 2010). Following the arguments of dependency and world systems theorists, one would expect that as the share of raw materials exports and concentration of export partners, especially high-income countries, increases, women's empowerment will be impaired and IPVAV will increase (Cardoso and Faletto, 1979; Kentor, 2001). All globalization variables except *internet users* are logged to control for outliers and skew.

Method

We used ordinary least squares (OLS) regression to analyze physical IPVAV. OLS fits to the objectives of this research since we are primarily interested in cross-national variation and have data for one point in time for each country.¹² Statistical significance is reported beginning at the .10 level with two-tailed tests. Tables present unstandardized coefficients and *t*-scores. Appendix 2 presents the correlation coefficients among all variables.

Table 2. OLS models of intimate partner violence against women on empowerment variables

	Model 1	Model 2	Model 3	Model 4	Model 5
Real GDP per capita (log)	-2.54*** (-5.19)	-1.11 (-1.61)	-1.00† (-1.99)	-1.17 (-1.39)	-.69 (-.98)
Female labor force participation (%)		.09 (1.52)	.07 (1.27)	.09 (1.46)	.08 (1.42)
Female labor force participation in non-agricultural sectors (%)		-.26* (-2.18)	-.14 (-1.27)	-.25* (-2.08)	-.13 (-1.19)
Female secondary school enrollment (%)		-.06† (-1.85)		-.07† (-1.87)	
Total fertility rate			2.68*** (3.86)		2.83*** (3.93)
Women's political rights				-.65 (-4.1)	-1.35 (-1.95)
Women's social rights				.47 (.37)	-.28 (-.25)
Constant	28.21*** (7.15)	27.57*** (5.68)	10.58 (1.59)	28.74*** (5.23)	10.10 (1.41)
R ²	.41	.57	.67	.57	.68

† < .1; **p* < .05; ***p* < .01; ****p* < .001 (two-tailed).

Notes: Each cell contains the unstandardized coefficient, and the *t*-scores in parentheses. *N* = 40.

Results

Table 2 presents the models of physical violence against women by an intimate partner in the last 12 months on empowerment variables. The first model on the table, which tests the impact of economic development, is our base model. In the model, GDP has a significant negative effect on physical IPVAV at the .001 level. This suggests that as countries develop the rate of physical IPVAV declines significantly. This also supports the earlier findings in the literature and the arguments of modernization theories (e.g. Campbell et al., 2004; Inkeles and Smith, 1974; Levy, 1966; Moore, 1965).

The second model adds overall female labor force participation, female labor force participation in non-agricultural sectors, and female secondary school enrollment to our base model. In the model, female labor force participation in non-agricultural sectors and female secondary school enrollment have a significant negative impact on physical IPVAV, at the .05 and .1 levels respectively. GDP and overall female labor force participation have no effect. This supports the claims made about women's empowerment through education and employment, especially in non-agricultural sectors (Flake, 2005; Jeyaseelan et al., 2004; Villareal, 2007). The model fit is higher than the previous model with an *R*-squared of .57. The third model on the table replaces the female secondary school enrollment in the previous model with total fertility rate.¹³ In the model, total fertility rate has a highly significant effect at the .001, which means that as the number of children per woman increases the likelihood of physical IPVAV also increases. In the model, GDP has a significant effect at the .1 level while overall female labor force participation and female labor force participation in non-agricultural sectors has no effect. The *R*-squared is .67. The fourth model adds women's political and social rights scores to the second variables. In the model, women's political and social rights have no significant effect on physical IPVAV, while the effect of

Table 3. OLS models of intimate partner violence against women on religion and culture variables

	Model 1	Model 2	Model 3	Model 4
Real GDP per capita (log)	-2.64*** (-5.19)	-2.73*** (-4.86)	-2.63*** (-3.96)	-2.88*** (-3.61)
Catholic population (%)	-.01 (-.69)			-.005 (-.18)
Muslim population (%)	-.03 (-.87)			-.03 (-.85)
Ethnic fractionalization		1.13 (.28)		.83 (.18)
Language fractionalization		-3.35 (-.91)		-4.32 (-1.05)
Religious fractionalization		6.21 (1.58)		6.32 (1.32)
Democracy			-.16 (-.39)	-.21 (-.47)
Civil liberties			-.45 (-.58)	-.26 (-.31)
Military expenditures (%)			-.16 (-.17)	-.0003 (-.01)
Constant	29.97*** (6.80)	27.74*** (5.51)	31.90*** (4.44)	32.26*** (3.46)
R ²	.42	.46	.42	.47

† < .1; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed).

