Age of Marriage and Women's Political Engagement: Evidence from India

Fenella Carpena, Oslo Business School, Oslo Metropolitan University
Francesca R. Jensenius, University of Oslo and Norwegian Institute of International Affairs

Although decades have passed since most women in the democratic world gained the right to vote and run for election, a large gender gap in political participation persists, particularly in developing countries. This short article considers an important—and previously overlooked—factor limiting the political engagement of many women in the developing world: marriage age. Drawing on nationally representative data from India and instrumenting marriage age with menarche age, we find that delaying marriage has substantial positive effects on women's everyday political participation. A standard deviation increase in marriage age makes a woman 25% more likely to attend local council meetings and 8% more likely to discuss politics with her husband. Exploring mechanisms, we show that education and time—rather than employment, mobility, and household decision-making power—appear to be the main channels. These findings underscore the critical role of early marriage in impeding women's participation in the political sphere.

Generations after most women in the democratic world gained the right to vote and run for election, the gender gap in political participation still persists. In a comparative study of 51 societies, Inglehart and Norris (2003) demonstrate differences between men and women in political interest, voting turnout, and party and union membership. These gender gaps can be sizable in democracies in the developing world (Desposato and Norrander 2009). In India, an extensive quota system guarantees women a large share of locally elected positions, and female turnout is almost as high as for males. Yet, Artiz Prillaman (2018) finds that men are 50 and 30 percentage points more likely to attend a public assembly meeting and contact the local leader. To explain such gaps, previous studies have pointed to the overall development level (Desposato and Norrander 2009; Inglehart and Norris 2003); individual differences in resources, such as money, time, and civic skills

(Schlozman, Burns, and Verba 1994); and intrahousehold power dynamics (Burns, Schlozman, and Verba 1997).

One important—and thus far overlooked—factor shaping a woman's political participation is the timing of her marriage. Despite massive efforts to combat child marriage in recent years, it remains a common practice in regions as different as the Middle East, South Asia, Africa, and Latin America. Indeed, estimates by UNICEF (2018) indicate that one in five of the world's young women (ages 20–24) married before turning 18. Theoretically, we expect child marriage to depress women's political activity because it diminishes both resources and intrahousehold status. Early marriage may curtail women's education, thereby weakening their civic skills, interest in politics, labor force participation, and control over their own money. Marrying young may likewise increase childbearing, leaving women with more child care responsibilities and less

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free time. Additionally, when women wed as children, they may be less able to advocate for themselves, resulting in reduced bargaining power, agency, and autonomy at home. This lower status may then alter women's perceptions about gender roles, inhibiting their self-efficacy in the political sphere.[1]

In this short article, we consider the effect of marriage age on the everyday political engagement of Indian women. While several previous studies have examined marital status and voting, especially in developed countries (e.g., Wolfinger and Wolfinger 2008), we focus on everyday politics for three reasons. First, the gender gap in political participation is typically larger in nonelectoral politics (Inglehart and Norris 2003). This is particularly true in present-day India: turnout is now similar among men and women (Kumar and Gupta 2014), but large gender gaps still exist in everyday political expression (Artiz Prillaman 2018). Second, the majority of studies on gender and politics in India examine elections and women's representation in elected office (e.g., Bhavnani 2009; Chattopadhyay and Duflo 2004). Women's participation in everyday political spaces remains poorly understood. Here, we adopt the approach taken in Burns et al. (1997) and focus on political participation beyond elections. Finally, everyday politics matters because it complements women's electoral activities; it provides a large number of women with avenues for engaging with politics on a regular—if not daily—basis, thus constituting an essential element shaping women's relationship with the state.

To isolate causal effects of marriage timing on political participation, we use menarche age as an instrument for marriage age. We draw on the nationally representative India Human Development Survey (IHDS), which shows that close to half of all women marry before the legal age of 18 (Desai and Vanneman 2018). We find that marrying young has large and significant negative effects. A standard deviation (SD) increase in marriage age (3 years, 7 months) increases the probability that women attend public council meetings by 2 percentage points—a 25% increase relative to the sample mean. Similarly, an SD increase in marriage age raises the likelihood that women discuss politics with their husbands by 6 percentage points, or 8% of the sample average. Our article thus speaks directly to the literature on marriage and women's political participation (e.g., Burns et al. 1997; Stout, Kretschmer, and Ruppanner 2017; Wolfinger and Wolfinger 2008), by highlighting that it is not only marriage itself that matters; when marriage happens in a woman's life matters too.

