THE EFFECTS OF INDIA’S PANCHAYATI RAJ INSTITUTIONS ON CHILD MARRIAGE

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*Abstract*

The legal age of marriage in India is 18, yet child marriage rates are alarmingly high due to economic, social, and cultural pressures faced by families, especially those in rural areas. In 1993, an amendment was passed that created the Panchayati Raj, a system of local government. Provisions were added such that one third of chairperson positions be reserved for women. The objective of this thesis is to observe the effects of reserving one third of district chairperson seats for women on the likelihood of child marriage and child gauna. I find that women who marry after their district receives a female chairperson are 2.56 percentage points less likely to have been married as a child than women who married before their district received a female chairperson. I also find that women are 1.11 percentage points less likely to move into their husbands’ households as children after receiving a female chairperson.

**Introduction**

Since 1978, the legal age of marriage in India has been 18, and yet child marriage is still plaguing the nation today[[1]](#footnote-2). There are several reasons for its continued practice. Indian nationalists argue that the law prohibiting child marriage is a result of lingering British colonialism attacking India’s religious and cultural independence[[2]](#footnote-3), thus they see obeying the law as succumbing to Western ideals. In addition, due to Indian gender norms, parents may prefer to spend what little they have on sons, thus they see marrying off their daughter at a young age as reducing their economic burden[[3]](#footnote-4). Another reason is because families believe marriage will protect daughters from pregnancy and premarital sex[[4]](#footnote-5). Parents also may fear that if their daughter does not get married young enough, she will never find a man to marry her, which would bring the family shame[[5]](#footnote-6). Due to the fact child marriage is outlawed, there are tactics to keep child weddings a secret. Ceremonies are often conducted late at night, and in the case of very young children, their names tend to be kept off the wedding invitation as unannounced second or third brides at their own weddings[[6]](#footnote-7). Police officers who do find out about these illegal weddings can usually be bribed to keep quiet[[7]](#footnote-8).

The objective of this thesis is to observe the effects of India’s law mandating reservations for women in local government on the likelihood of child marriage and child gauna. Gauna refers to the time period in which a woman moves into her husband’s household, and generally implies consummation of the marriage. In a given election cycle, only one third of districts within a state have a reserved female chairperson on their district government council. In India, the chairperson position is also known as the pradhan. The set of districts within a state with a reserved female pradhan rotate randomly each election cycle. The observations can be compared with and without female pradhans to estimate the marginal effect of having a female pradhan on women’s likelihood of child marriage and child gauna. In addition, the age at marriage of women who married after receiving a female pradhan can be compared to the age at marriage of women who married before to compare the marginal effect of marrying after receiving a female pradhan on the likelihood of child marriage and child gauna.

It is important to conduct research on policies affecting child marriage because the practice has dire consequences on both the young brides and their future children. In the words of Joar Svanemyr, “early marriage perpetuates the cycle of illiteracy and poverty…Child marriage often results in girls leaving school, reducing their opportunity to learn and gain skills that would enable them to start an income generating activity or find a job[[8]](#footnote-9)”. In addition to decreasing the education and labor force participation of women, child marriage is harmful to women’s health and leaves them devoid of household bargaining power[[9]](#footnote-10). Child marriage also harms the health and educational outcomes of the young brides’ children[[10]](#footnote-11). Finally, it is important to put an end to the practice because child marriage is a basic violation of human rights, as young brides are often emotionally, physically, and sexually abused[[11]](#footnote-12). The practice of early marriage occurs mostly in rural India, thus it is up to the Panchayati Raj, or the local government councils, to take action.

The Panchayati Raj is a three-tier system of local government at the village, sub-district, and district levels[[12]](#footnote-13). The chairperson at any of the three levels is called the pradhan[[13]](#footnote-14). Both the pradhan and the council members must be from the village, district, or sub-district they represent[[14]](#footnote-15). The council makes decisions by majority voting, and the pradhan does not have veto power[[15]](#footnote-16). The main responsibilities of the Panchayati Raj are to administer local infrastructure (public buildings, water, and roads), identify welfare recipients, implement development programs, and identify the needs of their jurisdiction[[16]](#footnote-17).

