Age of Marriage and Women's Political Engagement:

Evidence from India

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Short Title: Age of Marriage and Women's Political Engagement

Abstract

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 paper 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 delaying marriage has substantial positive effects on women's everyday political participation. A standard deviation increase in marriage age makes a woman 25 percent more likely to attend local council meetings, and 8 percent 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 sizeable 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 (Inglehart and Norris 2003; Desposato and Norrander 2009); individual differences in resources, such as money, time, and civic skills (Schlozman, Burns, and Verba 1994); and intra-household power dynamics (Burns, Schlozman, and Verba 1997).

One important—and thus far overlooked—factor shaping women'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 (aged 20–24) married before turning 18. Theoretically, we expect child marriage to depress women's political activity because it diminishes both resources and intra-household 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 childcare responsibilities and less 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 paper, 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

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1. We discuss these theoretical underpinnings in more detail in Appendix A.

for three reasons. First, the gender gap in political participation is typically larger in non-electoral 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, Schlozman, and Verba (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 percent 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 percent of the sample average. Our paper thus speaks directly to the literature on marriage and women's political participation (e.g., Burns, Schlozman, and Verba 1997; Wolfinger and Wolfinger 2008; Stout, Kretschmer, and Ruppanner 2017), 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 childcare demands are less

of a constraint to women's political activity. Further, greater exposure to women from different socio-economic backgrounds in urban areas may weaken the negative effect of early marriage on women's perceptions about gender roles. Empirically, among rural women (N≈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 percent, respectively, above the sample mean. In contrast, among urban women (N≈12,000), marriage age has no statistically significant impact, though these null effects are not precisely estimated.

Finally, we investigate five potential mechanisms: education, childbearing, and employment (representing civic skills, time, and money, respectively), and mobility and household decision-making power (representing intra-household 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 utilizes the second wave of the IHDS, collected in 2011–12. In each household, the IHDS interviewed at least one ever-married woman aged 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

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 Appendix 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 percent. The IHDS defines rural areas based on the 2011 Census.

4. Summary statistics are reported in Appendix Table B1. The distributions of menarche age and marriage age are shown in Appendix Figure B1.

$$Y_{id} = \beta MarriageAge_{id} + \mathbf{X}_{id}\xi + \phi_d + \varepsilon_{id} \tag{1}$$

where $MarriageAge_i$ 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, her household's caste and religion, and where applicable, a rural indicator. 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 (Field and Ambrus 2008; Sekhri and Debnath 2014; Chari et al. 2017) 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 Field and Ambrus (2008) and Chari et al. (2017), 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

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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 shown in Appendix Tables C1 (full sample), C2 (rural), and C3 (urban).

7. Menarche age is self-reported; see Appendix D that it poses no significant threat to our study.

Table 1: Effects of Marriage Age on Political Engagement

	Attended village council meeting last year			Discussess politics and community with husband			Participates in a political organization		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Marriage Age	0.006*	0.009**	-0.000	0.016***	0.013**	0.016	0.001	0.001	0.002
	(0.003)	(0.004)	(0.005)	(0.006)	(0.006)	(0.011)	(0.001)	(0.001)	(0.002)
Sample	Full	Rural	Urban	Full	Rural	Urban	Full	Rural	Urban
Observations	37037	24452	12584	35843	23683	12159	37072	24471	12600

Notes: IV regression, *Marriage Age* instrumented with *Menarche Age*. Data from IHDS 2011-12. All regressions include district FEs, height, age, parents' education, caste, religion. Regressions with the full sample include a rural dummy. Robust SEs in parenthesis. $*** p < 0.01$, $** p < 0.05$, $* p < 0.10$.

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 percent of women report attending a council meeting; 71 percent report discussing politics with their spouse; and less than 1 percent report membership of a political organization.[8] Though 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 intra-household 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. One SD delay in marriage age (3 years, 7 months) increases women's propensity to attend a council meeting by 2 percentage points, a 25 percent increase over the sample mean (column 1). Deferring marriage age by one SD also raises the probability that women discuss politics with their husbands by 6 percentage points, significant at the 1 percent level (column 4). Moreover, marriage age is positively associated with women joining political groups, but this effect is small in absolute terms and not statistically significant (column 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

8. See the summary statistics in Appendix Table B1.

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

rural women, we find very similar results to before (columns 2, 5, and 8), but among urban women, marriage age has no statistically significant impact (columns 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 percent 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 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 one SD boosts educational attainment by almost one year, significant at the 1 percent level. In addition, delaying marriage by one 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 percent 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) vs. uneducated (i.e., never attended school) women. The idea is that the education effect of

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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 percent power and 5 percent significance). This follows from the standard formula $(t_{1-\kappa} + t_{\alpha/2}) \cdot \sqrt{var(\widehat{E})}$, where $1 - \kappa$ is power, α is the significance level, and $var(\widehat{E})$ is the variance of the estimator $\widehat{E}$. 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 $\sqrt{var(\widehat{E})}$, yielding the ex-post MDE.

