

Signing for safety: Can mandatory marriage registration reduce domestic violence?

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SERI-D Conference
February 6, 2025

Introduction

- Alarming growth in the number of domestic violence cases in recent years.
- Negative impact on women's mental and physical health.
 - (Campbell, 2002; Ackerson and Subramanian, 2008)
- Adverse intergenerational effect on children's health, cognitive development and school participation.
 - (Aizer, 2011; Carrell and Hoekstra, 2010; Ahmed et al., 2006)
- Problem becomes more acute with pre-existing patriarchal norms and societal taboos related to reporting of domestic violence, which calls for strong policy interventions.
- **In this paper, we study the impact of a mandatory marriage registration policy on domestic violence in India.**

Contribution

- We highlight the role of a novel determinant of domestic violence - the lack of legal documentation of marriage.
 - Contributes to research on socioeconomic and demographic factors that lead to domestic violence (Aizer, 2010; Tur-Prats, 2019; Amaral and Bhalotra, 2017; Erten and Keskin, 2018).
- We focus on how institutional changes can influence social norms related to violence against women.
 - Contributes to the broader literature that highlights the critical role of institutions (Acemoglu et al., 2001; Banerjee and Iyer, 2005; Duflo and Pande, 2007).
- First to evaluate the impact of mandatory marriage registration as a policy intervention.
 - Contributes to research on effectiveness of policy measures in reducing violence against women (Stevenson and Wolfers, 2006; Bobonis et al., 2013; Aizer and Dal Bo, 2009).
- We demonstrate how corruption can impede the effectiveness of policy interventions using an event study analysis.
 - How corruption can hinder public service delivery (Davis, 2004; Pandey, 2010; Deininger and Mpuga, 2005).

Policy Context

- In India, no unified law for mandatory marriage registration.
- State governments decide their own policies.
- Inconsistent implementation and enforcement across the country.
- Mandatory marriage registration policy in the state of Bihar (2006).
- Every couple is required to register their marriages within 30 days.
- Failure to comply results in a monetary penalty of Rs. 100 imposed on the husband for up to 90 days, with an additional Rs. 50 penalty for each subsequent month of non-compliance.
- Submission of false documents or false witnesses is subject to prosecution under Section 192 of IPC.

Methodology

- Difference-in-differences (DID)
- Treatment state: Bihar
- Control state: Jharkhand (neighbouring state)
- Treatment group: Women who got married after 2006
- Control group: Women who got married before 2006

$$Y_{imds} = \alpha_0 + \alpha_1 \mathit{Bihar}_i * \mathit{Post}_{im} + X'_{ids} \gamma + \delta_m + \theta_{ds} + \epsilon_{imds}$$

Data Source

- National Family Health Survey (2015-16)
- Sample: Women selected for domestic violence module
- Age group: 15-49
- Year of marriage in between 2002-15
- Non-resident women are excluded
- Additional mechanism outcomes from men's file

Table 1: Summary Statistics

	Description	Observations	Mean (S.D)
A. Domestic Violence Outcomes			
Emotional Violence	A dummy variable that takes value 1 if the woman has ever been humiliated or threatened or insulted or made feel bad by her husband; 0 otherwise	3219	0.163 (0.370)
Sexual Violence	A dummy variable that takes value 1 if the woman has ever been physically forced into unwanted sex or sexual activities by her husband; 0 otherwise	3219	0.119 (0.324)
Physical Violence	A dummy variable that takes the value 1 if the woman has ever been pushed/had something thrown at/slapped/punched/hit/kicked/dragged/strangled/burnt/threatened with weapons; 0 otherwise	3219	0.371 (0.483)
Any Violence	A dummy variable that takes value 1 if the woman has ever been experienced emotional or sexual or physical violence; 0 otherwise	3219	0.406 (0.491)
B. Mechanism Outcomes			
Polygamy	A dummy variable that takes value 1 if the woman's husband has more than one wives; 0 otherwise	3245	0.025 (0.155)
Alcohol consump. (wife reported)	A dummy variable that takes value 1 if the woman reports that husband drinks alcohol; 0 otherwise	3219	0.377 (0.485)
Alcohol consump. (husb reported)	A dummy variable that takes value 1 if the husband reports that he drinks alcohol; 0 otherwise	3071	0.269 (0.444)
Justify violence (Husband/wife)	A dummy variable taking value 1 if the husband justifies wife-beating in case the wife goes out without permission/neglects children/argues with husband/refuses to have sex with husband/does not cook properly; 0 otherwise.	3071	0.421 (0.494)
Age at Marriage	The woman's age when she got married	3248	18.100 (3.177)
Child Marriage	A dummy variable that takes value 1 if the woman's age at marriage was below 18; and 0 otherwise	3248	0.471 (0.499)
Literacy	A dummy variable that takes value 1 if the woman is literate; and 0 otherwise	3248	0.590 (0.492)
Years of Education	Years of education of the woman	3248	5.303 (5.185)
Awareness	A dummy variable that takes value 1 if the woman watches TV or listens to radio or reads newspaper regularly; 0 otherwise. This media exposure is taken as a proxy for awareness.	3248	0.517 (0.500)