The 73rd Constitutional Amendment set up the Panchayati Raj in 1993[[17]](#footnote-18). Provisions were added such that one third of all seats in local councils, also known as Panchayats, as well as one third of pradhan positions, would be reserved for women[[18]](#footnote-19). Each Panchayat at the village, subdistrict, and district level has only one pradhan. In addition, provisions were added such that the two disadvantaged minorities in India, scheduled castes (SCs) and scheduled tribes (STs), had reserved seats in accordance with their proportion of the population[[19]](#footnote-20). Pradhan positions would rotate; each election cycle, one third of districts would have a female pradhan, and another set of districts would have one in the next election cycle[[20]](#footnote-21). In order to ensure the rotation was random, all the district Panchayats are listed in order of their serial number, then every third Panchayat starting with the first on the list reserves its pradhan position for a woman[[21]](#footnote-22). For the next election, every third Panchayat starting with the second on the list is reserved, et cetera[[22]](#footnote-23). This randomization of the selection of district pradhan positions to be reserved for women creates the ideal setting for a policy experiment on the outcomes of these reservations.

**Literature Review – Results of the Amendment**

Many studies agree that the amendment has significantly increased the participation of Indian women in government. Harmon and Kaufman (2013) found that as a result of the amendment, one million women have been elected and are now serving successfully on village panchayats in both councilperson and pradhan positions across India[[23]](#footnote-24). Duflo (2005) found that in Rajasthan, before the amendment only 1.7% of pradhans were women, but now they represent a third of seats[[24]](#footnote-25). Beaman et al. (2012) add that across India, the fraction of elected local leaders who are female has risen from less than 5% in 1992, before the law was passed, to more than 40% by 2000[[25]](#footnote-26). Due to the increase in female leaders, Beaman et al. (2011) brought up concerns of female reserved seats crowding out more qualified males, but put these concerns to rest when they found that there is no significant difference in the likelihood of a Muslim standing for election between a reserved Panchayat versus an unreserved Panchayat, thus there is no evidence of a crowd out[[26]](#footnote-27). Harmon and Kaufman (2013) remark that these women in elected positions are working more hours and attending more meetings than critics expected, who had thought that women would not take the job as seriously as men[[27]](#footnote-28).

Most studies concur that the female reservations on local government councils have made a significant impact on public policy and the allocation of public goods in rural areas. Chattopadhyay and Duflo (2004), Duflo (2005), and Harmon and Kaufman (2013) all found that village women were more likely to complain about drinking water, roads, and welfare programs than men[[28]](#footnote-29), [[29]](#footnote-30), [[30]](#footnote-31). This is because women are the ones who walk long distances on roads in order to collect drinking water for the family, and are more likely to be recipients of welfare[[31]](#footnote-32). All three studies found an increase in investments toward drinking water and roads in these villages after the implementation of the amendment, which proves that reserving council seats allows female concerns to be better represented and acted upon. Iyer et al. (2012) add that women in villages with a female pradhan were much more likely to address a request or complaint to the Panchayat, thus female leadership makes it easier for women to feel comfortable expressing their policy beliefs[[32]](#footnote-33), [[33]](#footnote-34). Beaman et al (2011) agree, adding that the likelihood of a woman speaking up in a meeting increases by 25% when the pradhan position is reserved for a woman[[34]](#footnote-35). Harmon and Kaufman (2013) note that women on Panchayats are more vocal about enforcement of laws designed to prevent violence against women, for example laws that prohibit child marriage and dowry demands and laws that criminalize abduction of girls and fight alcoholism and its effect on domestic violence[[35]](#footnote-36).

In addition to women reservations affecting policy and allocation of resources, the law has also indirectly changed the aspirations of and attitudes towards women. Ghani et al (2013) found that the length of exposure to women politicians increases overall female labor force participation, thus “women’s political participation can be used as a policy tool to increase both the supply and demand of labor market opportunities for women”[[36]](#footnote-37). Beaman et al (2012) discuss the role model effect of reserved leadership positions, finding that women who become leaders may shape both the parents’ and children’s beliefs about what women can achieve, either through their policies or through a direct role model effect[[37]](#footnote-38). They found that in villages with reserved pradhans for women for two election cycles, the gender gap in aspirations closed by 20% in parents and 32% in adolescents[[38]](#footnote-39). These aspirations lead towards educational and career goals held by both the girls themselves and their parents, marking a shift in the attitude that a woman’s sole purpose is to be a wife.