We next examine heterogeneity across rural and urban areas. We expect the effects of marriage age to be smaller in the latter, as the greater access to information through media,

internet, civil society, and so on, may reduce the negative impact of low education on women's political participation. Better access to contraception in urban areas may also mean that child care demands are less of a constraint to women's political activity. Further, greater exposure to women from different socioeconomic backgrounds in urban areas may weaken the negative effect of early marriage on women's perceptions about gender roles. Empirically, among rural women ($N \approx 25{,}000$), the results are similar to the full sample: an SD increase in marriage age (3 years, 5 months) boosts the probability that rural women attend village meetings and discuss politics at home by 32% and 6%, respectively, above the sample mean. In contrast, among urban women ($N \approx 12{,}000$), marriage age has no statistically significant impact, although these null effects are not precisely estimated.

Finally, we investigate five potential mechanisms: education, childbearing, employment (representing civic skills, time, and money, respectively), mobility, and household decision-making power (representing intrahousehold power dynamics). We demonstrate that an interrupted education and less available time seem to be the primary channels through which the impacts of marriage age operate. Taken together, our results highlight marriage age as a crucial causal factor curbing the participation in the political sphere of women in the developing world.

EMPIRICAL APPROACH

Our empirical design uses the second wave of the IHDS, collected in 2011–12. In each household, the IHDS interviewed at least one ever-married woman age 15–49 about her education, marital history, and political activity.[2] We employ a sample of approximately 37,000 women who are (or have been) married—two-thirds from rural areas.[3] The average woman in our sample is 36 years old, reached menarche at age 14, and married a few months before turning 18.[4]

To estimate causal effects of marriage age on political engagement, our regression of interest is

$$Y_{id} = \beta \mathrm{MarriageAge}_{id} + \mathbf{X}_{id}\xi + \phi_d + \varepsilon_{id}, \qquad (1)$$

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1. We discuss these theoretical underpinnings in more detail in app. A (apps. A–G available online).

2. The IHDS is perfect for our study as it has data on menarche and marriage age, combined with questions on everyday political behavior. See app. B for more details about the IHDS.

3. We exclude women with missing marriage age. To avoid outliers due to measurement error, we limit the sample to women with menarche age 11–18 (1st–99th percentile) and winsorize marriage age at the bottom 1%. The IHDS defines rural areas using the 2011 census.

4. Summary statistics are reported in table B1 (tables A1, A2, B1, C1–C3, D1, E1–E3, F1, F2, and G1–G3 available online). The distributions of menarche age and marriage age are shown in fig. B1 (figs. B1, D1, and F1 available online).

where MarriageAge$_{id}$ is the age at (first) marriage of woman i living in district d; $\mathbf{X}_{id}$ is a vector of control variables consisting of the woman's height, age, mother's education, father's education, and household's caste and religion, and where applicable, a rural indicator; and ϕ_d are district fixed effects.

A key identification problem in equation (1) is the endogeneity of marriage age.[5] To overcome this, we follow other studies (Chari et al. 2017; Field and Ambrus 2008; Sekhri and Debnath 2014) and instrument marriage age with menarche age. This instrument is grounded in research showing that Indian parents tend to quickly marry off their daughters after menarche, to ensure marriageability in a context where a woman's virginity is highly valued (Caldwell, Reddy, and Caldwell 1983).

The validity of our instrumental variable (IV) approach rests on two assumptions. First, menarche age must be correlated with marriage age, even after including controls. Our first-stage regressions support this assumption. A one-year increment in menarche age is associated with delaying marriage by about five months, with a very large F-statistic across all specifications and samples.[6]

Second, menarche age must be uncorrelated with ε_{id} in equation (1). According to biological studies (e.g., Kaprio et al. 1995), variation in menarche age is primarily driven by genetic differences, lending support to the randomness of menarche. However, environmental factors may still play a role in women's reproductive maturation. For instance, low-quality diet in early life may be linked to late menarche. Following Chari et al. (2017) and Field and Ambrus (2008), we address such threats by controlling for the woman's adult height—a proxy for her childhood socioeconomic and health status. Further, district fixed effects in all regressions capture local-level characteristics.[7]

RESULTS

We consider three indicators of everyday political participation: (1) whether the woman attended a village (rural) or municipal (urban) council meeting in the last year; (2) whether she discussed politics, elections, and community events with her husband; and (3) whether she was a member of a political organization. These are far from universal behaviors: 9% of women report attending a council meeting, 71% report discussing politics with their spouse, and less than 1% report membership in a political organization.[8] Although women take part in these activities with substantial variation, we expect the same mechanisms to operate throughout: all of these behaviors require individual resources (e.g., civic skills) and are influenced by intrahousehold power dynamics (e.g., respect enjoyed at home may translate to self-confidence in the political world).