Notes: Each cell contains the unstandardized coefficient, and the *t*-scores in parentheses. $N = 40$.

other variables is very similar to the second model. Finally, Model 5 adds women's political and social rights to the third model. In the model, total fertility rate has a significant effect at the .001 level while other variables have no effect.

Table 3 presents the models of physical IPVAV in the last 12 months on cultural context variables. The first model on the table assesses the effect of the size of Catholic and Muslim populations in a country. In the model, only GDP has a significant effect. The lack of any significant effect of religion variables suggests that Muslims or Catholics do not significantly differ from others in terms of IPVAV; and does not provide support for the claims regarding the impact of religion (e.g. Hajjar, 2004; Kort, 2005). Model 2 includes the three fractionalization variables, which reveal no significant effects. However, religious fractionalization has a near significant positive effect on physical IPVAV. In the model, GDP again has a significant negative effect at the .001 level. The third model explores the impact of democracy, civil liberties, and militarization. Similarly, only GDP has a significant effect in the model. The final model on the table includes all religion and culture variables. In the model, only GDP has a significant effect. The fit in the models is weaker than those in the previous table with *R*-squared values ranging between .42 and .47. Overall, cultural context does not seem to have much impact on physical IPVAV.

Table 4 presents the models of physical IPVAV in the last 12 months on globalization variables. The first model on the table assesses the effect of trade openness, FDI flows, and international migration on physical IPVAV. Interestingly, none of the three globalization variables has a significant effect in the model. In the model, GDP continues to have a significant negative effect at the .001 level. The second model replaces GDP in the previous model with internet users.¹⁴ While trade openness, FDI flows, and international migration still have no effect, internet users have a negative significant effect at the .1 level suggesting that as the level of connectivity to the outside world increases the level of physical IPVAV declines. Model 3 assesses the impact of dependency variables. In the model, exports to high-income countries have near significant effect and GDP still has a significant negative effect at the .001 level. Raw material exports have no effect. The final

Table 4. OLS models of intimate partner violence against women on globalization and dependency variables

	Model 1	Model 2	Model 3	Model 4
Real GDP per capita (log)	-2.52*** (-4.05)		-2.63*** (-4.96)	-3.02** (-4.22)
Trade openness as % of GDP (log)	-.19 (-.09)	2.31 (.96)		1.07 (.48)
Inward FDI flow as % of GDP (log)	-.87 (-.84)	-1.13 (-.94)		-1.39 (-1.30)
International migration stock (log)	.18 (.26)	-.80 (-1.01)		.83 (1.02)
Internet users (%)		-.09† (-1.89)		
Raw material exports (%) (log)			.89 (.91)	1.13 (1.05)
Exports to high-income countries (%) (log)			3.02 (1.39)	4.66† (1.73)
Constant	29.14** (2.72)	1.06 (.11)	13.03 (1.18)	3.97 (.22)
R ²	.43	.24	.44	.48

† < .1; **p* < .05; ***p* < .01; ****p* < .001 (two-tailed).

Notes: Each cell contains the unstandardized coefficient, and the *t*-scores in parentheses. *N* = 40.

model on the table includes all globalization variables except internet users. Interestingly, exports to high-income countries now have a significant positive effect on physical IPVAW at the .1 level, suggesting that as a country's dependence on more developed foreign partners increases the likelihood of IPVAW also increases, even controlling for openness and economic development. GDP still has a significant negative impact on physical IPVAW at the .01 level. Models fits on the table are poor with highest *R*-squared value of .48 in the final model and .24 in the second model.

