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ORIGINAL ARTICLE

The effect of macrosocial policies on violence against women: a multilevel study in 28 European countries

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Abstract

Objectives To describe and analyze whether a relationship exists between gender equality and political responses to gender violence (GV) against women with physical and/or sexual intimate partner violence (IPV) in the European Union (EU).

Methods We analyzed a subsample of 39,269 ever-partnered women aged 18 and older from the violence against women survey (2012) of the EU Agency for Fundamental Rights. Outcome was last 12 months physical and/or sexual IPV. Multilevel Poisson regression models were used.

Results Current prevalence of IPV was 4.2%. Having suffered abuse by an adult before age 15 was the strongest associated factor for increasing the probability of suffering (PR: 2.9). Living in countries with higher gender equality, with anti-GV legislation prior to 2005, in countries where the state involved multiple actors in GV response and in countries with family policies included in the Anglo-Saxon, Eastern European and Southern European typologies (reference: Nordic), diminishes the women likelihood of suffering IPV.

Conclusions The response to IPV in the EU requires an integral approach that accounts for the efforts of multiple sectors as well as policies that reach greater levels of gender equality in the countries.

Keywords Intimate partner violence · Spouse abuse · European Union · Legislation · Multilevel analysis

Introduction

In the last decade, the struggle to address gender violence (GV) has become a global social imperative and political priority (Garcia-Moreno and Watts 2011; United Nation 2015). There is consolidated evidence related to GV's negative impact on the well-being of women and society itself (Loxton et al. 2016). According to the European Institute for Gender Equality, the estimated cost of intimate partner violence against women (IPV) in the European Union (EU) in 2012 was 109.1 billion euros (European

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Institute for Gender Equality 2014). As the maximum expression of femicide, GV has been recognized as a grave human rights violation (Council of Europe 2011).

IPV is the type of GV that has been the most visible in epidemiological studies (Capaldi et al. 2012; Sanz-Barbero et al. 2014), most of which have focused on describing, identifying and analyzing individual and/or relational variables that increase the probability of being a victim or aggressor of IPV (Sanz-Barbero et al. 2014). Being foreign-born, exposure to abuse in infancy, substance abuse and early sexual relations are some of the variables that increase the risk of IPV victimization and/or aggression across the life span (Capaldi et al. 2012; Sanz-Barbero et al. 2014).

The prevalence of IPV differs greatly among countries (Garcia-Moreno et al. 2006), and there is a need for knowledge about the macrostructural characteristics that can explain inter-country variability. In this sense, policies for social, economic, family and labor protections could be determinants of IPV. Recent studies identify an association between a country's family policies and gender inequality in terms of self-perceived health (Palència et al. 2014). Espelt et al. (2008) showed how health inequalities related to social class change according to gender and political traditions in European countries. Recently, Borrel et al. (2014) carried out a systematic review regarding the influence of macrosocial policies on gender inequalities in health. The results partially support the hypothesis that social-democratic countries promote improved health status for women .

Despite the advances of recent years in the analysis of the association between macrostructural determinants and gender inequalities in health, there are few studies that analyze the effect on IPV risk in Europe. The majority of studies have analyzed the association between IPV and measures of gender inequality at the country level, with heterogeneous results (Gressard et al. 2015; Thévenon 2011; Titterington 2006).

Since the 1990s, action has been taken at the European level to combat GV in general and IPV in particular. The Fourth World Conference on Women (United Nations 1995) issued a call for governments to implement legislative measures to respond to GV. Organizations including the Pan-American Health Organization and the United Nations underscored the importance of these policies and established recommendations for their implementation (Pan-American Health Organization 2003; United Nations 2010). Ortiz-Barreda and Vives-Cases (2013) analyzed the incorporation of these recommendations into legislation in 80 countries, highlighting low levels of adoption. Later, in 2011, the Council of Europe Committee of Ministers signed the "Convention on preventing and combating violence against women and domestic violence," also known as the Istanbul Convention (Council of Europe 2011), which urged member states to introduce new offenses into their penal codes, implement comprehensive and coordinated policies and provide a holistic response to GV. However, there still is a lack of comparative, cross-national studies that assess and evaluate the efficacy of legislation against GV (Corradi and Stöckl 2016).