Note: Source: Authors' calculation.

How can mandatory registration reduce domestic violence?

- Marriage certificate smoothens the process of filing a domestic violence case ([Motiani, 2024](#)).
 - For unregistered marriages, the husband can always deny any marital relation. The case automatically becomes obsolete if the woman can not prove the same in court.
 - Marriage registration certificate is an unequivocal and legally recognized proof of marriage in court ([Buvinic and Carey, 2019](#)).
- Marriage registration acts as a safety net for vulnerable women ([Kumari et al., 2022](#)).
 - Offers legal protection and rights (access to restraining orders, custody of children and even spousal support).
- Registration increases the accountability of the husband. The presence of witnesses makes the marriage public knowledge in society and thereby reduces the likelihood of the bride isolation.

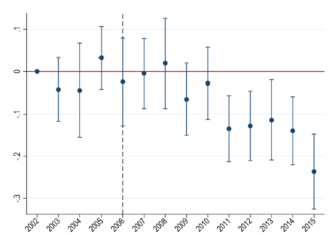
Impact of mandatory registration policy on domestic violence

Table 2: Impact of Mandatory Marriage Registration on Domestic Violence

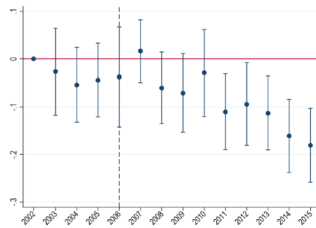
	(1) Emotional Violence	(2) Sexual Violence	(3) Physical Violence	(4) All Violence
A. Without Controls				
Treated x Post	-0.0820** (0.0384)	-0.0568* (0.0287)	-0.106** (0.0460)	-0.117** (0.0468)
R2	0.098	0.082	0.117	0.121
Adjusted R2	0.069	0.053	0.089	0.094
p-value	0.037	0.052	0.025	0.015
Sharpened q-value	0.052	0.052	0.052	0.052
Wild-bootstrapped pvalue	0.041	0.050	0.027	0.020
B. With Controls				
Treated x Post	-0.0870** (0.0350)	-0.0567** (0.0264)	-0.108*** (0.0393)	-0.116*** (0.0408)
R2	0.123	0.096	0.163	0.167
Adjusted R2	0.090	0.062	0.131	0.135
p-value	0.016	0.036	0.008	0.006
Sharpened q-value	0.017	0.019	0.017	0.019
Wild-bootstrapped pvalue	0.023	0.024	0.005	0.008
Control Mean	0.159	0.116	0.370	0.402
Observations	2439	2439	2439	2439

Note: * implies $p < 0.1$, ** implies $p < 0.05$ and *** implies $p < 0.01$. Source: Authors' calculation.