Table 2: Effects of Marriage Age on Education and No. of Children, Rural Women

	Education and Literacy			Number of Children		
	(1) Years educ	(2) Can read & write	(3) Can converse in English	(4) Living w/ respondent	(5) Total still alive	(6) Live births
Marriage Age	0.275*** (0.046)	0.018*** (0.006)	0.018*** (0.005)	-0.064*** (0.019)	-0.105*** (0.018)	-0.109*** (0.021)
Observations	24505	24505	24500	24369	24501	24369

Notes: IV regression, *Marriage Age* instrumented with *Menarche Age*. Data from IHDS 2011-12, rural women. All regressions include district FEs, height, age, parents' education, caste, religion. Robust SEs in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

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.

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: one 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 may reduce the amount of time women spend on childcare.

Table 3: Educated vs. 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	0.016**	−0.000	0.020**	0.003	0.002	0.000
	(0.006)	(0.005)	(0.009)	(0.009)	(0.002)	(0.001)
Sample	Educ	Uneduc	Educ	Uneduc	Educ	Uneduc
Observations	13185	11257	12902	10772	13191	11270

Notes: IV regression, *Marriage Age* instrumented with *Menarche Age*. Data from IHDS 2011-12, rural women. The sample in the odd (even) columns consist of women who have ever (never) attended school. All regressions include district FEs, height, age, parents' education, caste, religion. Robust SEs in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 4: Below vs. Above Median No. 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	0.010**	0.006	0.027***	−0.025**	0.001	0.000
	(0.005)	(0.007)	(0.008)	(0.012)	(0.002)	(0.002)
Sample	Below Median	Above Median	Below Median	Above Median	Below Median	Above Median
Observations	16567	7741	15966	7583	16576	7751

Notes: IV regression, *Marriage Age* instrumented with *Menarche Age*. Data from IHDS 2011-12, rural women. The sample in the odd (even) columns consist of women who have two or fewer (three or more) children living with them. All regressions include district FEs, height, age, parents' education, caste, religion. Robust SEs in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

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 childcare demands. In Table 4, we divide the sample into respondents with two or fewer children 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]

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

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 intra-household 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 paper 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.

Acknowledgements

References

Artiz Prillaman, Soledad. 2018. "Strength in numbers: How women's groups close India's political gender gap." Working paper.

Bhavnani, Rikhil R. 2009. "Do electoral quotas work after they are withdrawn? Evidence from a natural experiment in India." *American Political Science Review* 103 (1): 23–35.

Burns, Nancy, Kay Lehman Schlozman, and Sidney Verba. 1997. "The public consequences of private inequality: Family life and citizen participation." *American Political Science Review* 91 (2): 373–389.

Caldwell, J. C., P. H. Reddy, and Pat Caldwell. 1983. "The causes of marriage change in South India." *Population Studies* 37 (3): 343–361. doi:10.1080/00324728.1983.10408866.

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

Chari, A.V., Rachel Heath, Annemie Maertens, and Freeha Fatima. 2017. "The causal effect of maternal age at marriage on child wellbeing: Evidence from India." *Journal of Development Economics* 127:42–55.

Chattopadhyay, Raghabendra, and Esther Duflo. 2004. "Women as policy makers: Evidence from a randomized policy experiment in India." *Econometrica* 72 (5): 1409–1443.

Desai, Sonalde, and Reeve Vanneman. 2018. *India Human Development Survey-II (IHDS-II), 2011-12. ICPSR36151-v6.* Ann Arbor, MI: ICPSR [distributor], 2018-08-08. `http://doi.org/10.3886/ICPSR36151.v6`.

Desposato, Scott, and Barbara Norrander. 2009. "The gender gap in Latin America: Contextual & individual influences on gender and political participation." *British Journal of Political Science* 39 (1): 141–162.

Field, Erica, and Attila Ambrus. 2008. "Early marriage, age of menarche, and female schooling attainment in Bangladesh." *Journal of Political Economy* 116 (5): 881–930.

Inglehart, Ronald, and Pippa Norris. 2003. *Rising tide: Gender equality and cultural change around the world.* Cambridge, UK: Cambridge University Press.

Kaprio, Jaakko, Arja Rimpelä, Torsten Winter, Richard J. Viken, Matti Rimpelä, and Richard J. Rose. 1995. "Common genetic influences on BMI and age at menarche." *Human Biology* 67 (October): 739–753.

Kumar, Sanjay, and Pranav Gupta. 2014. "Changing patterns of women's turnout in Indian elections." *Studies in Indian Politics* 3 (1): 7–18.

Schlozman, Kay Lehman, Nancy Burns, and Sidney Verba. 1994. "Gender and the pathways to participation: The role of resources." *The Journal of Politics* 56 (4): 963–990.

Sekhri, Sheetal, and Sisir Debnath. 2014. "Intergenerational consequences of early age marriage of girls: Effect on children's human capital." *Journal of Development Studies* 50 (12): 1670–1686.

Stout, Christopher T., Kelsy Kretschmer, and Leah Ruppanner. 2017. "Gender linked fate, race/ethnicity, and the marriage gap in American politics." *Political Research Quarterly* 70 (3): 509–522.

UNICEF. 2018. *Child marriage: Latest trends and future prospects.* New York: UNICEF.

Wolfinger, Nicholas H., and Raymond E. Wolfinger. 2008. "Family structure and voter turnout."

    Social Forces 86 (4): 1513–1528.

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