The absence of exhaustive and comparable data on IPV in the European Union has limited the analysis of the impact of policies and other macrostructural determinants until recently, with violence against women survey, 2012—FRA-VAW Survey—(European Union Agency for Fundamental Rights 2015). The FRA-VAW Survey uses a representative sample of women over age 18 residing in the European Union. The survey interviews women from 28 EU countries, allowing for a deeper exploration of GV in general and IPV in particular in the European context, from an integral ecological perspective (Heise 1998). The results of this survey indicated that 1 in 5 ever-partnered women (22%) in the EU have suffered lifetime physical and/or sexual IPV, and prevalence rates ranged from 13 to 32% (European Union Agency for Fundamental Rights 2015).

The objective of this study is to describe and analyze whether, independently of individual sociodemographic characteristics, a relationship exists between gender equality in a country and political responses to GV and physical and/or sexual IPV in the European Union.

Methods

Study population

Data were taken from the 2012 FRA-VAW Survey carried out in all 28 European Union countries. The sample includes 40,192 ever-partnered women aged 18 and older. The methodological details of the survey have been published previously (European Union Agency for Fundamental Rights 2015). FRA approved and supervised this secondary data analysis and design and provides a special license for this purpose (reference number 93210).

Measurements

The outcome was current (last 12 months) physical and/or sexual IPV. Women were asked whether, during last 12 months, they had experienced physical or sexual aggression perpetrated by current or previous partner(s). Physical aggressions include to be pushed, slapped, grabbed, burned, thrown a hard object, beaten with a fist, tried to strangle, cut or stabbed, beaten her head against something (European Union Agency for Fundamental Rights 2015). Sexual aggressions include to be forced or

attempted to force her into sexual intercourse, made woman take part in any form of sexual activity when she did not want or when woman consented to sexual activity because she was afraid (European Union Agency for Fundamental Rights 2015). If a woman answered "yes" related to any physical or sexual violence, she was considered to have suffered physical and/or sexual IPV.

Individual and contextual explanatory covariables were selected based on previous studies (Heise 1998; Sanz-Barbero et al. 2015). The individual variables considered were age, existence of children in the household, educational attainment (highest level of education achieved), self-perceived standard of living (defined by household income), physical or sexual abuse before age 15 by an adult, population size, citizenship and disability in carrying out daily activities. Other individual variables included in the descriptive analysis were perceived health and sexual orientation.

The contextual variables considered were indicators of the country of residence. We included:

- An indicator of gender equality: the Gender Equality Index (GEI) (2017). The GEI is a complex multidimensional indicator defined by the European Institute for Gender Equality. The index ranges from 1 to 100, where a higher value indicates greater equality. The GEI is made up of 26 variables that are clustered into six domains: work, money, knowledge, time, power and health (European Institute for Gender Equality 2017). The measure was used in tertiles. The highest tertile represents the greatest level of gender equality.
- An indicator for the classification of countries based on family policy models, based on Korpi's framework (2010), modified by Thévenon (2011) and Korpi et al. (2013) and used by Palència et al. (2014) and Artazcoz et al. (2016). This typology classifies countries as: Continental, Anglo-Saxon, Eastern European, Southern European and Nordic countries. The characteristics defined by these typologies are shown in Online Resource, Supplementary Table 1.
- A set of legislative GV policy regime variables focused on five questions:
  - *Question* 1 In what year did the national government approve a public action related to GV response for the first time? Public action includes any action taken by the national government/parliament that reduces or prevents violence against women or gender violence, and/or offers support and protection to female victims.
  - *Question* 2 In what year was the most recent law related to GV response approved by the national parliament? Law refers to specific regulations approved by the national or federal parliament.
  - *Question* 3 In what year was the most recent policy plan approved by the national government to address GV? Policy plan refers to a set of concrete measures to address GV.
  - *Question* 4 Number of sectors included in legislation related to state responsibility for GV response (prevention/detection and support, protection, sanction and reparation) (Ministry of Health, Social Services and Equality 2015).
  - *Question* 5 Type of violence included in the law (current or former partner violence/violence within the family/domestic violence/gender-based violence/violence against women (Ministry of Health, Social Services and Equality 2015).