Table 5 presents the models of physical violence against women by an intimate partner in the last 12 months on combined variables of three explanations. The first model assesses if religion affects physical IPVAW through its impact on women's employment and formal education. In the model, we interacted the variables for Muslim and Catholic populations with female labor force participation in non-agricultural sectors and secondary school enrollment rate. The model reveals that none of the interaction or base variables has a significant effect on physical IPVAW. This suggests that Catholics and Muslims do not significantly differ from others in terms of women's access to formal education and employment or gains for women from these. In the next model, we add interactions of trade openness and FDI with female labor force participation in non-agricultural sectors in order to assess if the effect of globalization is realized mostly through its impact on women's employment. However, neither of the interaction variables has a significant effect on physical IPVAW. This suggests that any impact of the latest wave of globalization on women's employment has not been translated into gains in terms of prevention of physical IPVAW; or has furthered partner violence. GDP has a significant negative effect in the model at the .01 level.

The last two models on the table assess the effect of strongest variables from the three explanations of IPVAW. Model 3 reveals that female labor force participation in non-agricultural sectors and female secondary school enrollment rate significantly reduce physical IPVAW. The model also reveals that religious fractionalization significantly increases partner violence. In the model, GDP and exports to high-income countries have no effect. The fourth model replaces secondary school

Table 5. OLS models of intimate partner violence against women on combined variables

	Model 1	Model 2	Model 3	Model 4
Real GDP per capita (log)	-.94 (-1.28)	-1.26** (-2.73)	-1.03 (-1.36)	-1.07† (-1.91)
Female labor force participation in non-agricultural sectors (%)	-.24 (-1.48)	.88 (1.11)	-.18† (-1.82)	-.08 (-.88)
Female secondary school enrollment (%)	-.05 (-1.09)		-.07* (-2.13)	
Total fertility rate				2.62*** (3.71)
Catholic population (%)	.10 (.62)			
Muslim population (%)	-.14 (-.66)			
Religious fractionalization			6.53* (2.14)	4.09 (1.45)
Trade openness as % of GDP (log)		13.88 (1.47)		
Inward FDI flow as % of GDP (log)		-7.70 (-1.29)		
Exports to high-income countries (%) (log)			.74 (.37)	.68 (.39)
Catholic population x female labor force participation in non-agricultural sectors	-.001 (-.41)			
Catholic population x female secondary school enrollment	-.0008 (-.86)			
Muslim population x female labor force participation in non-agricultural sectors	.0007 (.20)			
Muslim population x female secondary school enrollment	.0008 (.26)			
Trade openness x female labor force participation in non-agricultural sectors		-0.27 (-1.34)		
Inward FDI flow x female labor force participation in non-agricultural sectors		.14 (1.12)		
Constant	32.23*** (4.23)	-28.30 (-.77)	24.06* (2.70)	8.56 (.93)
R ²	.61	.49	.60	.67

† < .1; *p < .05; **p < .01; ***p < .001 (two-tailed).

Notes: Each cell contains the unstandardized coefficient, and the t-scores in parentheses. N = 40.

enrollment in the previous model with total fertility rate. In the model, total fertility rate has significant positive effect at the .001 level while GDP has a significant negative effect .1 level. Other variables in the model have no effect. The model fit of the fourth model is highest among the combined models with a R-squared value of .67. Overall, our analyses provide strong support for women’s empowerment explanation while revealing some effect of socio-cultural context and globalization on physical IPVAW.

Discussion and conclusion

In this study, we explored the cross-national correlates of IPVAV using a sample of 40 developed and less developed countries. Specifically, we analyzed physical violence against women by an intimate partner during the 12 months prior to data collection, using data from nationally representative surveys. In the process, we examined the evidence for three major explanations of IPVAV we discerned from the literature: women's empowerment, cultural context, and globalization.

Overall, our study emphasizes the importance of the country and society level factors in understanding violence against women in general and physical IPVAV in particular. We also emphasize the importance of economic development and modernization in terms of preventing violence against women. As countries develop, many of the problems faced by women are alleviated, so long as women benefit directly and participate in that growth. Our analyses also revealed that formal education of women measured by secondary school enrollment rate and female labor force participation in non-agricultural sectors decrease the risk of physical IPVAV, even controlling for the effect of economic development. This provides support for feminist explanations about the status of women, especially regarding the empowerment of women through education and paid employment (e.g. Flake, 2005; Jeyaseelan et al., 2004; Villareal, 2007). However, we did not find an impact of overall female labor force participation. Overall labor force participation also includes unpaid family workers, mostly in agriculture (Goldin, 1990). Only paid employment outside the family creates the expected benefits.