**Literature Review – Child Brides**

Child marriage is alarmingly prevalent globally. According to Nour (2009), over 60 million marriages include girls under 18, of which approximately 31 million are in South Asia, 14 million in Sub-Saharan Africa, and 6.6 million in Latin America and the Caribbean[[39]](#footnote-40). Svanemyr et al. (2012) add that 1 in 3 girls are married before 18 globally, and 1 in 7 married before 15[[40]](#footnote-41). In Africa, Walker (2012) remarks that child marriage rates are the highest, the most reported, and the most pervasive in West Africa, especially the region spanning from Mali in Northwest Africa to Cameroon in Central Africa[[41]](#footnote-42). In Mali, Lee-Rife et al. (2012) found that 70.6% of women aged 20 to 24 were married below 18[[42]](#footnote-43), and Nour (2009) adds that in certain parts of Ethiopia, 50% of girls are married below the age of 15[[43]](#footnote-44). After West Africa, the second highest rates of child marriage are in South Asia[[44]](#footnote-45). In Bangladesh, Kamal (2012) describes the child marriage as alarmingly high, with 82% of women aged 20 to 49 married before 18, of which 63% of the marriages took place before 16[[45]](#footnote-46). In India, Raj et al. (2009) found that 44.5% of Indian women aged 20 to 24 were married before 18, 22.6% were married before 16, and 2.6% were married before 13[[46]](#footnote-47).

These high rates of child marriage have a variety of causes. Ghosh (2011) blames prevailing authoritarian and patriarchal social structures, and believes factors like poverty, illiteracy, development, lack of awareness, and unemployment are all equally responsible[[47]](#footnote-48). Nour (2009) also cites poverty in addition to the need to reinforce social ties and the belief that marriage offers protection as the main drivers[[48]](#footnote-49). She believes the economics of child marriage is the reason for its correlation with poverty, as girls are costly to feed, clothe, and educate, yet only go on to leave the household[[49]](#footnote-50). Beaman et al. (2012) add that parents generally have higher aspirations for boys than for girls[[50]](#footnote-51). *Economic and Political Weekly* (2009) agrees, stating that girls often have negligible economic value in the eyes of Indian parents, and are “a socio-financial burden who is best married off quickly without spending too much either on her education or her health[[51]](#footnote-52)”. They also remark that early marriage often means lower dowry due to the higher value placed on younger brides, and less anxiety now that she is “safe” with a husband who can protect her from unwanted male attention[[52]](#footnote-53). In addition to protection from male attention, Nour (2009) finds that parents believe marriage protects their daughters from rape, premarital sex, unwanted pregnancies, and STDs, especially HIV/AIDS, and that marrying their daughter into a “good” family will establish social ties between clans and improve their social status[[53]](#footnote-54). Desai and Andrist (2010) also explain that Indian nationalists see the law prohibiting child marriage as lingering unwanted British colonialism infringing on Indian traditions and values, thus choose to push back[[54]](#footnote-55).

Despite parents citing child marriage as an excuse to protect their daughters, there are many negative consequences of the practice. Raj et al. (2009) discuss how child marriage is significantly associated with no contraceptive use before first childbirth, high fertility, repeat childbirth in less than two years, multiple unwanted pregnancies, abortions, and female sterilization[[55]](#footnote-56). Also, women who marry young are less likely to be knowledgeable of HIV/AIDS and general health, according to Chari et al (2016)[[56]](#footnote-57). Svanemyr et al. (2012) remark that the bride is at risk of violence, abuse, and exploitation from her husband and his family[[57]](#footnote-58). They also add that separation from family and social networks causes a lack of practical and emotional support, and that early marriage reduces girls participating in community activities that would help their wellbeing[[58]](#footnote-59). In addition to harming the health outcomes of women, Svanemyr et al. (2012) and Chari et al. (2016) both found that women who marry early almost always quit school, which continues the cycle of illiteracy and poverty because they cannot learn and gain skills to find a job.[[59]](#footnote-60), [[60]](#footnote-61) Early marriage is also very harmful to the children born of young mothers. Svanemyr et al (2012) discuss how early marriage leads to early pregnancy, which leads to increased risk of complications[[61]](#footnote-62). These infants born to young mothers are likely to be born underweight and premature, and experience serious health problems[[62]](#footnote-63). The health outcomes of the children are affected long after birth, according to Chari et al (2016), and even the investments made towards the children’s health are significantly lower[[63]](#footnote-64). For example, children from early marriages are likely to be smaller, more prone to illness, and more malnourished[[64]](#footnote-65). The educational outcomes of children resulting from these early marriages are also adversely affected. Chari et al (2016) discuss how these children are less likely to be currently enrolled in school, tend to quit schooling earlier, and have lower reading, math, and writing scores[[65]](#footnote-66).