Experts from each of the EU-28 countries, participants in the COST Action Femicide across Europe (Sanz-Barbero et al. 2016) received and answered the questions above. They worked in the university environment, in public scientific research centers, in the security bodies and in local associations. Furthermore, in order to corroborate and complement the information provided by the experts, this manuscript's authors peer-reviewed the legislative framework in all of the countries through reviews of international organization and national government Web sites. When information was unclear or conflicting, consensus was reached after peer-to-peer discussion among the researchers. Detailed information from the Web sites and the documents used for classification purposes is presented in Online Resource 2. Given that the FRA-VAW-Survey microdata were collected in 2012, legislative documents were analyzed up to the year 2012.

Statistical analysis

We estimated the prevalence of current physical and/or sexual IPV, and we described this prevalence according to individual and contextual variables. A total of 95% confidence intervals (95% CI) were obtained for the prevalence and frequency measures.

The association of current IPV with covariables was measured by calculating the prevalence ratios (PR) and their 95% CI, estimated by multilevel Poisson regression models with robust variance. The first level corresponds to women, and the second level to the country of residence. First, we performed an empty model, followed by a univariate and multivariate analysis. Random effects were estimated by calculating the intra-class correlation coefficient (Snijders and Bosker 2012) and the proportion of second-level variance explained by the different models. Parameters were calculated based on maximum likelihood estimation, including adaptive quadrature. Multistage-stratified sampling was used. All analyses were performed

using the weight coefficients included in the survey. We used the statistical program Stata 14.0 for all analyses.

Online Resource 3 shows the countries included in each of the categories of the contextual variables included in the saturated model.

Results

After excluding missing values ($n = 923$), the sample analyzed includes 39,269 ever-partnered women aged 18 and older. The prevalence of current physical and/or sexual IPV was 4.2% (IC 95%: 3.9–4.7%). IPV prevalence by individual and contextual variables is described in Table 1.

The multilevel regressions are presented in Table 2. Regarding individual variables, the saturated model shows that the probability of experiencing physical and/or sexual IPV increases independently in women who were exposed to abuse by an adult prior to age 15 (PR: 2.9); in women who perceive great economic difficulty at home (PR: 2.1); in those who live with two or more minors (PR: 2.1); and in those with a disability in carrying out daily activities (PR:2). The probability of experiencing IPV decreases as age increases ($p < 0.001$), with increases in education level ($p = 0.0071$), in women with citizenship in their country of residence (PR: 0.55) and in those who live in small cities (PR: 0.73).

The contextual variables show that living in a country with an intermediate GEI (PR: 0.42) or high GEI (PR: 0.39) decreases the probability of experiencing current physical and/or sexual IPV. Compared with Nordic countries, the probability of experiencing current physical and/or sexual IPV decreased among women in Anglo-Saxon (PR: 0.79), Eastern (PR: 0.40) and Southern European (PR: 0.41) countries. With respect to legislative variables, current physical and/or sexual IPV prevalence decreased in countries where a recent law and/or policy action was approved after 2005 (PR:0.59) and in countries where the number of sectors included in state responsibility for GV response was three sectors or more (PR:0.85).

The intra-class correlation coefficient of physical and/or sexual IPV in the empty model was 3.4%. The PVE of saturated model 2 (individual + contextual variables) was higher than 99.9%.

Discussion

Main results

Four in one hundred ever-partnered women in Europe have been exposed to physical and/or sexual IPV in the past 12 months. The probability of experiencing this type of violence increases among women who have been abused in infancy, live with minors in the home and among those with greater economic vulnerability. This probability decreases with increases in age, education level and in women with citizenship in their country of residence. With respect to country context, the probability of experiencing current physical and/or sexual IPV decreases among women who live in a country with a higher GEI score; among women who live in countries with family policies included in the Anglo-Saxon, Eastern European and Southern European compared to Nordic typologies; among women living in a country with a recent GV law approved before 2005; and among women that live in a country in which state responsibility for GV response includes 3 or more sectors.

Possible explanations

The prevalence of current physical and/or sexual IPV in the EU is lower and has less inter-country variability than has been identified in other multi-country studies, such as the WHO multi-country study, where past-year IPV prevalence ranged from 4% in Japan, Serbia and Montenegro, to 54% in Ethiopia (Garcia-Moreno et al. 2006). The prevalences identified in our study reflect similar prevalences to those obtained in national-level studies carried out in some countries included in the survey (Istituto Nazionale di Statistica 2015; Sanz-Barbero et al. 2014). The lower IPV prevalence in the European context could be explained by social and macrostructural differences. The multi-centric studies carried out up to now include emerging and developing countries (Fulu et al. 2013; Garcia-Moreno et al. 2006), where gender inequality is greater than in Europe and where there are few resources devoted to it (United Nations 2016). The scant allocation of resources, which has been linked to risk of femicide, could also be related to a greater prevalence of IPV (Palma-Solis et al. 2008).