We also found a very significant effect of the total fertility rate. As the total fertility rate increases the likelihood of physical IPVAV also increases. In order to better understand the effect of total fertility rate, we regressed it on other empowerment variables (see Appendix 3). The results indicate that secondary school enrollment rate and female labor force participation in non-agricultural sectors significantly decrease total fertility rate. Overall, these results confirm that empowerment of women through formal education and paid employment are the most significant factors preventing IPVAV. Interestingly, women's political and social rights did not have significant effects on physical IPVAV. These indicate that it is the actual participation of women into the social, political, and economical life of a society that matters rather than the existence of rights to do so. Overall, our analyses offer support for the claims that the importance of empowerment of women for the prevention of violence against them (e.g. Klomegah, 2008; Martin et al., 2006; Vieraitis et al., 2008; Villareal, 2007; Weldon, 2002). Specifically, our results provided support for socialist feminist explanations of violence against women, where the empowerment of women results in reduced rates of IPVAV.

The results of our analyses provided limited support for globalization account. In the literature, there have been both optimistic and pessimistic predictions regarding the impact of the latest wave of globalization on the status of women in general and violence against women in particular (e.g. Bhagwati, 2004; Enloe, 1990; Fernández-Kelly, 2008; Friedman, 2006; Radford and Tsutsumi, 2004). Our analyses did not reveal effects of trade openness, FDI, or immigration on physical IPVAV, even when we interacted trade openness and FDI with female labor force participation in non-agricultural sectors. This does not provide support for either side of this debate. However, our analyses revealed that as the number of internet users increases the level of physical IPVAV declines, indicating a positive effect of increasing digital connectivity. This provides some support for more optimistic accounts on globalization, but we also found some evidence that increasing share of high-income countries among all exports increases physical IPVAV although raw material exports had no effect. This suggests that integration of a country to the global economy does not lead to greater empowerment of women or decline of IPVAV when it is dependent on more developed countries.

Our analyses also revealed some evidence for the impact of cultural context. Religious fractionalization significantly increases physical IPVAV in some models. This provides support for the claims made on the impact of conflict on violence against women (e.g. Fanon, 1966). However, we did not find impacts from militarization, democracy, or the protection of human rights. Interestingly, we did not find evidence for the impact of religion on physical IPVAV either. In our models, the size of Muslim and Catholic populations did not affect physical IPVAV. When we interacted these two variables with secondary school enrollment and female labor force participation in non-agricultural sectors to assess if religion affects IPVAV through its impact on women's formal education and employment we still did not find significant effects. These do not support claims made on the impact of religion on IPVAV, especially in the case of Islamic and Catholic societies (Hajjar, 2004; Kort, 2005; Nash, 2006; Wendt, 2008; West, 1999). However, we should keep in mind that both traditions are influenced by patriarchal monotheistic traditions, in which both traditions promote women's submission to men. In any case, we refrain from drawing stronger conclusions here, since we were not able to assess the impact of religiosity because of the lack of data. It may be the practice of religion and the intensity of adherence to religious beliefs and teachings that drives violence against women rather than the dominant religion or cultural orientation in a society. However, it should be noted that the evidence in the literature especially regarding the effect of religiosity and religious affiliation has been mixed (e.g. Ellison et al., 2007; Naved et al., 2006).

A limitation of our study was the size of our sample. Our sample included only 40 countries at one point in time. For the future, researchers can include more countries and data points into their analyses as data become available through cross-national data collection efforts. Another valuable direction for research could be the adaptation of cross-sectional time series and multi-level modeling techniques, again depending on data availability. This way, researchers can assess the impact of changes within societies on IPVAV and systematically analyze the relationship between individual-level and contextual variables.

Overall, this study contributes to the cross-national analysis of a pervasive social problem and a serious threat to the well-being of women around the world: violence against women. It stresses that scholars should remain aware of country and society-level factors, as well as the individual, cultural, and community-level factors, when studying violence against women. Scholars, furthermore, should regularly track the effect of women's empowerment on multiple social phenomena to monitor how it affects broader social change. In addition, we showed that the cultural context and the latest wave of globalization can be important forces affecting women's empowerment and violence they experience. In terms of policy, we are confident that improving material conditions of life for women around the world, specifically access to formal education and paid employment, can create important gains in the worldwide efforts to reduce physical intimate partner violence against women by promoting women's self-determination.