 Steps can be taken to head in the direction of protecting the millions of young girls at risk of child marriage. Walker (2012) and Lee-Rife (2012) believe the key is to target girls as the entry point of the family, specifically through school enrollment, clubs, education, career guidance programs, or service roles[[66]](#footnote-67). She adds that it is also important to change the behavior, opinions, and attitudes of leaders, and that the state has a “catalytic” role to play in expanding employment opportunities for young women and providing legal framework for action and enforcement of law[[67]](#footnote-68). Lee-Rife (2012) examined 23 interventions to prevent child marriage, and found that integrated programs focusing on girls’ empowerment and programs offering incentives have been the most successful in the practice’s prevention and in the changing of attitudes[[68]](#footnote-69). Ghosh (2011) agrees with Lee-Rife in the important of empowerment of daughters and mothers as a key strategy[[69]](#footnote-70). In addition to the need for investment in community-based programs and services, *Economic and Political Weekly* (2009) remarks on the necessity of convincing parents, community elders, and religious leaders of the advantages of educating young girls while delaying their age of marriage[[70]](#footnote-71).

**Data and Variable Description**

 I used the District Level Household Surveys for India for the years 1998 – 1999, 2002 – 2003, and 2007 – 2008, and 2012 - 2013. This survey was administered by the International Institute for Population Sciences. The respondents of the surveys were ever married women ages 15 to 44. These women were given a questionnaire and asked to answer various questions on their health, social and family environments, and others. In addition, I used Iyer et al.’s pradhan reservation data. They obtained this data from the following institutions for each state: the State Election Commissions, the Ministry of the Panchayati Raj, and the Ministry of Rural Development.

 My regressions include two dependent variables of interest. The first is *child\_marriage­i*, which is a dummy variable equaling 1 if the woman’s age of marriage is under 18. The second is *child\_gaunai*, which is a dummy variable equaling 1 if the woman moved into her husband’s household below the age of 18.

 My regressions include three independent variables of interest. The first, *pradhand,t*, is a dummy variable equaling 1 if the woman’s district has or has had a pradhan position reserved for a female at time *t*. The second, *notmarriedi*, is a dummy equaling 1 if the woman was not married when her district’s pradhan was first reserved for a female. Finally, *notgaunai* is a dummy equaling 1 if the woman had not moved into her husband’s house when her district’s pradhan was first reserved for a female. I also control for years of education, caste, religion, household type (rural vs. urban), and district and marriage year fixed effects.

**Summary Statistics**

These are summary statistics for all observations that had not received a female pradhan in their district as of time *t*:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variable  | Observations | Mean | Std. Dev | Min | Max |
| Age marriage | 151,485 | 14.566 | 7.717 | 1 | 48 |
| Age gauna | 219,483 | 18.402 | 3.302 | 0 | 49 |
| Child marriage | 151,488 | 0.520 | 0.500 | 0 | 1 |
| Child gauna | 221,836 | 0.407 | 0.490 | 0 | 1 |
| Education | 221,836 | 6.408 | 4.152 | 0 | 30 |
| Hindu | 218,159 | 0.773 | 0.418 | 0 | 1 |
| Muslim | 218,159 | 0.090 | 0.286 | 0 | 1 |
| Sikh | 218,159 | 0.025 | 0.157 | 0 | 1 |
| Christian | 218,159 | 0.093 | 0.290 | 0 | 1 |
| Buddhist | 218,159 | 0.008 | 0.087 | 0 | 1 |
| Jain | 218,159 | 0.004 | 0.063 | 0 | 1 |
| Zoroastrian | 218,159 | 0.000 | 0.009 | 0 | 1 |
| No Religion | 218,159 | 0.000 | 0.009 | 0 | 1 |
| Other Religion | 218,159 | 0.001 | 0.025 | 0 | 1 |
| Rural | 218,159 | 0.643 | 0.479 | 0 | 1 |
| Urban | 218,159 | 0.356 | 0.479 | 0 | 1 |
| Scheduled Caste | 218,159 | 0.516 | 0.500 | 0 | 1 |
| Scheduled Tribe | 218,159 | 0.064 | 0.246 | 0 | 1 |
| Other Backwards Caste | 218,159 | 0.209 | 0.407 | 0 | 1 |
| Other Caste | 218,159 | 0.197 | 0.400 | 0 | 1 |
| Don't Know Caste | 218,159 | 0.004 | 0.063 | 0 | 1 |