The social characteristics of women in our study (economic difficulties, presence of children, disability, being younger in age and with a lower level of education, being a foreigner and living in small cities) are similar to prior studies (Capaldi et al. 2012; Sanz-Barbero et al. 2014). The exposure to physical and/or sexual abuse in infancy by an adult is the variable that increases most dramatically the probability of suffering from IPV in adulthood. This fact, also shown in longitudinal studies (Widom et al. 2014), shows the need for prevention as a priority in European policies for IPV response. In this area, the social and health sectors play a key role in primary prevention in addition to early detection (Marchand et al. 2012).

Our results show a negative, independent association between a country's GEI and the prevalence of current

Table 1 Sample description and prevalence of current physical and/or sexual intimate partner violence (IPV) by individual and contextual variables

Variables	Prevalence of current			
	Physical and/or sexual IPV (N^a = 1623)		Total sample	
	Row %[b]	CI 95%	Column %[b]	CI 95%
Individual variables				
Violence before the age of 15 years				
No	2.4	(2.1; 2.7)	63.9	(63.0; 64.7)
Yes	7.7	(6.8; 8.6)	36.1	(35.3; 37.0)
People under the age of 18 years living in the household				
None	2.8	(2.5; 3.2)	55.7	(54.9; 56.6)
One person	5.6	(4.8; 6.7)	20.4	(19.7; 21.1)
Two or more	6.6	(5.6; 7.8)	23.8	(23.1; 24.6)
Household income				
Living comfortably or coping on present	3.2	(2.8; 3.6)	71.4	(70.6; 72.1)
Finding it difficult on present income	5.4	(4.6; 6.3)	19.2	(18.5; 19.9
Finding it very difficult on present income	10.6	(9.0; 12.5)	9.4	(9.0; 9.9)
Age				
18–24 years	7.0	(5.5; 8.9)	10.1	(9.5; 10.8)
25–29 years	5.1	(3.9; 6.5	8.5	(8.0; 9.1)
30–34 years	5.9	(4.7; 7.5)	9.9	(9.4; 10.4)
35–39 years	4.3	(3.2; 5.8)	10.0	(9.5; 10.5)
40–49 years	4.8	(4.0; 5.6)	20.8	20.1; 21.5)
50–59 years	2.8	(2.3; 3.3	18.8	(18.2; 19.5)
$\geq$ 60 years	2.8	(2.1; 3.7)	21.9	(21.2; 22.6)
Level of education				
Primary	5.3	(4.6; 6.2	36.8	35.9; 37.6)
Secondary	4.0	(3.6; 4.5)	43.1	(42.2; 44.0)
Tertiary	3.0	(2.4; 3.7)	20.1	(19.5; 20.8)
Area where the women live				
Big city	6.9	(6.8; 6.9)	31.5	(30.7; 32.3)
Small city or village	5.4	4.6; 6.3)	68.5	(67.7; 69.3)
Citizen				
No	8.8	(5.4; 14.1)	3.2	(2.9; 3.6)
Yes	4.1	(3.8; 4.5)	96.8	(96.4; 97.1)
Self-perceived health				
Good and very good	3.9	(3.5; 4.4)	72.1	(71.3; 72.9)
Fair	4.9	(4.2; 5.8)	21.0	(20.3; 21.7)
Bad and very bad	6.4	5.1; 8.0)	6.9	(6.5; 7.3)
Disability for daily activities				
Yes	7.4	(6.1; 8.9)	13.6	(13.1; 14.2
No	3.8	(3.4; 4.1)	86.4	(85.8; 86.9)
Sexual orientation				
Heterosexual	4.1	(3.8; 4.5)	98.3	(98.0; 98.6)
Non-heterosexual	14.6	(8.7; 23.5)	1.7	(1.4; 2.0)
Contextual variables				
Gender Equality Index, 2010				
Tertile 1	5.6	(4.8; 6.5)	28.6	(27.9; 29.4)
Tertile 2	3.0	(2.4; 3.7)	27.8	(27.0; 28.7)

