Intimate partner violence among women in Spain: the impact of regional-level male unemployment and income inequality

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Background: Intimate partner violence (IPV) against women is a complex worldwide public health problem. There is scarce research on the independent effect on IPV exerted by structural factors such as labour and economic policies, economic inequalities and gender inequality. Objective: To analyse the association, in Spain, between contextual variables of regional unemployment and income inequality and individual women’s likelihood of IPV, independently of the women’s characteristics. Method: We conducted multilevel logistic regression to analyse cross-sectional data from the 2011 Spanish Macrosurvey of Gender-based Violence which included 7898 adult women. The first level of analyses was the individual women’s characteristics and the second level was the region of residence. Results: Of the survey participants, 12.2% reported lifetime IPV. The region of residence accounted for 3.5% of the total variability in IPV prevalence. We determined a direct association between regional male long-term unemployment and IPV likelihood (P = 0.007) and between the Gini Index for the regional income inequality and IPV likelihood (P < 0.001). Women residing in a region with higher gender-based income discrimination are at a lower likelihood of IPV than those residing in a region with low gender-based income discrimination (odds ratio = 0.64, 95% confidence intervals: 0.55–0.75). Conclusions: Growing regional unemployment rates and income inequalities increase women’s likelihood of IPV. In times of economic downturn, like the current one in Spain, this association may translate into an increase in women’s vulnerability to IPV.

Introduction

Intimate partner violence (IPV) to women is a complex public health problem around the globe. IPV is a human rights violation and, thus, it should be prosecuted by both civil society and political institutions. Today, the lifetime prevalence of physical and/or sexual violence against women worldwide is estimated at 30%, although substantial geographic variations exist. Lifetime IPV prevalence rates reach their highest levels in the Central Africa region (65.5%) and their lowest in East Asia (16.3%). In Spain the lifetime prevalence of IPV in 2010 is estimated at 13%, ranking below the European average (22%). This great geographic variability speaks to IPV’s preventable nature, at least to a significant extent.
higher rates of intimate partner femicide, and higher odds of justifying IPV, but not higher rates of IPV, are found in neighbourhoods with greater socio-economic deprivation after accounting for individual and relational, as well as neighbourhood characteristics. Moreover, studies by Frye et al.13 did not find an association between intimate partner femicide and neighbourhood characteristics.

Unfortunately, there is little research addressing the characteristics of geographic context at the macro-level as identified in the ecological models of violence against women designed by Heise. Recently, the attitudes towards IPV have been associated to country-level unemployment, but few studies analyse the effect of structural factors, such as economic regulations, and gender inequality, on IPV. Other studies have linked income inequality to a lower social cohesion and distrust of others, variables related to IPV. Another studies concludes that countries with lower levels of government final consumption expenditure and lesser gender parity in its national parliaments are more likely to suffer high IPV-related female mortality rates. However, there is a need for similar studies examining non-lethal IPV as an outcome and exposures to a broader set of macro-level socio-economic country characteristics as potential determinants.

Early 2008 saw the outbreak of the economic crisis worldwide. Between 2008 and 2011, Spain experienced an increase in poverty and social inequality at the national and regional levels. The index of economic poverty increased between 15% and 102% across Spanish regions. Currently we lack evidence regarding the potential impact of social regional inequalities within a country on IPV. Given this knowledge gap, here we explore the potential association between the economic inequalities at the regional-level and the individual IPV risk among women. To our knowledge this is the first study of its kind in Spain, and other countries, addressing potential effects of inter-regional socio-economic inequalities on IPV.

Methods

We conducted multilevel logistic regression to analyse the association between socio-economic context and IPV likelihood, independently from the female individual-level socio-demographic characteristics.

We analysed data from the 2011 Macrosurvey on Gender Violence performed by the Spanish Center for Sociological Research. The survey includes 7898 women over 18 years of age residing in Spain, with the exception of the autonomous cities of Ceuta and Melilla. The survey used a multistage cluster sampling design and is nationally representative by age group, labour status and size of residential nucleus.