These are summary statistics for all observations whose districts had received a female pradhan as of time *t*:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variable | Observations | Mean | Std. Dev | Min | Max |
| Age marriage | 197,205 | 17.569 | 5.463 | 1 | 49 |
| Age gauna | 246,490 | 18.849 | 3.443 | 0 | 51 |
| Child marriage | 197,298 | 0.387 | 0.487 | 0 | 1 |
| Child gauna | 251,263 | 0.337 | 0.473 | 0 | 1 |
| Education | 251,263 | 6.727 | 3.601 | 0 | 30 |
| Hindu | 251,354 | 0.779 | 0.415 | 0 | 1 |
| Muslim | 251,354 | 0.109 | 0.311 | 0 | 1 |
| Sikh | 251,354 | 0.036 | 0.185 | 0 | 1 |
| Christian | 251,354 | 0.050 | 0.219 | 0 | 1 |
| Buddhist | 251,354 | 0.019 | 0.136 | 0 | 1 |
| Jain | 251,354 | 0.005 | 0.074 | 0 | 1 |
| Zoroastrian | 251,354 | 0.000 | 0.010 | 0 | 1 |
| No Religion | 251,354 | 0.000 | 0.006 | 0 | 1 |
| Other Religion | 251,354 | 0.000 | 0.019 | 0 | 1 |
| Rural | 251,354 | 0.616 | 0.486 | 0 | 1 |
| Urban | 251,354 | 0.384 | 0.486 | 0 | 1 |
| Scheduled Caste | 251,354 | 0.708 | 0.455 | 0 | 1 |
| Scheduled Tribe | 251,354 | 0.047 | 0.210 | 0 | 1 |
| Other Backwards Caste | 251,354 | 0.116 | 0.320 | 0 | 1 |
| Other Caste | 251,354 | 0.117 | 0.321 | 0 | 1 |
| Don't Know Caste | 251,354 | 0.002 | 0.052 | 0 | 1 |

The age of marriage rose from around 14.5 in districts that hadn’t received a female pradhan to around 17.5 in districts that have received a female pradhan. In addition, the rate of child marriage fell from around 52% to around 39% and the rate of child gauna fell from around 41% to around 34%. This means that districts who have been exposed to female pradhans have higher ages of marriage and ages of gauna than those who have not. It should be noted that observations exposed to female pradhans tend to come from later survey waves due to the timing of when the amendment was implemented in each state. Because these are just summary statistics, they do not control for the upward trend in age of marriage over time, thus part of that upward shift in age of marriage and age of gauna is likely due to the time trend. However, in my regressions I control for time fixed effects to see how much of this change is a result of the female pradhan.

Here are summary statistics for the independent variables on the treated sample, i.e. districts that have been exposed to a female pradhan or will be exposed to a female pradhan by the end of the survey data:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variable | Observations | Mean | Std. Dev | Min | Max |
| Not married | 294,362 | 0.564 | 0.496 | 0 | 1 |
| Not gauna | 294,362 | 0.386 | 0.487 | 0 | 1 |

This says that around 56% of observations married after receiving their female pradhan, and around 39% of observations moved into their husbands’ households after receiving their female pradhan.

**Methodology and Results**

First, I wanted to capture the overall effect of female pradhans on the likelihood of child marriage and child gauna. I defined the control group as women in districts who had not yet received a female pradhan reservation as of time *t*, and the treatment group as women in districts who had received a female pradhan reservation as of time *t*. In the following regressions, the coefficient on *pradhand,t* captures the effect of having a reserved female pradhan on the likelihood of child marriage and on the likelihood of child gauna.

$$child\\_marriage\_{i}= β\_{0}+β\_{1}Pradhan\_{d,t}+ β\_{2}MarriageYearFixedEffects\_{t}+β\_{3}DistrictFixedEffects\_{d}+β\_{4}IndividualControls\_{i}+u $$

$$child\\_gauna\_{i}= β\_{0}+β\_{1}Pradhan\_{d,t}+ β\_{2}MarriageYearFixedEffects\_{t}+β\_{3}DistrictFixedEffects\_{d}+β\_{4}IndividualControls\_{i}+u$$