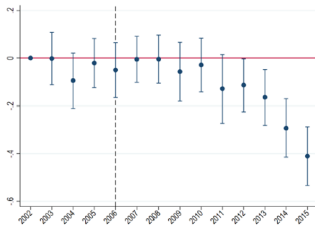
Event study



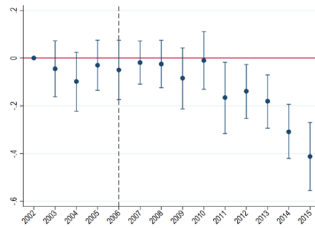
(a) Emotional Violence



(b) Sexual Violence



(c) Physical Violence



(d) Any Violence

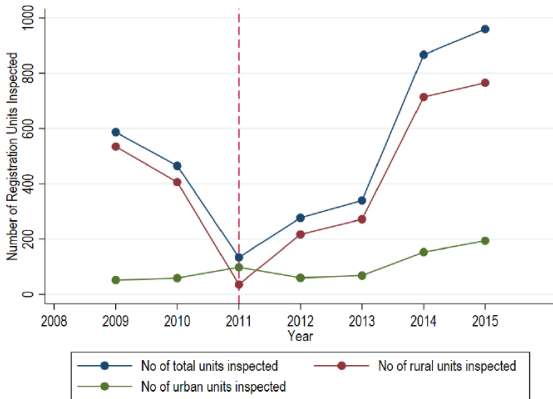
Right to Public Services Act

- In 2011, Bihar passed Right to Public Services (RTPS) Act.
- Objective: To increase accountability, reliability, accessibility and transparency in the public service delivery.
- Jharkhand also passed a similar act (Jharkhand Right to Service Act) in the same year.
- Follows the framework of central government's 'Citizens' Right to Grievance Redress Bill (2011).
- Corruption during the process of marriage registration.
- RTPS act curbed corruption and smoothed the process of registration.

Effectiveness of RTPS 2011

- 'Vital Statistics of India based on the Civil Registration System' (2009-2015).
- Annual data on total number of registration units inspected.
- Measure of the effectiveness of the registration procedure.
- Data available only for 7 states.

Inspection of registration units in Bihar



Effectiveness of RTPS 2011

- Case study by OneWorld Foundation.
- 'Exemplary demand' from the citizens to procure public services within first two months.
- Registration department had a success rate of 92.5%.

DID with post-2011 dummy

Table 3: Impact on Domestic Violence with Post-2011 interaction

	(1)	(2)	(3)	(4)
	Emotional Violence	Physical Violence	Sexual Violence	All Violence
Treated x Post	-0.0167 (0.0410)	-0.0695 (0.0438)	-0.00388 (0.0368)	-0.0641 (0.0441)
Treated x Post 2011	-0.152*** (0.0358)	-0.0833* (0.0419)	-0.114** (0.0480)	-0.113** (0.0458)
Observations	2439	2439	2439	2439
Control Mean	0.159	0.116	0.370	0.402
R2	0.131	0.164	0.102	0.169
Adjusted R2	0.097	0.132	0.067	0.136

Note: * implies $p < 0.1$, ** implies $p < 0.05$ and *** implies $p < 0.01$. Source: Authors' calculation.