Table 1 (continued)

Variables	Prevalence of current			
	Physical and/or sexual IPV (N^a = 1623)		Total sample	
	Row %[b]	CI 95%	Column %[b]	CI 95%
Tertile 3	4.3	(3.8; 4.9)	43.6	(42.7; 44.4)
Family policy typology				
Continental	4.3	(3.7; 5.0)	35.7	(34.8; 36.6)
Anglo-Saxon	4.5	(3.5; 5.9)	12.9	(12.3; 13.6)
Eastern European	4.3	(3.9; 4.8)	21.9	(21.3; 22.5)
Southern European	4.1	(3.3; 5.1)	25.6	(24.8; 26.4)
Nordic countries	4.8	(4.0; 5.8)	3.9	(3.8; 4.1)
In what year did the government approve a public action related to GV response for the first time?				
Before 1990	4.3	(3.5; 5.2)	28.4	(27.7; 29.2)
Between 1991 and 2000	4.3	(3.9; 4.7)	66.3	(65.5; 67.1)
After 2000	4.7	(4.1; 5.6)	5.2	(5.0; 5.4)
In what year was the most recent law related to GV response approved by the government?				
Before 2005	3.2	(2.5; 4.3)	17.7	(16.9; 18.5)
2005 and after	4.5	(4.1; 5.0)	82.3	(81.5; 83.1)
In what year was the most recent policy plan approved by the government to address GV?				
Before 2008	2.9	(2.3; 3.7)	24.4	(23.6; 25.3)
2008 and after	4.7	(4.3; 5.2)	75.6	(74.7; 76.4)
Number of sectors included in legislation on state GV responsibility				
One or two sectors	4.0	(3.4; 4.8)	23.4	(22.7; 24.2)
Three or more sectors	4.4	(4.0; 4.8)	76.6	(75.8; 77.4)
Type of violence included in the law				
Family/domestic	4.2	(3.8; 4.6)	63.1	(62.2; 63.9)
Violence against women/gender/partner	4.5	(3.8; 5.4);	36.9	(36.1; 37.8)

European Union Agency for Fundamental Rights, Violence Against Women Survey 28 European countries, 2012

95% CI 95% confidence interva, *GV* gender violence

[a]*N* unweighted frequency; [b]%weighted percentage calculated over the total sample

physical and/or sexual IPV. The magnitude of the association is even stronger after including family policy typology and country legislative variables. Recent studies have described an independent and positive association between contextual gender inequality and the probability of current IPV (Heise and Kotsadam 2015; Sanz-Barbero et al. 2015). Other studies have found a counter-intuitive association between gender equality and IPV prevalence (Gracia and Merlo 2016). While it is true that in the European context, countries with a greater lifetime prevalence of physical and/or sexual IPV are countries with greater gender equality—Finland, Denmark and Sweden—the prevalence of current physical and/or sexual IPV is greater in countries with lower gender equality scores (Romania, Bulgaria, Slovakia, Greece, Italy) (European Union Agency for Fundamental Rights 2015; World Economic Forum 2015). These differences between current and lifetime IPV prevalence could indicate an increase in IPV incidence in countries with a low GEI score, or a reduction in IPV in countries with an elevated lifetime prevalence of IPV.

Living in Anglo-Saxon countries, as well as in Continental, Eastern and Southern European countries, with traditional family policies is associated with a lower probability of experiencing current physical and/or sexual IPV, compared to the Nordic countries. Thus, resorting to IPV could be a way of demonstrating manhood and sustaining ascendancy when other means cannot be used (Courtenay 2000). The fact that the likelihood of IPV

Table 2 Factors associated with current physical and/or sexual intimate partner violence (IPV) against ever-partnered women (PR and 95% CI)