The following table is the results from these regressions, run with and without controls:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) |
| VARIABLES | Child Marriage | Child Marriage  | Child Gauna | Child Gauna  |
|  |  |  |  |  |
| Pradhan | -0.0147 | 0.00223 | -0.0226\*\*\* | -0.0215\*\*\* |
|  | (0.0297) | (0.0350) | (0.00831) | (0.00720) |
| Education |  | -0.0177\*\*\* |  | -0.0277\*\*\* |
|  |  | (0.000900) |  | (0.000603) |
| Urban |  | -0.102\*\*\* |  | -0.0875\*\*\* |
|  |  | (0.00499) |  | (0.00435) |
| Muslim |  | 0.0543\*\*\* |  | 0.0553\*\*\* |
|  |  | (0.00955) |  | (0.0106) |
| Christian |  | -0.0105 |  | -0.0865\*\*\* |
|  |  | (0.0208) |  | (0.0112) |
| Sikh |  | -0.0806\*\*\* |  | -0.0526\*\*\* |
|  |  | (0.0140) |  | (0.00861) |
| Buddhist |  | 0.0203\*\* |  | 0.0165\*\* |
|  |  | (0.00980) |  | (0.00790) |
| Jain |  | -0.141\*\*\* |  | -0.105\*\*\* |
|  |  | (0.0170) |  | (0.0111) |
| Zoroastrian |  | 0.0630 |  | -0.0483 |
|  |  | (0.0859) |  | (0.0728) |
| No Religion |  | -0.000222 |  | 0.0368 |
|  |  | (0.0657) |  | (0.0536) |
| Other Religion |  | 0.0202 |  | -0.0533\* |
|  |  | (0.0295) |  | (0.0290) |
| Missing Religion |  | -0.0220 |  | 0.0163 |
|  |  | (0.0161) |  | (0.0196) |
| Scheduled Tribe |  | 0.0246\*\*\* |  | 0.0148\* |
|  |  | (0.00731) |  | (0.00774) |
| Other Backwards Class |  | 0.00649 |  | 0.0123\*\*\* |
|  |  | (0.00905) |  | (0.00351) |
| Other Caste |  | 0.0463\*\*\* |  | -0.0363\*\*\* |
|  |  | (0.0137) |  | (0.00386) |
| Do not know |  | 0.118\*\*\* |  | 0.0231\*\* |
|  |  | (0.0384) |  | (0.0102) |
| Constant | 0.497\*\*\* | 0.486\*\*\* | 0.232\*\*\* | 0.359\*\*\* |
|  | (0.0415) | (0.0682) | (0.0149) | (0.0127) |
|  |  |  |  |  |
| Observations | 552,550 | 349,393 | 960,948 | 638,130 |
| R-squared | 0.289 | 0.368 | 0.222 | 0.303 |
| Robust standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1  |

The coefficient on child marriage is small and insignificant. This result makes sense, given the definition of the treatment and control groups. I defined treatment as women in districts who have received female pradhans, and the outcome of interest is age of marriage. Therefore, the treatment does not affect the outcome of women who were already married at the time they received a pradhan. Interestingly, the coefficient on child gauna is significant, even though some of these women had already moved into their husband’s household when they received the treatment. Initially I believed this to be due to the strength of the effect of the female pradhans on the likelihood of child gauna, however it will become clear in my next set of regressions that this is not the case.

 The second set of regressions is much more specific to my research question. Here, I defined the control group as women who married before receiving a pradhan reserved for a female, and the treatment group as women who married after receiving a pradhan reserved for a female. Because the treatment and control groups are defined around the year of marriage relative to the year the district received a female pradhan, I only include districts that have received female pradhans by the end of the survey data. In the following regressions, the coefficient on *notmarriedi*captures the effect of marrying after a reserved female pradhan comes into office on the likelihood of child marriage. The coefficient on *notgaunai* captures the effect of moving into the husband’s household after a reserved female pradhan comes into office on the likelihood of child gauna.

$$child\\_marriage\_{i}= β\_{0}+β\_{1}NotMarried\_{i}+ β\_{2}MarriageYearFixedEffects\_{t}+β\_{3}DistrictFixedEffects\_{d}+β\_{4}IndividualControls\_{i}+u$$

$$child\\_gauna\_{i}=β\_{0}+β\_{1}NotGauna\_{i}+ β\_{2}MarriageYearFixedEffects\_{t}+β\_{3}DistrictFixedEffects\_{d}+β\_{4}IndividualControls\_{i}+u$$