Mechanisms

Table 4: Impact of Mandatory Marriage Registration on Mechanism Outcomes

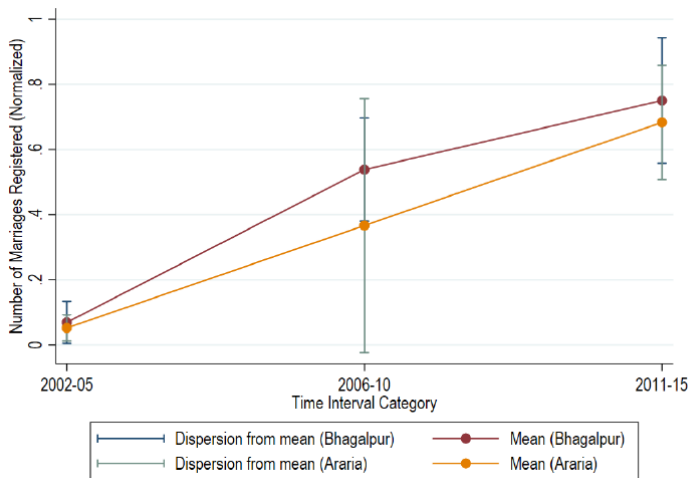
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Husband's Outcomes				Women's Outcomes					
	Polygamy	Alcohol Consumption (Wife-reported)	Alcohol Consumption (Husb. reported)	Justify Violence (Husband)	Age at Marriage	Child Marriage	Literacy	Years of Education	Awareness (Media-exposure)	Justify Violence (Wife)
Without Controls										
Treated x Post	-0.0181** (0.00860)	-0.0781*** (0.0247)	-0.0799*** (0.0253)	-0.010 (0.021)	1.299*** (0.181)	-0.164*** (0.0257)	0.182*** (0.0201)	2.038*** (0.194)	0.0740*** (0.0208)	-0.077*** (0.0234)
R2	0.028	0.074	0.081	0.076	0.097	0.070	0.083	0.107	0.097	0.099
Adjusted R2	0.009	0.055	0.062	0.057	0.079	0.052	0.065	0.090	0.080	0.081
p-value	0.039	0.002	0.003	0.648	0.000	0.000	0.000	0.000	0.001	0.002
Sharpned qvalue	0.009	0.002	0.003	0.07	0.001	0.001	0.001	0.001	0.002	0.002
With Controls										
Treated x Post	-0.0182** (0.0075)	-0.0496* (0.0251)	-0.060** (0.028)	-0.035* (0.020)	3.701*** (0.171)	-0.419*** (0.0235)	0.0988*** (0.0214)	1.511*** (0.227)	0.0655*** (0.0237)	-0.059** (0.0239)
R2	0.375	0.120	0.152	0.108	0.490	0.259	0.152	0.196	0.175	0.117
Adjusted R2	0.360	0.101	0.132	0.086	0.479	0.242	0.133	0.178	0.156	0.097
p-value	0.019	0.053	0.035	0.091	0.000	0.000	0.000	0.000	0.007	0.016
Sharpned qvalue	0.015	0.028	0.023	0.029	0.001	0.001	0.001	0.001	0.009	0.015
Control Mean	0.025	0.377	0.504	0.260	18.1	0.471	0.590	5.303	0.517	0.256
Observations	3245	3219	3071	3071	3248	3248	3248	3248	3248	3248

Note: * implies $p < 0.1$, ** implies $p < 0.05$ and *** implies $p < 0.01$. Source: Authors' calculation.

Change in the number of marriages registered

- Unavailability of data on marriages registered ([Buvinic and Carey, 2019](#))
- Our estimates are ITT, not ATE
- RTI: District-wise annual data from 2002 to 2015 through an online RTI filing
- Obtained the data for two districts in Bihar: Araria and Bhagalpur

Change in the number of marriages registered



Heterogeneity Analysis

Table 5: Heterogeneity Tests

	(1)	(2)	(3)	(4)
	Emotional Violence	Sexual Violence	Physical Violence	Any Violence
A. Poor vs Non-poor				
Treated x Post	-0.143*** (0.0448)	-0.0826** (0.0359)	-0.192*** (0.0572)	-0.206*** (0.0596)
Treated x Post x Poor	0.0941*** (0.0333)	0.0396 (0.0316)	0.132*** (0.0448)	0.136*** (0.0426)
R2	0.103	0.083	0.122	0.127
Adjusted R2	0.074	0.054	0.094	0.099
B. Marginalized vs Non-marginalized caste				
Treated x Post	-0.150*** (0.0470)	-0.0772* (0.0411)	-0.241*** (0.0510)	-0.266*** (0.0574)
Treated x Post x Marginalized Caste	0.0808*** (0.0249)	0.0244 (0.0325)	0.161*** (0.0331)	0.178*** (0.0390)
R2	0.100	0.082	0.122	0.128
Adjusted R2	0.071	0.053	0.094	0.100
C. Rural vs. Urban				
Treated x Post	-0.0848** (0.0401)	-0.0501* (0.0288)	-0.108** (0.0465)	-0.116** (0.0466)
Treated x Post x Urban	0.0182 (0.0433)	-0.0446 (0.0274)	0.0131 (0.0446)	-0.00732 (0.0431)
R2	0.098	0.083	0.117	0.121
Adjusted R2	0.069	0.054	0.088	0.093
Observations	2439	2439	2439	2439

Note: * implies $p < 0.1$, ** implies $p < 0.05$ and *** implies $p < 0.01$. Source: Authors' calculation.