Proportional random sampling was used to select primary (municipalities) and secondary sampling units (census tracts). In each census tract, a random route of streets was designed which enable interviewers to identify the houses. Within selected houses, women were selected by age (18–29, 30–44, 45–64, 65 and older) and labour status (working/no working) according to predefined quotas. Questionnaire data were collected during face-to-face interviews at the participant’s home between December 2010 and February 2011. The interviewers undertook on average, 21 attempts to obtain a single interview. Over half (51.2%) of the failed attempts were due to uninhabited residences, 23.5% did not meet the inclusion criteria, 9.4% were female refusals and 0.5% were male refusals.

Of the 7898 women interviewed, 391 (4.9%) were excluded from analyses due to reporting not having an intimate partner for the last 10 years and 535 (6.8%) were excluded for having missing data on IPV variable. The final sample analysed included 6972 women (88.3%).

Outcome variable

We defined self-perceived lifetime IPV as our main outcome variable. This variable measures the participant’s own perception of abuse. The variable is the combination of two IPV variables: IPV incidence in the previous year and IPV incidence at some point before the previous year. The variables IPV incidence in the previous year and incidence at some point before previous year are based on the answer to the question: ‘During the past year/Even if not during this past year, have you ever been in a situation during which you felt abused by any of the following people: husband/partner? Ex-husband/ex-partner?’

Individual-level variables

At the individual-level we included variables that have been empirically associated with IPV in previous studies. Specifically, the following variables were entered: age, citizenship (Spanish/Immigrant, living in Spain fewer than 6 years/Immigrant, living in Spain at least 6 years), social class (upper class/middle class/working class), educational level (no schooling/primary school/secondary school/university level), mother’s exposure to IPV (yes/no) and social support (always-often/sometimes/rarely-never). The variable social class is a composite variable, built by the Center of Social Research (CIS for its Spanish acronym), by combining economic variables such as occupation, work status and work activity. According to this variable, women are classified as upper-middle class; middle-class and working-class.

Regional-level variables

Contextual level socio-economic characteristics included in the study were coded into tertiles. The first tertile corresponds to the lowest values. They include the following measures:

- Male long-term unemployment rate, from the Spanish National Statistics Institute (INE) database ‘Social Indicators’.
- Female long-term unemployment rate, from the Spanish National Statistics Institute (INE) database ‘Social Indicators’.
- The variable is defined as the proportion of unemployed men actively looking for work for at least 12 months out of the total working population. We used the average for the years 2000–10. The long-term unemployment rate ranges from 1.06% to 4.67%.
- Gender-based Economic Discrimination (DEG): This variable is defined as the result of subtracting the index of income equally distributed from the index of gross domestic product per capita. The index of income equally distributed, is the harmonic mean of the indices of income separately for men and women, weighted by the proportion of men and women in the region. These indices were available from the database ‘Human Development in Spain—1980–2007’, built by Bancaja and the Valencian Institute for Economic Research. We used the average measure for the years 2000–07. The DEG ranges from 0.0109 to 0.0239.
- Gini Coefficient of income inequality. This index was found in the 2002, 2006 and 2010 Income Structure Surveys collected by the INE. We calculated the mean based on the data of those 3 years. The Gini Index ranges from 0.30 to 0.38.

Other contextual variables included in the analyses to capture the demographic distribution and the regional educational levels were the index of potential life per capita equally distributed and the female combined gross enrolment ratio. We calculated the mean for the years 2000–07 for each indicator and these means were then categorized into tertiles.

Statistical analysis

First, we described the socio-demographic characteristics of the study population as a whole and then by IPV exposure. Multilevel logistic regression was used to estimate the odds ratios (OR) and 95% confidence intervals (CI) describing the association between the dependent and the independent variables. The first level corresponds to the individual women and the second level refers to the autonomous region of residence. First, we fit univariate models—model 1,
next we fit a multivariate model including individual variables—
model 2. Finally, we fit a multivariate model including individual 
and contextual variables—model 3. Variability among regions 
was examined using the intraclass correlation coefficient according 
to the Snijders and Bosker method. Random effects were estimated 
by calculating the proportion of the second level variance explained by 
the different models. Parameters were calculated based on maximum 
likelihood estimation, including adaptive quadrature, using the 
Generalized Linear Latent and Mixed Models program. The 
slope analysis failed to detect any random effects.