Variables	Univariate models		Model 1		Model 2		Model 3		Model 4	
	PR	CI 95%	PR	CI 95%	PR	CI 95%	PR	CI 95%	PR	CI 95%
Fixed effects: individual variables										
Violence before the age of 15 years (ref: Non)										
Yes	3.28	(2.41; 4.47)	2.95	(2.26; 3.85)	2.96	(2.27; 3.86)	2.93	(2.24; 3.83)	2.93	(2.24; 3.83)
People under the age of 18 years living in the household (ref: Non)										
One person	2.07	(1.69; 2.68)	1.83	(1.36; 2.46)	1.83	(1.36; 2.45)	1.84	(1.37; 2.46)	1.84	(1.37; 2.46)
Two or more	2.41	(1.51; 3.85)	2.07	(1.30; 3.29)	2.07	(1.30; 3.28)	2.07	(1.30; 3.29)	2.08	(1.30; 3.31)
Household income (ref: living comfortably or coping on present)										
Finding it difficult	1.79	(1.42; 2.24)	1.41	(1.18; 1.69)	1.40	(1.18; 1.68)	1.40	(1.18; 1.68)	1.40	(1.17; 1.67)
Finding it very difficult	3.42	(2.85; 4.10)	2.17	(1.76; 2.68)	2.14	(1.73; 2.65)	2.15	(1.74; 2.66)	2.13	(1.73; 2.62)
Disability for daily activities (ref: non)										
Yes	2.04	(1.65; 2.51)	2.01	(1.70; 2.37)	2.02	(1.72; 2.38)	2.02	(1.71; 2.38)	2.01	(1.71; 2.37)
Age (ref: 18-24 years)										
25–29 years	0.75	(0.57; 0.97)	0.65	(0.50; 0.83)	0.64	(0.5; 0.83)	0.64	(0.50; 0.83)	0.64	(0.50; 0.83)
30–34 years	0.86	(0.69; 1.07)	0.59	(0.50; 0.69)	0.58	(0.50; 0.69)	0.58	(0.50; 0.69)	0.59	(0.50; 0.69)
35–39 years	0.62	(0.44; 0.88)	0.41	(0.31; 0.54)	0.41	(0.31; 0.54)	0.41	(0.31; 0.54)	0.41	(0.31; 0.54)
40–49 years	0.69	(0.50; 0.95)	0.44	(0.35; 0.55)	0.44	(0.35; 0.55)	0.44	(0.35; 0.55)	0.44	(0.35; 0.55)
50–59 years	0.40	(0.29; 0.55)	0.32	(0.23; 0.44)	0.32	(0.23; 0.44)	0.32	(0.23; 0.44)	0.32	(0.23; 0.44)
$\geq$ 60 years	0.40	(0.25; 0.64)	0.32	(0.23; 0.44)	0.32	(0.23; 0.43)	0.32	(0.23; 0.43)	0.32	(0.23; 0.43)
Level of education (ref: primary)										
Secondary	0.79	(0.62; 0.99)	0.81	(0.67; 0.98)	0.82	(0.68; 0.98)	0.81	(0.68; 0.96)	0.79	(0.67; 0.94)
Tertiary	0.55	(0.38; 0.81)	0.62	(0.45; 0.84)	0.62	(0.46; 0.84)	0.62	(0.45; 0.84)	0.61	(0.45; 0.83)
Area where the women live (ref: Big city)										
Small city or village	0.69	(0.49; 0.96)	0.72	(0.58; 0.90)	0.72	(0.58; 0.90)	0.72	(0.58; 0.89)	0.73	(0.59; 0.91)
Citizen (ref: non)										
Yes	0.41	(0.24; 0.68)	0.55	(0.38; 0.81)	0.55	(0.37; 0.80)	0.55	(0.37; 0.80)	0.55	(0.38; 0.80)
Fixed effects: contextual variables										

Table 2 (continued)

Variables	Univariate models		Model 1		Model 2		Model 3		Model 4	
	PR	CI 95%	PR	CI 95%	PR	CI 95%	PR	CI 95%	PR	CI 95%
Gender Equality Index 2010 (ref tertile 1: low equity)										
Tertile 2	0.57	(0.43; 0.76)			0.65	(0.49; 0.86)	0.42	(0.26; 0.69)	0.42	(0.31; 0.58)
Tertile 3: higher equity	0.77	(0.57; 1.04)			0.82	(0.61; 1.10)	0.48	(0.31; 0.76)	0.39	(0.26; 0.57)
Family policy typology (ref: Nordic countries)										
Continental	0.90	(0.70; 1.17)					0.85	(0.68; 1.05)	0.89	(0.75; 1.05)
Anglo-Saxon	0.87	(0.70; 1.07)					0.73	(0.64; 0.84)	0.79	(0.68; 0.01)
Eastern European	0.92	(0.69; 1.24)					0.49	(0.33; 0.73)	0.40	(0.27; 0.61)
Southern European	0.82	(0.50; 1.34)					0.45	(0.27; 0.72)	0.41	(0.28; 0.92)
The most recent law was approved by the government before 2005 (ref 2005 or after)										
Yes	0.73	(0.61; 0.86)							0.60	(0.38; 0.92)
Number of sectors included in state's responsibility (ref: 1 or 2 sectors)										
3 sectors or more	0.79	(0.58; 1.07)							0.85	(0.74; 0.98)