The following table is the results from these regressions, run with and without controls.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) |
| VARIABLES | Child Marriage | Child Marriage | Child Gauna | Child Gauna |
|  |  |  |  |  |
| Notmarried | -0.0447\*\*\* | -0.0259\*\*\* |  |  |
|  | (0.00950) | (0.00973) |  |  |
| Notgauna |  |  | -0.0293\*\*\* | -0.0111\* |
|  |  |  | (0.00696) | (0.00609) |
| Education |  | -0.0169\*\*\* |  | -0.0271\*\*\* |
|  |  | (0.00109) |  | (0.000639) |
| Urban |  | -0.102\*\*\* |  | -0.0886\*\*\* |
|  |  | (0.00591) |  | (0.00511) |
| Muslim |  | 0.0625\*\*\* |  | 0.0594\*\*\* |
|  |  | (0.0124) |  | (0.0143) |
| Christian |  | -0.0285 |  | -0.0757\*\*\* |
|  |  | (0.0225) |  | (0.0151) |
| Sikh |  | -0.0680\*\*\* |  | -0.0446\*\*\* |
|  |  | (0.0201) |  | (0.00996) |
| Buddhist |  | 0.0180 |  | 0.0226\*\* |
|  |  | (0.0126) |  | (0.00984) |
| Jain |  | -0.134\*\*\* |  | -0.0961\*\*\* |
|  |  | (0.0211) |  | (0.0133) |
| Zoroastrian |  | 0.0826 |  | -0.0629 |
|  |  | (0.0948) |  | (0.0949) |
| No Religion |  | 0.0668 |  | 0.0899 |
|  |  | (0.138) |  | (0.0622) |
| Other Religion |  | 0.0320 |  | -0.0109 |
|  |  | (0.0404) |  | (0.0341) |
| Religion Missing |  | -0.0365 |  | -0.0523 |
|  |  | (0.0386) |  | (0.0361) |
| Scheduled Tribe |  | 0.0356\*\*\* |  | 0.0374\*\*\* |
|  |  | (0.00922) |  | (0.00833) |
| Other backwards class |  | 0.0177 |  | 0.0206\*\*\* |
|  |  | (0.0114) |  | (0.00413) |
| Other Caste |  | 0.0365\*\* |  | -0.0303\*\*\* |
|  |  | (0.0167) |  | (0.00459) |
| Do Not Know Caste |  | -0.00909 |  | 0.0130 |
|  |  | (0.0170) |  | (0.0187) |
| Caste Missing |  | 0.148\*\*\* |  | 0.0304\* |
|  |  | (0.0487) |  | (0.0157) |
| Constant | 0.257\*\*\* | 0.207\*\*\* | 0.102\*\*\* | 0.243\*\*\* |
|  | (0.0456) | (0.0675) | (0.0180) | (0.0146) |
| Observations | 337,444 | 218,266 | 581,026 | 392,586 |
| R-squared | 0.286 | 0.358 | 0.223 | 0.299 |
|  |  |  |  |  |

Robust standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

In the controlled regression, the coefficient on *notmarried* is significant at the 1 percent level, meaning that marrying after receiving a reserved female pradhan lowers the likelihood of child marriage by 2.59 percentage points. The coefficient on child gauna is significant at the 10 percent level, and says that a woman moving into her husband’s household after a female reserved pradhan comes into office lowers the likelihood she did so as a child by 1.11 percentage points. While this result for child gauna is significant, it is smaller and less significant than in the previous regression. The previous set of regressions yielded the result that the female pradhan had a highly significant impact on the likelihood of child gauna, despite the fact that the treatment group included women who had already reached gauna, thus the treatment would not affect their outcome. It could have been said that the effect of the female pradhan was strong enough to override these women who had already reached gauna. However, if that were the case, then the effect of the pradhan specifically on women who had not yet reached gauna would be stronger and more significant than when the treatment group included women who would not be affected by treatment. Therefore, I do not know why the previous regression yielded more significant and stronger results than this regression, but the effect on child gauna in the second set of regressions is a much more accurate depiction on the effect of the female pradhans due to the way the treatment and control group are defined.

 It is also interesting to note some of the control variables. The coefficient on education implies that if a woman increases her education by a year, she decreases her likelihood of child marriage by 1.69 percentage points. In the case of household type, women in urban households are 10 percentage points less likely to be married as a child than those in rural households. I also included various religion dummies, the omitted one being Hinduism. Muslims are 6.25 percentage points more likely to marry as a child than Hindus, whereas Sikhs are 6.8 percentage points less likely and Jains are 13.4 percentage points less likely to marry as a child than Hindus. In addition, I included some caste dummies. The omitted caste is Scheduled Caste, which is the official name given to the lowest caste (considered “untouchable” in orthodox Hindu practice). Scheduled Tribe refers to the indigenous Indian people, who are also considered socially disadvantaged. When switching from Scheduled Caste to Scheduled Tribe, the likelihood of child marriage increases by 3.56 percentage points.