We calculated the Spearman coefficient of correlation between 
independent variables to detect bivariate colinearity. All analyses 
were performed using the weight coefficients included in the 
Macro survey on Gendered Violence. We used the statistical 
program STATA 11 to perform all statistical analyses.

**Results**

Table 1 describes the sample characteristics. Over 12% of survey 
participants reported being victim of IPV at least once in their 
lifetime.

IPV variability among regions is low but statistically significant 
(variance 0.118; SE (0.050)). Region of residence explains 3.5% of 
the total variability in IPV prevalence. The region of Canarias 
and Madrid reported the highest IPV levels (17.5% and 17.1%, 
respectively). At the other side of the spectrum, Aragon (4%) and 
Castilla and Leon (6.3%) reported the lowest levels (figure 1).

Table 2 shows the IPV prevalence across individual and contextual 
variables of interest as well as IPV-associated variables. The full model 
(model 3) shows that as regional male unemployment rate increases 
so does the likelihood of suffering IPV ($P = 0.007$). Specifically, 
women living in a region with a male unemployment rate in the 
third tertile are at 81% higher likelihood of IPV than their counterparts 
living in a region with a male unemployment rate in the first tertile 
($OR = 1.81$ (1.17–2.78)). Regarding social inequality, as the Gini Index in the region increases, IPV likelihood increases as well ($P < 0.001$). However, in terms of regional gender-based 
economic inequality, women residing in a region with a DEG in the 
second tertile have a lower likelihood of IPV than women living in a 
region with a low DEG ($OR = 0.64, 0.55–0.75$).

Table 3 show random effects of the logistic models. Individual-
level variables (model 2) only explain 9.3% of the total variability.

Once contextual variables are added to the model (model 3), we see 
that the inter-region variability is completely explained (100%).

**Discussion**

Our results show that there is an association between the socio-
economic characteristics of the different Spanish regions and 
women’s likelihood for IPV, independently of women socio-demo-
graphic characteristics. Specifically, as male long-term unemployment 
rate at the regional-level increases so does women’s likelihood of suffering IPV. Although the effect of neighbourhood 
unemployment on IPV rates has been examined previously, these 
results are the first to illustrate that a growing rate of regional-level 
unemployment is directly associated with women’s likelihood 
for IPV. Supporting our results, different studies show this associa-
tion but in neighbourhood-level. Concretely, a study conducted in 
Baltimore, U.S., reported an association between neighbourhood 
unemployment rate and the risk for IPV among pregnant and 
post-partum women. Another US study linked neighbourhood-
level unemployment and severe IPV. Similarly, results from Haiti 
detected an association between the percentage of male neigh-
bourhood unemployment and the prevalence of sexual IPV, inde-
pending of women’s characteristics and the type of couple relationship.

Other authors analysed the neighbourhood’s socio-economic level 
based on indices including education-, unemployment- and income-
related variables. Unfortunately, the evidence from these studies is 
inconclusive. For instance, Li et al. failed to find an association 
between the concentrated disadvantage index and risk of IPV 
during pregnancy despite the substantial correlation (0.74) 
between the index and unemployment. Further, a Brazilian study 
found no variability in IPV prevalence across San Paulo neigh-
bourhoods while at the same time concluding that women residing in neighbourhoods with an average level of economic de-
privation were at a higher risk for IPV than their counterparts in low 
economic deprivation neighbourhoods.

The actual mechanisms through which contextual-level un-
employment rates impact IPV remain unknown. Studies by 
Uthman et al. have shown that country level unemployment rates 
increase the odds of justifying IPV, being this association stronger 
among men. Others authors have suggested that living in a high 
unemployment environment increases frustration and stress levels 
among men due to their perceived scant opportunities for 
employment and meeting social expectations as family provider.