Random effects	Var.	ICC	PVE	Var.	ICC	PVE	Var.	ICC	PVE	Var.	ICC	PVE	Var.	ICC	PVE
Model 0: Empty model	0.114	3.4													
Model 1: individual variables				0.094	2.8	18									
Model 2, 3, 4: individual + contextual variable models							0.066	1.9	42.1	0.014	0.42	87.7	$3.7e^{-10}$	$1.12e^{-8}$	99.9

European Union Agency for Fundamental Rights, Violence Against Women Survey 28 European countries, 2012

PR prevalence ratio; *CI 95%* confidence interval at 95% level; *Var.* variance; *ICC* intra-class correlation coefficient; *PVE* proportion of variance explained

increases in countries with dual-breadwinner family policies may be a sign of the pervasiveness of hegemonic masculinities that may easily adapt to changing scenarios—promoted by dual-breadwinner family policies such as in the case of Nordic countries—but without changing the structure of gender power relations (Connell and Messerschmidt 2005). Also, in countries with traditional family policies, it is possible that IPV is perceived as a private affair, and it could be more difficult to identify determined behaviors such as IPV, which could lead to underestimating IPV prevalence.

Our results show that in the majority of European countries, the government may have approved the first public action against GV in the late 1990s, possibly in response to the call for governments to promote legislative frameworks to protect women from GV (United Nations 1995). The probability of experiencing IPV decreases among women who live in a country where GV legislation has been in place for a longer period of time. If, as it seems, legislation is the strongest and most binding policy-making tool, once national parliaments change regulations, it could take time before the impact on quality of life and gender equality can be measured. Also, it is possible that the initiatives approved in the period prior to the economic crisis of 2008 have been implemented in greater measure and with more funding than those approved after the onset of the crisis. We should not forget that GV policies did not arise as a part of welfare regimes. In the 28 countries studied, policies emerged as a result of the mobilization of women's movements. In some countries, movements manifestly challenged assumptions about the benign and gender-neutral state, so state intervention in IPV may play a contradictory role; it is often both required and kept at bay by women activists (Corradi and Stöckl 2016).

In the first decade of the twenty-first century, the United Nations and the Pan-American Health Organization identified a series of components that governments should incorporate into legislative frameworks to address GV, one of which was the participation of multiple sectors in GV interventions (Thévenon 2011). This study reaffirms the importance of this multi-sector approach, due to its positive effect on lowering the probability of physical and/or sexual IPV. While the inclusion of individual variables in the model explained the 18% of the second-level variance, the contextual variables included explained over the 99% of the variance between countries.

Limitations

Despite that the variation among countries can be explained by the contextual variables included in the study's regression models, we cannot discard an information bias in the study results. On the one hand, violent behaviors are subjectively perceived and could be considered offensive in some cultures and tolerable in others. Also, the greater or lesser perception of violence as a public or private affair in different countries could result in differences in women's predisposition in recognizing their exposure. Laws and provisions to prevent IPV are always embedded within a wider cultural context. The survey classifies sexual orientation into heterosexual and non-heterosexual, which includes homosexual and bisexual orientation. As we cannot identify the sex offender, part of the aggressions included in this study may be partner violence between women.

Conclusions

Our results suggest that IPV response in Europe requires an integral approach that protects women during their youth while providing them the opportunity for development within an environment of equality. The presence of a consolidated legislative framework to address GV, the assumption of state responsibility and decreasing levels of gender inequality could decrease the probability of IPV.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical standards This manuscript reflects original work. The manuscript has not been published previously (partly or in full) and is not under consideration elsewhere. All authors have participated in conception and design, or analysis and interpretation of the data; drafting the article or revising it critically for important intellectual content; and approval of the final version and accept responsibility for its contents. European Union Agency for Fundamental Rights approved and supervised this secondary data analysis and design and provides a special license for this purpose (reference number 93210).

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