 It is important to check for pre-trends to ensure that the trends in age of marriage were not drastically different between districts who have had a female pradhan and those who have not. I grouped the women into different marriage year cohorts, for example women who married between the years of 1980 and 1985 are in one cohort, women who married between 1985 and 1990 are in another cohort, et cetera. I then plotted each cohort’s mean age of marriage for districts who had received female pradhans and compared this to each cohort’s mean age of marriage for districts who had not received a female pradhan. I did this for each survey wave, and the results are on the following graph (excluding Wave 2 because Wave 2 did not contain information on age of marriage). Treatment is defined as districts who have received a female pradhan reservation, and control is defined as districts who have not received a female pradhan reservation.



As evident in the graph, there is very little difference between the treatment and control groups for each wave. Therefore, the trends in mean age of marriage are very similar between districts who have received female pradhans and those who have not, so we can rule out pre-trends as the force behind the differences in child marriage likelihood between treatment and control groups.

 I also wanted to see if these female pradhans were affecting age of first child birth of the mothers. In order to do this, I ran the same regressions as above, using both the untreated sample in which women who have received female pradhans were the treatment group and the treated sample in which women who married after receiving female pradhans were the treatment group. However, this time, I used age of first child birth as the dependent variable.

$$age\\_birth\_{i}= β\_{0}+β\_{1}Pradhan\_{d,t}+ β\_{2}MarriageYearFixedEffects\_{t}+β\_{3}DistrictFixedEffects\_{d}+β\_{4}IndividualControls\_{i}+u$$

$$age\\_birth\_{i}= β\_{0}+β\_{1}NotMarried\_{i}+ β\_{2}MarriageYearFixedEffects\_{t}+β\_{3}DistrictFixedEffects\_{d}+β\_{4}IndividualControls\_{i}+u$$

The following table has the results from these regressions.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| VARIABLES | Age Birth | Age Birth Controlled | Age Birth Treated | Age Birth Treated Controlled |
|  |  |  |  |  |
|  |  |  |  |  |
| pradhan | 0.550\*\*\* | 0.374\*\* |  |  |
|  | (0.134) | (0.155) |  |  |
| notmarried |  |  | 0.509\*\*\* | 0.352\*\* |
|  |  |  | (0.162) | (0.151) |
| Constant | 17.39\*\*\* | 17.19 | 20.84\*\*\* | 17.78\*\*\* |
|  | (0.0380) |  | (0.184) | (1.062) |
|  |  |  |  |  |
| Observations | 405,064 | 241,893 | 239,908 | 149,334 |
| R-squared | 0.564 | 0.538 | 0.545 | 0.528 |
|  |  |  |  |  |
|  |  |  |  |  |

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

According to the first regression, living in a district that had received a female reserved pradhan increases age of first child birth by .374 years, significant at the 5 percent level. According to the second regression, marrying after receiving a female pradhan increases age of first child birth by .352 years, significant at the 5 percent level.

**Conclusion**

 In conclusion, the results show that India’s amendment reserving one third of local government chairperson seats for women reduces the likelihood of child marriage and child gauna. Marrying after receiving a female pradhan decreases the likelihood of child marriage by 2.59 percentage points, and moving into your husband’s household after receiving a female pradhan decreases the likelihood of child gauna by 1.11 percentage points. In addition, marrying after receiving a female pradhan increases a woman’s age at first child birth by around a third of a year. Therefore, the results suggest that these female pradhans are making an important difference in their communities. There are many possible mechanisms through which women in power could influence child marriage and child gauna. For one, these women could create stricter laws to prevent and punish the practice, or use their positions of influence to spread awareness of the consequences of child marriage. In addition, if families are exposed to women in power, they could choose to keep their daughters in school rather than marry them off after seeing what women can accomplish in their careers. Thirdly, women may feel more comfortable reaching out to female political leaders than male leaders, thus the problems plaguing women are more likely to be addressed. It is interesting to note that because these female elected representatives are from the local jurisdiction they represent (often in a rural area), they are not considered “elite” by any means, and are usually very similar to rest of the women in their district. The typical profile of an elected woman is one who is either illiterate or barely literate, 25 to 45 years old, married and from a family below the poverty line. She is a housewife, without political connections, and never before involved in electoral politics[[71]](#footnote-72). However, despite their lack of experience and connections, these women are working just as hard as their male counterparts, and as evident in my study, they are clearly making an impact.

 This study is proof of the merit of gender reservations in government and the differences they can make. Increasing representation of underrepresented groups in government is important in ensuring that their rights are secured and their problems are addressed. Reservations allow government officials to be truly representative of the people that they were elected to represent, because if a government consists of only one demographic, there is little incentive for that demographic to act in the interests of others. Therefore, other countries should follow in India’s footsteps so that all voices can be heard and accounted for.

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