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**Table 1 Sample description of Socio-economic characteristics**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Total</th>
<th>n%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables individuales</td>
<td>6972</td>
<td>100</td>
</tr>
<tr>
<td>Self-perceived lifetime IPV</td>
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<td>12.20</td>
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<tr>
<td>Citizenship (n=16)</td>
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<td></td>
</tr>
<tr>
<td>Spain</td>
<td>6244</td>
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</tr>
<tr>
<td>Another country, living in Spain fewer than 6 years</td>
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<td>4.20</td>
</tr>
<tr>
<td>Another country, living in Spain for at least 6 years</td>
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<td>6.02</td>
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<td>Age (n=11)</td>
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<td></td>
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<tr>
<td>18–34 years</td>
<td>1839</td>
<td>26.42</td>
</tr>
<tr>
<td>35–44 years</td>
<td>1519</td>
<td>21.82</td>
</tr>
<tr>
<td>45–64 years</td>
<td>2152</td>
<td>30.92</td>
</tr>
<tr>
<td>65 or more years</td>
<td>1451</td>
<td>20.84</td>
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<tr>
<td>Social class (n=177)</td>
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<td>Upper class</td>
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<tr>
<td>Middle class</td>
<td>2683</td>
<td>39.49</td>
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<tr>
<td>Working class (specialized/unspecialized workers)</td>
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<td>University level</td>
<td>1411</td>
<td>20.31</td>
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<td>Was mother IPVV victim? (n=58)</td>
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<td>Yes</td>
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<td>0.97</td>
</tr>
<tr>
<td>No</td>
<td>6847</td>
<td>99.03</td>
</tr>
<tr>
<td>Do you have friends concerned about your welfare? (nc=10)</td>
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<td></td>
</tr>
<tr>
<td>Always/often</td>
<td>6248</td>
<td>89.76</td>
</tr>
<tr>
<td>Sometimes</td>
<td>486</td>
<td>6.98</td>
</tr>
<tr>
<td>Never/rarely</td>
<td>227</td>
<td>3.26</td>
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<tr>
<td>Contextual variables</td>
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<tr>
<td>Male long-term unemployment rate</td>
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<tr>
<td>Tertile 1st (1.06–2.25)</td>
<td>2222</td>
<td>31.87</td>
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<tr>
<td>Tertile 2nd (2.26–2.90)</td>
<td>2197</td>
<td>31.51</td>
</tr>
<tr>
<td>Tertile 3rd (2.91–4.67)</td>
<td>2553</td>
<td>36.62</td>
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<tr>
<td>Gini Index of income inequality</td>
<td></td>
<td></td>
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<tr>
<td>Tertile 1st (0.30–0.32)</td>
<td>2408</td>
<td>34.55</td>
</tr>
<tr>
<td>Tertile 2nd (0.33–0.34)</td>
<td>2392</td>
<td>34.32</td>
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<tr>
<td>Tertile 3rd (0.34–0.38)</td>
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<td>31.13</td>
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<td>Gender-based income inequality</td>
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<tr>
<td>Tertile 1st (0.0109–0.0191)</td>
<td>2049</td>
<td>29.39</td>
</tr>
<tr>
<td>Tertile 2nd (0.0192–0.0205)</td>
<td>3040</td>
<td>43.60</td>
</tr>
<tr>
<td>Tertile 3rd (0.0206–0.0239)</td>
<td>1883</td>
<td>27.01</td>
</tr>
</tbody>
</table>

**Frequencies and percentages. 2011 Macro survey of Gender-based Violence, Spain**

a: Frequencies within each variable may change due to missing data
b: IPV: IPV against women.
n.a:no answer
In relation with this, a recent study concluded that persons exposed to recent stressors and histories of childhood adversity—childhood abuse, witnessing IPV—are at elevated risk of IPV perpetration. In this sense, it is important to remark that in our results women whose mothers were IPV victims, were at elevated risk for lifetime IPV themselves. Other work has linked neighbourhood male unemployment with higher levels of alcohol consumption among men, a variable known to be associated with IPV. As well, at the neighbourhood level, high alcohol outlet density has been associated with greater odds of physical IPV.