Table 1 shows the IV estimates for the effect of marriage age on the above three indicators.[9] Across all outcomes, we find that later marriage leads to higher political activity in the full sample of rural and urban women. A 1 SD delay in marriage age (3 years, 7 months) increases women's propensity to attend a council meeting by 2 percentage points, a 25% increase over the sample mean (col. 1). Deferring marriage age by 1 SD also raises the probability that women discuss politics with their husbands by 6 percentage points, significant at the 1% level (col. 4). Moreover, marriage age is positively associated with women joining political groups, but this effect is small in absolute terms and not statistically significant (col. 7). Given how few women belong to any political organization, this type of political behavior may be difficult to activate.

Next, we test for differences in the effect of marriage age in rural versus urban areas. Among rural women, we find results very similar to before (table 1 cols. 2, 5, and 8), but among urban women, marriage age has no statistically significant impact (cols. 3, 6, and 9). This suggests that our findings in the full sample are driven by rural women. While it is possible to interpret these estimates for urban women as true null effects, we view them as inconclusive. The standard errors in the urban sample are up to 57% higher than the rural sample, resulting in imprecise coefficients with wide confidence intervals around zero. Furthermore, with our sample size of about 12,000 urban women,[10] the ex post minimum detectable effect sizes (MDEs) are even larger than the estimates we obtain for rural women.[11] In other words, we do not have sufficient statistical power to

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5. Some girls marry at a young age, but cohabitation is postponed until puberty. We employ marriage age in all analyses, but our findings are robust to using cohabitation age.

6. Results are shown in tables C1 (full sample), C2 (rural), and C3 (urban).

7. Menarche age is self-reported; see in app. D that this poses no significant threat to our study.

8. See the summary statistics in table B1.

9. We examine the robustness of these results in app. E.

10. While this sample can be considered to be relatively large, it may still be underpowered since statistical power is affected by factors other than sample size (e.g., allocation ratio, true effect size).

11. MDEs can be obtained by multiplying the standard error (SE) by 2.8 (assuming 80% power and 5% significance). This follows from the standard formula $(t_{1-\kappa} + t_{\alpha/2}) \cdot \sqrt{\text{var}(\hat{E})}$, where $1 - \kappa$ is power, α is the significance level, and $\text{var}(\hat{E})$ is the variance of the estimator $\hat{E}$. The term t_α represents the critical value such that $\Phi(-t_\alpha) = \alpha$, where Φ is the standard normal cumulative distribution function. We use the observed SE for $\sqrt{\text{var}(\hat{E})}$, yielding the ex post MDE.

Table 1. Effects of Marriage Age on Political Engagement

	Attended Village Council Meeting Last Year			Discusses Politics and Community with Husband			Participates in a Political Organization		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Marriage age	.006*	.009**	−.000	.016***	.013**	.016	.001	.001	.002
	(.003)	(.004)	(.005)	(.006)	(.006)	(.011)	(.001)	(.001)	(.002)
Sample	Full	Rural	Urban	Full	Rural	Urban	Full	Rural	Urban
Observations	37,037	24,452	12,584	35,843	23,683	12,159	37,072	24,471	12,600

Note. Instrumental variable regression: marriage age instrumented with menarche age. Data from India Human Development Survey, 2011–12. All regressions include district fixed effects, height, age, parents' education, caste, and religion. Regressions with the full sample include a rural dummy. Robust SEs in parentheses.
* $p < .10$.
** $p < .05$.
*** $p < .01$.

detect the potentially smaller effects of early marriage among urban women.

EXPLORING MECHANISMS

We now turn to potential mechanisms. For this, we focus on rural women, as this sample drives the patterns we observe at the aggregate level. We begin with education, a key predictor of political activity. Using our IV approach, we first demonstrate in table 2 that marriage age significantly affects education. Specifically, postponing marriage by 1 SD boosts educational attainment by almost one year, significant at the 1% level. In addition, delaying marriage by 1 SD results in a 6 percentage point increase in the likelihood that women can read, write a sentence, or converse in English, again significant at the 1% level.

To understand the mediating effect of education on political participation, we follow Field and Ambrus (2008) in examining the impact of marriage age among educated (i.e., ever attended school) versus uneducated (i.e., never attended school) women. The idea is that the education effect of marriage timing cannot be present among girls not in school by the time they reach marriageable age. Hence, in the uneducated subgroup, we effectively shut down the education channel. Any positive effects of marriage age on the political engagement of the uneducated women would signal that mechanisms other than education are at play. Conversely, a relatively larger effect of marriage age among ever-schooled women indicates the importance of education. These patterns would then provide suggestive evidence that education serves as a pathway for the marriage age effects.

