Family Types and Intimate-Partner Violence: A Historical Perspective

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May 28, 2014
Intimate-partner violence (IPV) social problem of great concern
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Lifetime prevalence 30% (WHO, 2013)
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Serious consequences for women’s health
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- Cultural factors linked to violence against women: family structure
- Importance of family in shaping attitudes towards gender
I analyse the relationship between intimate-partner violence (IPV) and historical family types in Spain.
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- **Stem** family:
  - Where stem family was socially predominant in the past
  - Territories show a lower IPV rate
  - Mechanism: co-residence with the mother-in-law frees up time for the younger wife to contribute more to the productive activity, and this could decrease the level of violence

To address causality I instrument the different family types by using the Christian Reconquest of the Iberian Peninsula (722-1492)
I analyse the relationship between intimate-partner violence (IPV) and **historical family types** in *Spain*.

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- **Stem** family: one single kid remains in the parental house with his wife and kids.
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Causes of IPV


Greif (2005), Greif and Tabellini (2012)

Alesina, Giuliano, and Nunn (2013); Grosjean (2012)
Causes of IPV

1 Causes of IPV


2 Family types
Causes of IPV


Family types

- Greif (2005), Greif and Tabellini (2012)
1. Causes of IPV

2. Family types
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3. Culture and institutions
Causes of IPV


Family types

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Outline

1. Family types
2. Empirical strategy / Identification
   - OLS
   - IV
3. Supporting evidence
4. Conclusions
Family types: Stem vs Nuclear

2 dimensions: inheritance and residence

1. **Stem:**
   - *Indivisible* inheritance. Single heir
   - *Intergenerational* cohabitation. Older and younger couple under the same roof

2. **Nuclear:**
   - *Equal* allocation of bequest among children
   - No cohabitation of couples
Family types in Spain, 1860

Source: Own elaboration using 1860 census. I compute the average number of married and widowed women in the household, at the province level.
Source: Own elaboration from the Spanish surveys on violence against women.
Women’s role in stem families

- Co-residence with the mother-in-law allows for a more productive role of the younger wife.
  - The presence of an older woman reduces the burden of the household work, freeing up time for farming work.
  - Stem family has a positive effect on women’s labor force participation (Sasaki, 2002. JHR)
3 cross-sectional surveys (1999-2005) on violence against women. Representative to all women 18+ living in Spain (N=69,627)
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Physical, sexual and psychological violence
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Physical, sexual and psychological violence

Gold standard methods to estimate prevalence (WHO, 2013)

\[ IPV_{i,p,y} = \alpha + \beta Stem_p + \gamma X_{i,p,y} + \delta Z_{p,y} + \theta_y Year_y + \epsilon_{i,p,y} \]
### OLS results

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean of dependent variable</td>
<td>0.085</td>
<td>0.085</td>
<td>0.085</td>
<td>0.085</td>
</tr>
<tr>
<td>Stem family</td>
<td>-0.0575***</td>
<td>-0.0457**</td>
<td>-0.0458***</td>
<td>-0.0514***</td>
</tr>
<tr>
<td></td>
<td>(0.0192)</td>
<td>(0.0195)</td>
<td>(0.0168)</td>
<td>(0.0188)</td>
</tr>
<tr>
<td>Contemporaneous controls</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>Historical controls</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>Geographical controls</td>
<td>yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>60743</td>
<td>60743</td>
<td>60743</td>
<td>60743</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.040</td>
<td>0.041</td>
<td>0.041</td>
<td>0.041</td>
</tr>
</tbody>
</table>

**Notes**: Stem family defined as the average number of married and widowed women in the household at the province level in 1860. Model (1) includes age, children, woman's and partner's level of education, woman's job status, household's reference person, marital status, habitat size and year when survey was conducted. Model (2) adds contemporaneous controls (GDP per capita, unemployment rate, and social capital at the province level; religion; number of people in the household). Model (3) adds historical controls (population density at 1787, 1860, and survey year; urbanization rates at 1787 and 1860. All at the province level). Model (4) adds geographical controls (ruggedness index and climate variables -temperature, range of temperature, rain, and frost-. All at the province level).

Standard errors in parentheses computed applying a **cluster structure by province**.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$
Empirical strategy (Identification)

- OLS might be biased

Centuries-long period (722-1492) in which several Christian kingdoms took control and repopulated the Iberian Peninsula from the Islamic rulers. 2 important dimensions:

1. Political process
2. Land tenure structure
Empirical strategy (Identification)

- OLS might be biased
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1. Political process

- **Western** kingdoms had interests in restricting the development of powerful landholding families. Best served by instituting *equal* allocation of bequest ⇒ *Nuclear* families
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- In the **east**, power was more decentralized. Feudal nobility sought to maintain their power through *indivisible* inheritance ⇒ *Stem* families
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- Exogenously explained by the way the *Reconquest* was initiated
The *Reconquest* started in the north:
2. Land tenure structure

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  - Small and medium ownership by free and independent peasants
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As the *Reconquest* moved forward towards the **south**: 
- State structure developed
- Clergy and nobility participation rewarded with vast extensions of land
- Landless peasants and day labourers less concerned with inheritance rules $\Rightarrow$ *Nuclear* families
2. Land tenure structure