Robustness Checks

- Balance check on observables
- Falsification test
- Placebo control state
- Placebo treatment year
- No anticipation assumption check
- PSM-DID
- Entropy bala

Robustness checks

Table 6: Balance in Observable Characteristics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Hindu	SC/ST	Rural	Wealth Index	Household Size	Clean Fuel	Electricity	Television	Male Head	Age of Head
Treated x Post	0.0286 (0.0341)	0.0312 (0.0314)	-0.0475 (0.0409)	0.157 (0.164)	-0.282 (0.261)	0.0575 (0.0467)	-0.00169 (0.0363)	0.0699 (0.0451)	0.0139 (0.0395)	1.895 (1.276)
Observations	3248	3237	3248	3248	3248	3248	3248	3248	3248	3248
R2	0.155	0.055	0.163	0.168	0.098	0.114	0.172	0.161	0.059	0.081
Adjusted R2	0.135	0.033	0.143	0.148	0.076	0.093	0.153	0.142	0.037	0.060

Note: * implies $p < 0.1$, ** implies $p < 0.05$ and *** implies $p < 0.01$. Source: Authors' calculation.

Robustness checks

Table 7: Falsification Test

	(1)	(2)	(3)
	Twin Child	Age at Menarche	Month of Birth
Treated x Post	-0.00219 (0.00677)	-0.0154 (0.281)	0.187 (0.285)
Observations	3237	1300	3237
R2	0.030	0.042	0.085
Adjusted R2	0.002	-0.026	0.058

Note: * implies $p < 0.1$, ** implies $p < 0.05$ and *** implies $p < 0.01$. Source: Authors' calculation.

Robustness checks

Table 8: Difference-in-difference estimates with placebo state (Chhattisgarh)

	(1)	(2)	(3)	(4)
	Emotional Violence	Sexual Violence	Physical Violence	All Violence
Treated x Post	-0.00968 (0.0389)	-0.0221 (0.0299)	-0.0412 (0.0420)	-0.0505 (0.0466)
Observations	2983	2983	2983	2983
R2	0.080	0.106	0.122	0.123
Adjusted R2	0.053	0.080	0.097	0.097

Note: * implies $p < 0.1$, ** implies $p < 0.05$ and *** implies $p < 0.01$. Source: Authors' calculation.

Robustness checks

Table 9: Difference-in-difference estimates with placebo treatment year (2003)

	(1)	(2)	(3)	(4)
	Emotional Violence	Sexual Violence	Physical Violence	All Violence
Treated x Post-2003	0.0114 (0.0656)	-0.0908 (0.0725)	-0.00721 (0.0952)	-0.0867 (0.0947)
Observations	813	813	813	813
R2	0.211	0.183	0.263	0.260
Adjusted R2	0.126	0.095	0.184	0.181

Note: * implies $p < 0.1$, ** implies $p < 0.05$ and *** implies $p < 0.01$. Source: Authors' calculation.

Robustness checks

- Excluding 2005, 2006 and 2007

Table 10: No Anticipation Assumption Check

	(1)	(2)	(3)	(4)
	Emotional Violence	Sexual Violence	Physical Violence	All Violence
Treated x Post	-0.111*** (0.0340)	-0.0828** (0.0360)	-0.147*** (0.0447)	-0.151*** (0.0496)
Observations	1836	1836	1836	1836
R2	0.129	0.110	0.183	0.182
Adjusted R2	0.085	0.066	0.142	0.142

Note: * implies $p < 0.1$, ** implies $p < 0.05$ and *** implies $p < 0.01$. Source: Authors' calculation.

Robustness checks

Table 11: Difference-in-difference excluding bordering districts

	(1)	(2)	(3)	(4)
	Emotional Violence	Sexual Violence	Physical Violence	All Violence
Treated x Post	-0.0928** (0.0390)	-0.0689 (0.0421)	-0.143** (0.0574)	-0.147** (0.0559)
Observations	1780	1780	1780	1780
R2	0.153	0.124	0.190	0.203
Adjusted R2	0.117	0.088	0.156	0.170

Note: * implies $p < 0.1$, ** implies $p < 0.05$ and *** implies $p < 0.01$. Source: Authors' calculation.