In recent years, and as a consequence of the economic downturn, the unemployment rate in Spain increased from 9.6% in 2008 to 26% in 2013, with 60.9% of this joblessness being long term. The 2013 inter-regional variability of unemployment rate was high, ranging from 36.3% to 15.8%. Because our results are particularly relevant in this context of economic crisis. Our results show that women living in regions with higher male long-term unemployment and with higher Gini Index have higher odds of IPV. So our findings strongly suggest that it is necessary, at the regional-level, to develop and implement job-creation policies and improve distribution of social resources in regions according to need in order to decrease the odds of IPV. Our results also confirm that women living in regions with higher levels of income inequality are at higher likelihood for IPV than women in regions with low-income inequality. This is not surprising given the well-established relationship between health and economic inequalities. However, our study provides the first analysis associating economic inequality measured at the regional-level with women’s likelihood of IPV. Previous work has identified associations between income inequality with mortality caused by homicides, child abuse, and self-perceived health among others. Other studies have linked income inequality to a broken-down and absence of social cohesion, both related to IPV. Lack of social cohesion and distrust of others may facilitate female isolation and hinder victims’ help-seeking strategies, as well as reduce the social control exerted by communities to dissuade partners. In addition, income inequality causes stress when individuals become aware of their position within the social scale, in turn, this stress may increase violence.

The association between economic inequalities and IPV has significant political implications. Over 75% of the country members of the Organization for Economic Co-operation and Development have experienced a widening of the income gap between the rich and the poor in the last few years, which has accelerated during the economic downturn. In the case of Spain, recent employment policies have worsened income disparities in the population as a whole which may negatively impact population health in general and IPV specifically.

Additionally, our findings suggest that women living in regions with average DEG have a lower likelihood of IPV than those in regions with low DEG. This seemingly counterintuitive finding is supported by other authors’ finding such that associate women’s participation in employment or related empowerment activities is associated with greater reporting on domestic violence. In these studies, the authors hypothesized that men may feel threatened and frustrated by the perception of losing the family’s breadwinning role. In the same way, the Who Report on Violence and Health, affirms that it is possible that in economies in transition and during economic and social downturns, it is not uncommon for women to perform an important economic role in the family and enjoy the corresponding independence, which may reduce the male-female income gap and increase IPV.

Our results should be interpreted in the context of the study’s limitations. First, the cross-sectional design rules out determining causality between variables. For this reason, regression models did not include variables such as work situation, or marital status, since they are all contingent on the individual’s IPV status. Second, the macrosurvey data does not include abusers’ identifiers, personal
### Table 2 Prevalence and variables associated to IPV