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Empirical strategy: 2SLS

First stage:

$$Stem_{i,p,y} = \alpha + \sum_{j=1}^{J} \lambda_j Land_p + \sigma Polit_p + \gamma X_{i,p,y} + \delta Z_{p,y} + \theta_y Year_y + u_{i,p,y}$$

Second stage:

$$IPV_{i,p,y} = \eta + \beta Stem_{i,p,y} + \theta X_{i,p,y} + \phi Z_{p,y} + \tau_y Year_y + e_{i,p,y}$$
First-stage 2SLS results

<table>
<thead>
<tr>
<th>Stem family</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
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<tbody>
<tr>
<td>Mean of dependent variable</td>
<td>1.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political process</td>
<td>0.0884***</td>
<td>0.111***</td>
<td>0.114***</td>
</tr>
<tr>
<td>(0.0265)</td>
<td>(0.0336)</td>
<td>(0.0222)</td>
<td></td>
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<tr>
<td>Land tenure 1080</td>
<td>-0.0591***</td>
<td>-0.0235</td>
<td>-0.0516***</td>
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<tr>
<td>(0.0170)</td>
<td>(0.0242)</td>
<td>(0.0184)</td>
<td></td>
</tr>
<tr>
<td>Land tenure 1130</td>
<td>-0.0871***</td>
<td>-0.107***</td>
<td>-0.122***</td>
</tr>
<tr>
<td>(0.0184)</td>
<td>(0.0375)</td>
<td>(0.0278)</td>
<td></td>
</tr>
<tr>
<td>Land tenure 1210</td>
<td>-0.0871***</td>
<td>-0.105***</td>
<td>-0.147***</td>
</tr>
<tr>
<td>(0.0224)</td>
<td>(0.0376)</td>
<td>(0.0320)</td>
<td></td>
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<tr>
<td>Land tenure 1250</td>
<td>-0.0596***</td>
<td>-0.0638*</td>
<td>-0.107**</td>
</tr>
<tr>
<td>(0.0204)</td>
<td>(0.0325)</td>
<td>(0.0406)</td>
<td></td>
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<tr>
<td>Land tenure 1480</td>
<td>-0.105***</td>
<td>-0.0915*</td>
<td>-0.0387</td>
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<tr>
<td>(0.0346)</td>
<td>(0.0497)</td>
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<tr>
<td>Land tenure 1492</td>
<td>-0.0127</td>
<td>-0.0125</td>
<td>-0.0688*</td>
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<tr>
<td>(0.0176)</td>
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<tr>
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<td>yes</td>
<td>yes</td>
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<tr>
<td>F-stat</td>
<td>11.22</td>
<td>12.36</td>
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</tr>
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<td>Observations</td>
<td>60743</td>
<td>60743</td>
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</tbody>
</table>

Omitted category: Initial Reconquest stage at 914.

Notes: All models include age, children, woman’s and partner’s level of education, woman’s job status, household’s reference person, marital status, habitat size and year when survey was conducted. Model (2) adds contemporaneous controls. Model (3) adds historical controls. Model (4) adds geographical controls.

Standard errors in parentheses computed applying a cluster structure by province. * p < 0.10, ** p < 0.05, *** p < 0.01
## Second-stage 2SLS results

<table>
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<tbody>
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<td>Intimate-partner violence</td>
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<tr>
<td>Mean of dependent variable</td>
<td>0.085</td>
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<tr>
<td>Stem family</td>
<td>-0.0677**</td>
<td>-0.0630**</td>
<td>-0.0667***</td>
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<tr>
<td></td>
<td>(0.0299)</td>
<td>(0.0305)</td>
<td>(0.0247)</td>
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<td>Contemporaneous controls</td>
<td>yes</td>
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<td>yes</td>
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<tr>
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It uses the time in which the province was resettled and a dummy variable indicating if the province had freedom of testation as instruments for having a different family structure.

**Notes:** All models include age, children, woman’s and partner’s level of education, woman’s job status, household’s reference person, marital status, habitat size and year when survey was conducted. Model (2) adds contemporaneous controls. Model (3) adds historical controls. Model (4) adds geographical controls. Standard errors in parentheses computed applying a cluster structure by province.

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Conclusions

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- **Contribution**: Understanding the deeper and historical factors that underlie violence against women: How a historical event affected the family structure and how this in turn had a long-term impact on interpersonal relations
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  - Understanding the deeper and historical factors that underlie violence against women
  - How a historical event affected the family structure and how this in turn had a long-term impact on interpersonal relations
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The Model

- Context

Peasant family, pre-industrial society
All family members live together, and consume and produce jointly
No divorce

The household:
3 agents:
- *w* (wife),
- *h* (husband),
- *m* (mother-in-law).