Robustness checks

Table 12: Difference-in-difference estimates with State-level clustering

	(1)	(2)	(3)	(4)
	Emotional Violence	Sexual Violence	Physical Violence	All Violence
Treated x Post	-0.0870** (0.00189)	-0.0567** (0.00146)	-0.108** (0.00259)	-0.116*** (0.000933)
p-value	0.014	0.016	0.015	0.005
Wild-bootstrapped pvalue	0.000	0.000	0.000	0.000
Observations	2439	2439	2439	2439
R2	0.123	0.096	0.163	0.167
Adjusted R2	0.090	0.062	0.131	0.135

Note: * implies $p < 0.1$, ** implies $p < 0.05$ and *** implies $p < 0.01$. Source: Authors' calculation.

Robustness checks

Table 13: Difference-in-difference estimates with PSM-DID

	(1)	(2)	(3)	(4)
	Emotional Violence	Sexual Violence	Physical Violence	All Violence
Panel A: Nearest neighbor matching				
Treated x Post	-0.0790*	-0.0532*	-0.127***	-0.144***
	(0.0404)	(0.0319)	(0.0468)	(0.0466)
Observations	1915	1915	1915	1915
R2	0.113	0.109	0.164	0.165
Adjusted R2	0.069	0.066	0.123	0.124
Panel B: Radius matching				
Treated x Post	-0.0858**	-0.0562**	-0.117***	-0.124***
	(0.0374)	(0.0279)	(0.0413)	(0.0437)
Observations	2286	2286	2286	2286
R2	0.122	0.098	0.163	0.164
Adjusted R2	0.087	0.061	0.129	0.131

Note: * implies $p < 0.1$, ** implies $p < 0.05$ and *** implies $p < 0.01$. Source: Authors' calculation.

Robustness checks

Table 14: Difference-in-difference estimates with Entropy Balancing

	(1)	(2)	(3)	(4)
	Emotional Violence	Sexual Violence	Physical Violence	All Violence
Treated x Post	-0.0737** (0.0329)	-0.0516* (0.0268)	-0.0920** (0.0439)	-0.0910* (0.0481)
Observations	2434	2434	2434	2434
R2	0.120	0.086	0.148	0.145
Adjusted R2	0.086	0.051	0.116	0.113

Note: * implies $p < 0.1$, ** implies $p < 0.05$ and *** implies $p < 0.01$. Source: Authors' calculation.

Ruling out other contemporary policies

- Bihar Bicycle policy (2006)

Table 15: Difference-in-differences estimates excluding women above Grade 9

	(1)	(2)	(3)	(4)
	Emotional Violence	Sexual Violence	Physical Violence	All Violence
Treated x Post	-0.0816* (0.0424)	-0.0770* (0.0408)	-0.102** (0.0490)	-0.126** (0.0521)
Observations	1584	1584	1584	1584
R2	0.128	0.125	0.137	0.140
Adjusted R2	0.075	0.072	0.085	0.088

Note: * implies $p < 0.1$, ** implies $p < 0.05$ and *** implies $p < 0.01$. Source: Authors' calculation.

Ruling out other contemporary policies

- *JEEViKA*: A 2006 Bihar policy aimed at promoting rural women's socioeconomic inclusion through Self-Help Groups
- *Mukhyamantri Kanya Vivah Yojana*: A 2007 Bihar initiative, offering Rs. 5,000 financial assistance to Below Poverty Line (BPL) families for the marriage of girls
- *Dhanalakshmi*: A 2008 scheme of Bihar, a conditional cash transfer program with insurance coverage for all girl children born on or after November 8, 2008
- Bihar alcohol ban (2016)

Conclusion

- Causal evidence of how a mandatory marriage registration policy can be useful in lowering domestic violence.
- Negative impact on polygamy and child marriage.
- Corruption in the civil registration system can hinder policy effectiveness.
- Mandatory registration should be combined with a broader strategy to reduce corruption in public service delivery.

Thank you!
Comments and questions are welcome.

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