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Notes

1. The evidence in the literature on the impact of religion on IPVAV is mixed. Naved and her colleagues (2006) do not find a significant impact of religious affiliation on violence against women in Bangladesh. However, in their analyses of violence during pregnancy Naved and Persson (2008) find some effect of religious affiliation in the same country. Klomegah (2008) finds no difference among religious groups in terms of abuse by husbands in Zambia; while Moore (2008) finds that Muslim women in her sample

suffer more from partner violence in Togo. Finally, in their analysis of the relationship between IPVAV and attendance at religious services, Ellison and colleagues (2007) find that attendance at religious services decrease the likelihood of partner violence.

2. CEDAW outlines concerns for women's rights and states' obligations to secure those rights in a framework of 'due diligence'. It does not, however, explicitly proclaim that domestic violence against women is de facto an indication of discrimination against women (see Hajjar, 2004, for a fuller discussion).
3. We include one observation for each country. Only one country in our sample (Australia) had more than one observation. We included the most recent one.
4. The countries included in the analyses are: Albania, Australia, Azerbaijan, Cambodia, Canada, Colombia, Costa Rica, Czech Republic, Denmark, Dominican Republic, Ecuador, Egypt, El Salvador, France, Georgia, Guatemala, Haiti, Honduras, Hong Kong, India, Kenya, Mexico, Moldova, Mozambique, Nicaragua, Norway, Paraguay, Peru, Philippines, Poland, Romania, Samoa, South Africa, Sweden, Switzerland, Ukraine, United Kingdom, United States, Uruguay, and Zambia.
5. We also tested for the impact of urbanization, which had a significant negative impact on IPVAV. However, urbanization is highly correlated with and dependent on economic development, so we decided to exclude it from our models.
6. We assessed the effect of several other measures of empowerment. Among these, UNDP's gender empowerment measure was not included into the models because of the high number of missing values. Age at first marriage was excluded because of the high correlation with secondary school enrollment and GDP. However, when entered into the models, this variable had no significant effect on physical IPVAV. Contraceptive prevalence was excluded from the models because of the high level of correlation with total fertility rate and GDP. However, this variable did not have a significant effect when included into the models instead of total fertility rate; and our results were robust.
7. We considered adding divorce rates as a control to our models although the high number of missing variables prevented us from doing so. When we ran our models with available data it did not have a significant impact on physical IPVAV.
8. Scanlan (2004, 2010) uses contraceptive prevalence, however, as we explained in note 6, this variable is highly correlated with GDP and total fertility rate, so we decided to use total fertility rate instead.
9. We also assessed the impact of male unemployment and male secondary school enrollment. Male unemployment had no effect on physical IPVAV. Male secondary school enrollment revealed some significant negative impact on physical IPVAV, but it was nearly perfectly correlated with female secondary school enrollment. So we excluded it from our models.
10. We also considered adding a measure of religious practice into the models. We incorporated two measures of religiosity and religious practice from the data released by Barro (2008), but because of the high number of missing values we could not include them into the models. However, when we ran our models with available data we did not find significant effects of these two variables.
11. We also explored the effect of the existence of civil and inter-state conflict on physical IPVAV. However, data available on these suffer from missing values and measurement problems; and these variables did not have significant effect on physical IPVAV when entered into the models.
12. Since nearly all countries in our sample have nation-level data on intimate partner violence against women for only one time point, we are unable to assess within country variation using methods such as difference and cross-sectional time series models.
13. Female secondary school enrollment and total fertility rate are highly correlated, so we did not include them into the same model.
14. Internet users were highly correlated with GDP, so we could not enter these two variables into the same model.