Each agent is endowed with up to one unit of time $t \in [0, 1]$

$t$ can be allocated in farming activity $c$ or domestic activity $q$

Production technology:

\[ c = \omega h t h + \omega w (v) t w + \omega m t m \]

\[ q = \gamma h (1 - t h) + \gamma w (v) (1 - t w) + \gamma m (1 - t m) \]
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- **The household:**

\[
\begin{align*}
\text{Production technology:} \\
\text{farming activity:} \\
\text{c} &= \omega_h t_h + \omega_w (v) t_w + \omega_m t_m \\
\text{domestic activity:} \\
q &= \gamma_h (1 - t_h) + \gamma_w (v) (1 - t_w) + \gamma_m (1 - t_m)
\end{align*}
\]
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- Production technology:

\[
\begin{align*}
    c &= \omega_h t_h + \omega_w(v) t_w + \omega_m t_m \\
    q &= \gamma_h(1 - t_h) + \gamma_w(v)(1 - t_w) + \gamma_m(1 - t_m)
\end{align*}
\]
The Model

\[
\frac{d\omega_w(v)}{dv} < 0, \quad \frac{d\gamma_w(v)}{dv} < 0
\]

- **Comparative advantage**

\[
\frac{\omega_h}{\gamma_h} \geq \frac{\omega_w(v)}{\gamma_w(v)} \geq \frac{\omega_m}{\gamma_m}
\]
The Model

\[ \frac{d\omega_w(v)}{dv} < 0, \frac{d\gamma_w(v)}{dv} < 0 \]

- Comparative advantage

\[ \frac{\omega_h}{\gamma_h} \geq \frac{\omega_w(v)}{\gamma_w(v)} \geq \frac{\omega_m}{\gamma_m} \]

- Assume \( t_h = 1, t_m = 0 \)
The Model

\[
\frac{d\omega_w(v)}{dv} < 0, \quad \frac{d\gamma_w(v)}{dv} < 0
\]

- Comparative advantage

\[
\frac{\omega_h}{\gamma_h} \geq \frac{\omega_w(v)}{\gamma_w(v)} \geq \frac{\omega_m}{\gamma_m}
\]

- Assume \( t_h = 1, \ t_m = 0 \)

- Male dominant decision making: \( h \) chooses \( t_w \) and \( v \)

\[
\max_{\{v, t_w\}} U_h = c^\alpha q^{1-\alpha} + v
\]

\[
\max_{\{t_w, v\}} (w_h + \omega_w(v)t_w)^\alpha (\gamma_w(v)(1 - t_w) + \gamma_m)^{1-\alpha} + v
\]
The Model

\[ t^*_w = \alpha + \alpha \frac{\gamma^m}{\gamma_w(v)} + (\alpha - 1) \frac{\omega_h}{\omega_w(v)} \]

- Comparative statics:
The Model

\[ t_w^* = \alpha + \alpha \frac{\gamma_m}{\gamma_w(v)} + (\alpha - 1) \frac{\omega_h}{\omega_w(v)} \]

- **Comparative statics:**
  - We want to determine how \( v^* \) responds to changes in \( \gamma_m \)
The Model

\[ t^*_w = \alpha + \alpha \frac{\gamma_m}{\gamma_w(v)} + (\alpha - 1) \frac{\omega_h}{\omega_w(v)} \]

- **Comparative statics:**
  - We want to determine how \( v^* \) responds to changes in \( \gamma_m \)
  - Assuming \( f_{vv} < 0 \) \( \Rightarrow \) \( \text{sign } \frac{\partial v^*}{\partial \gamma_m} = \text{sign } (f_{vt} \frac{\partial t^*}{\partial \gamma_m} + f_v \gamma) \)
The Model

\[ t_w^* = \alpha + \alpha \frac{\gamma_m}{\gamma_w(v)} + (\alpha - 1) \frac{\omega_h}{\omega_w(v)} \]

- Comparative statics:
  - We want to determine how \( v^* \) responds to changes in \( \gamma_m \)
  - Assuming \( f_{vv} < 0 \) \( \Rightarrow \) \( \text{sign} \left( \frac{\partial v^*}{\partial \gamma_m} \right) = \text{sign} \left( f_{vt} \frac{\partial t^*}{\partial \gamma_m} + f_{v\gamma} \right) \)
  - If
    \[ \frac{d \omega_w(v)}{d \gamma_m} \frac{\gamma_w(v)}{\omega_w(v)} < \frac{d \gamma_w(v)}{d \gamma_m} \frac{\gamma_w(v)}{\gamma_w(v)} \Rightarrow \frac{\partial v^*}{\partial \gamma_m} < 0 \]
### Probit results. Marginal effects

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**Notes:** Coefficients report the marginal effects using a probit regression. Stem family defined as the average number of married and widowed women in the household at the province level in 1860. Model (1) includes age, children, woman’s and partner’s level of education, woman’s job status, household’s reference person, marital status, habitat size and year when survey was conducted. Model (2) adds contemporaneous controls (GDP per capita, unemployment rate, and social capital at the province level; religion; number of people in the household). Model (3) adds historical controls (population density at 1787, 1860, and survey year; urbanization rates at 1787 and 1860. All at the province level). Model (4) adds geographical controls (ruggedness index and climate variables -temperature, range of temperature, rain, and frost-. All at the province level).

Standard errors in parentheses computed applying a **cluster structure by province**.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$