<table>
<thead>
<tr>
<th>Citizenship</th>
<th>Model 1&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Model 2&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Model 3&lt;sup&gt;c&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IPV prevalence OR 95% CI P</td>
<td>IPV prevalence OR 95% CI P</td>
<td>IPV prevalence OR 95% CI P</td>
</tr>
<tr>
<td></td>
<td>Frequency % Lower Upper</td>
<td>Reference Lower Upper</td>
<td>Reference Lower Upper</td>
</tr>
<tr>
<td>Spanish</td>
<td>700 11.20 Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Immigrant, living in Spain fewer than 6 years</td>
<td>52 17.80 1.61 1.24 2.09 &lt;0.001</td>
<td>1.16 0.86 1.57 0.343</td>
<td>1.17 0.85 1.60 0.342</td>
</tr>
<tr>
<td>Immigrant, living in Spain at least 6 years</td>
<td>99 23.60 2.29 1.60 3.29 &lt;0.001</td>
<td>1.73 1.20 2.49 0.003</td>
<td>1.74 1.19 2.53 0.004</td>
</tr>
<tr>
<td>Age</td>
<td>259 14.10 Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>18–34 years</td>
<td>197 13.00 0.93 0.12 1.20 0.717</td>
<td>0.94 0.71 1.24 0.656</td>
<td>0.94 0.71 1.25 0.667</td>
</tr>
<tr>
<td>35–44 years</td>
<td>275 12.80 0.90 0.77 1.05 0.197</td>
<td>0.88 0.71 1.10 0.264</td>
<td>0.88 0.71 1.10 0.264</td>
</tr>
<tr>
<td>65 or more years</td>
<td>120 8.30 0.55 0.42 0.72 &lt;0.001</td>
<td>0.53 0.42 0.67 &lt;0.001</td>
<td>0.53 0.42 0.67 &lt;0.001</td>
</tr>
<tr>
<td>Social class</td>
<td>121 10.10 Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Upper class</td>
<td>280 10.40 1.09 0.96 1.24 0.192</td>
<td>1.20 0.98 1.48 0.080</td>
<td>1.21 0.98 1.49 0.072</td>
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<tr>
<td>Middle class</td>
<td>434 14.90 1.63 1.32 2.01 &lt;0.001</td>
<td>1.66 1.28 2.15 &lt;0.001</td>
<td>1.68 1.29 2.17 &lt;0.001</td>
</tr>
<tr>
<td>Educational level</td>
<td>62 11.10 Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>No schooling</td>
<td>382 12.30 1.15 0.83 1.60 0.41</td>
<td>0.94 0.71 1.24 0.649</td>
<td>0.95 0.72 1.25 0.715</td>
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<tr>
<td>Primary school</td>
<td>234 12.60 1.15 0.82 1.60 0.41</td>
<td>0.91 0.70 1.18 0.480</td>
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<tr>
<td>Secondary school/technical or vocational school</td>
<td>170 12.00 1.09 0.79 1.50 0.62</td>
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<td>1.05 0.77 1.43 0.764</td>
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<td>University level</td>
<td>172 12.00 1.09 0.79 1.50 0.62</td>
<td>1.04 0.75 1.42 0.831</td>
<td>1.05 0.77 1.43 0.764</td>
</tr>
<tr>
<td>Was mother IPV victim?</td>
<td>123 12.00 Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>No</td>
<td>283 12.00 1.09 0.96 1.24 0.192</td>
<td>1.20 0.98 1.48 0.080</td>
<td>1.21 0.98 1.49 0.072</td>
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<tr>
<td>Yes</td>
<td>328 12.80 0.93 0.77 1.15 0.197</td>
<td>0.88 0.71 1.10 0.264</td>
<td>0.88 0.71 1.10 0.264</td>
</tr>
<tr>
<td>Do you have friends concerned about your welfare?</td>
<td>69 11.10 Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Always/often</td>
<td>82 16.90 1.59 1.37 1.84 &lt;0.001</td>
<td>1.55 1.26 1.89 &lt;0.001</td>
<td>1.55 1.26 1.89 &lt;0.001</td>
</tr>
<tr>
<td>Sometimes</td>
<td>97 34.80 4.19 3.26 5.38 &lt;0.001</td>
<td>3.96 3.10 5.06 &lt;0.001</td>
<td>3.96 3.10 5.08 &lt;0.001</td>
</tr>
</tbody>
</table>

Multilevel logistic regression analyses. 2011 Macrosurvey of Gender-based Violence, Spain.

- a: Model 1: Univariates models.
- b: Model 2: Mutivariate model. Include individual variables.
- c: Model 3: Multivariate model. Include individual and contextual variables. dOR: OR adjusted for variables included in the table and also for life expectancy index per equally distributed income and the female combined enrolment ratio.
characteristics or the presence of interpersonal conflict within the abuser’s couple. This limitation thwarts any attempts at an integrated analysis of the problem as proposed by Heise’s framework. In this sense, the macrosurvey does not include information about women and partner/ex-partner alcohol drinking, both strongly associated to IPV. Third, we lack information on the timing of the event of partner violence and, by extension, the exact context in which the aggression takes place. However, since the IPV question only includes women reporting having a partner in the last 10 years, we used available data to assign contextual variables the average value corresponding to the 10 years prior to the survey. Fourth: the measure of IPV used precludes the ability to distinguish between the type of violence and, by extension, the exact context in which the aggression takes place.

Despite these limitations, our results are consistent with previously published findings and, thus, support and underline the importance of structural variables in the fight against IPV. Growing regional unemployment and income disparities increase women’s likelihood for IPV, which is particularly worrying at times of economic downturns like the one Spain is currently experiencing. In conclusion, the association between structural economic variables and women’s likelihood for IPV should be taken into account at the regional- and national-level policymaking.

### Key points
- Male long-term unemployment rate and higher income inequality—Gini Coefficient of income inequality—at the regional-level increases so does women’s likelihood of suffering IPV.
- Women living in regions with average Gender Economic Discrimination have a lower likelihood of IPV than those in regions with low Gender Economic Discrimination.
- The association between structural economic variables and women’s likelihood for IPV should be taken into account at the regional- and national-level policy-making.

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### Conflicts of interest
None declared.

### References
23 Stata Statistical Software. [computer program]. Version 11 StataCorp. College Station, TX: StataCorp LP; 2009.