Table 2. Effects of Marriage Age on Education and Number of Children, Rural Women

	Education and Literacy			Number of Children		
	Years Education (1)	Can Read and Write (2)	Can Converse in English (3)	Living with Respondent (4)	Total Still Alive (5)	Live Births (6)
Marriage age	.275***	.018***	.018***	−.064***	−.105***	−.109***
	(.046)	(.006)	(.005)	(.019)	(.018)	(.021)
Observations	24,505	24,505	24,500	24,369	24,501	24,369

Note. Instrumental variable regression: marriage age instrumented with menarche age. Data from India Human Development Survey, 2011–12, rural women. All regressions include district fixed effects, height, age, parents' education, caste, and religion. Robust SEs in parentheses.
* $p < .10$.
** $p < .05$.
*** $p < .01$.

Table 3. Educated versus Uneducated, Rural Women

	Attended Village Council Meeting Last Year		Discusses Politics and Community with Husband		Participates in a Political Organization	
	(1)	(2)	(3)	(4)	(5)	(6)
Marriage age	.016**	−.000	.020**	.003	.002	.000
	(.006)	(.005)	(.009)	(.009)	(.002)	(.001)
Sample	Educated	Uneducated	Educated	Uneducated	Educated	Uneducated
Observations	13,185	11,257	12,902	10,772	13,191	11,270

Note. Instrumental variable regression: marriage age instrumented with menarche age. Data from India Human Development Survey, 2011–12, rural women. The sample in the odd (even) columns consists of women who have ever (never) attended school. All regressions include district fixed effects, height, age, parents' education, caste, and religion. Robust SEs in parentheses.
* $p < .10$.
** $p < .05$.
*** $p < .01$.

As shown in table 3, all coefficients on marriage age for uneducated women are close to zero and not statistically significant. In contrast, the coefficients for educated women are substantial: a 1 SD increase in marriage age is associated with a 5 percentage point gain in the probability that she attends a village council meeting and a 7 percentage point increase in the likelihood that she discusses politics with her husband. These magnitudes are about double the size of the main effects reported in table 1, indicating that education may be an important channel of impact.

Apart from education, a second mechanism through which later marriage may foster political activity is by freeing up time. Since the IHDS has no data on time use, we employ the number of children living with the respondent as a proxy for time

constraints. Table 2, column 4, demonstrates that delaying marriage has a statistically significant and negative impact on this outcome. In columns 5 and 6, we see that this negative effect holds whether we consider the number of children still alive (including those not living with the respondent) or total live births (excluding still births and miscarriages). Thus, later marriage seems to reduce the amount of time women spend on child care.

As before, we conduct a subsample analysis to investigate time constraints as a channel. If available time is an important mechanism by which delayed marriage influences women's political behavior, we should see larger effects of marriage age among women who face fewer child care demands. In table 4, we divide the sample into respondents with two or fewer children

Table 4. Below versus Above Median Number of Children Living with Respondent, Rural Women

	Attended Village Council Meeting Last Year		Discusses Politics and Community with Husband		Participates in a Political Organization	
	(1)	(2)	(3)	(4)	(5)	(6)
Marriage age	.010**	.006	.027***	−.025**	.001	.000
	(.005)	(.007)	(.008)	(.012)	(.002)	(.002)
Sample	Below median	Above median	Below median	Above median	Below median	Above median
Observations	16,567	7,741	15,966	7,583	16,576	7,751

Note. Instrumental variable regression: marriage age instrumented with menarche age. Data from India Human Development Survey, 2011–12, rural women. The sample in the odd (even) columns consists of women who have two or fewer (three or more) children living with them. All regressions include district fixed effects, height, age, parents' education, caste, and religion. Robust SEs in parentheses.
* $p < .10$.
** $p < .05$.
*** $p < .01$.

living with them (i.e., at or below the median) and those co-habiting with three or more children (i.e., above the median). We find that only women in the former group exhibit positive effects, suggesting that having fewer children resulting from later marriage may free up time for political participation.[12]

Finally, we consider three alternative pathways for the impact of marriage age: employment, mobility, and household decision-making power. The first captures financial resources, while the latter two represent intrahousehold power dynamics. We are able to rule out these mechanisms as we find precise zero effects, with confidence intervals tightly centered around zero.[13]

CONCLUSION

This article is, to our knowledge, the first to examine the causal effects of marriage age on women's political engagement. We show that averting child marriage—which subsequently keeps girls in school and reduces childbearing—may be an effective strategy for increasing women's political activity. Although our results are from India, where the practice of child marriage is particularly prevalent, child marriage is rampant across the globe, and its negative effects on women's political participation may hold in other contexts as well. Understanding how and to what extent these results generalize to other settings is an important avenue for future research.

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12. See app. F for mediation analyses of education and childbearing. We consider these variables as mediators (not moderators), as they are ex post consequences of marriage age; see table 2.

13. The results are shown in tables G1, G2, and G3.

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