Appendix

Appendix I. Countries, the year of data collection, and physical IPVAV in the last 12 months

Country	Year	Physical IPVAV in the last 12 months (%)
Albania	2002	5
Australia	2003	4
Azerbaijan	2001	8
Cambodia	2000	15
Canada	1993	3
Colombia	2000	3
Costa Rica	2003	7
Czech Republic	2003	8
Denmark	2003	1
Dominican Republic	2002	11
Ecuador	1995	12
Egypt	1996	13
El Salvador	2002	6
France	2002	3
Georgia	1999	2
Guatemala	2002	9
Haiti	2000	21
Honduras	2001	6
Hong Kong	2005	1
India	1999	10
Kenya	2003	24
Mexico	2003	9
Moldova	1997	8
Mozambique	2004	15
Nicaragua	1998	13
Norway	2003	6
Paraguay	2004	7
Peru	2000	2
Philippines	2005	3
Poland	2004	3
Romania	1999	10
Samoa	2000	18
South Africa	1998	6
Sweden	2000	4
Switzerland	2003	1
Ukraine	1999	7
United Kingdom	2001	3
United States	1996	1
Uruguay	1997	10
Zambia	1996	27

Appendix 2. Matrix of correlations of all variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
Intimate partner violence (1)	1.0																						
Real GDP per capita (2)	-.52	1.0																					
Female labor force participation (3)	-.12	.45	1.0																				
FLFP in non-agricultural sectors (4)	-.51	.43	.58	1.0																			
Female secondary school enrollment (5)	-.69	.63	.19	.50	1.0																		
Total fertility rate (6)	.78	-.52	-.20	-.56	-.75	1.0																	
Women's political rights (7)	-.24	.39	.29	.23	.22	-.11	1.0																
Women's social rights (8)	-.45	.69	.27	.34	.61	-.41	.35	1.0															
Catholic population (9)	-.04	-.25	-.35	-.05	-.11	.17	-.12	-.10	1.0														
Muslim population (10)	.04	-.18	-.18	-.38	-.11	.00	-.00	-.22	-.34	1.0													
Ethnic fractionalization (11)	.28	-.31	.01	-.09	-.37	.36	-.17	-.37	.09	-.13	1.0												
Language fractionalization (12)	.23	-.21	.21	-.08	-.32	.41	.03	-.26	-.13	-.14	.55	1.0											
Religious fractionalization (13)	.15	.12	.26	.17	.06	.07	-.08	.08	-.39	-.02	.33	.43	1.0										
Democracy (14)	-.36	.41	-.00	.11	.55	-.33	.17	.46	.12	-.36	-.05	-.12	.08	1.0									
Civil liberties (15)	.32	-.51	.05	-.05	.11	-.28	.12	.04	-.29	.30	-.05	-.19	-.08	-.03	1.0								
Military expenditures (16)	-.13	.17	-.27	-.28	-.63	.34	-.11	-.39	-.07	.37	.01	.03	-.19	-.70	.06	1.0							
Trade openness as % of GDP (17)	-.15	.19	.13	.20	.05	-.25	-.02	.05	-.19	-.08	-.27	-.04	-.05	-.25	-.17	.33	1.0						
Inward FDI flow as % of GDP (18)	-.23	.30	.16	.25	.08	-.31	.11	.01	-.12	-.03	-.21	-.16	-.13	-.23	-.05	.22	.70	1.0					
International migration stock (19)	-.40	.65	.31	.38	.41	-.50	.09	.40	-.28	-.15	-.18	-.02	.28	.07	.06	-.02	.69	.65	1.0				
Internet users (20)	-.45	.85	.37	.38	.61	-.51	.44	.65	-.20	-.19	-.45	-.24	-.03	.35	.02	-.41	.32	.37	.59	1.0			
Raw material exports (21)	.33	-.33	-.08	-.18	-.26	.46	-.13	-.22	.17	.17	.36	.14	-.01	-.23	-.11	.17	-.22	-.19	-.31	-.29	1.0		
Exports to high-income countries (22)	-.08	.28	-.06	-.11	.10	-.08	.24	.31	.01	.16	-.26	-.37	-.18	.08	.09	-.25	-.22	-.06	-.14	.25	-.41	1.0	

Appendix 3. OLS models of total fertility rate

	Model 1	Model 2
Real GDP per capita (log)	-.10 (-.76)	-.08 (-.64)
Female labor force participation (%)	.01 (.91)	
Female labor force participation in non-agricultural sectors (%)	-.05* (-2.20)	-.03* (-2.05)
Female secondary school enrollment (%)	-.02** (-3.02)	-.02** (-3.29)
Constant	6.57*** (7.13)	6.68*** (7.32)
R ²	.63	.59

† < .1; *p < .05; **p < .01; ***p < .001 (two-tailed).

Notes: Each cell contains the unstandardized coefficient, and the t-scores in parentheses. N = 40.

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