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LOVE MARRIAGE IN INDIA

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Abstract

In this study, we examine love marriage in India, its trends, the diversity of practices across cultural groups and regions and the relation of love marriage with the educational level of parents and parents-in-law. Using data from the second round of the Indian Household and Development Survey (IHDS) in 2011-12, this study contributes to enriching the still limited literature on marriage in India. Moreover, while previous studies on the topic have mostly been descriptive, we adopt a multivariate, multilevel approach at the regional level and focus on the emancipatory role of education with respect to traditional marriage. Although still marginal, we find that the practice of love marriage is increasing and is strongly entrenched in the cultural system based on caste, religion and region. Moreover, the education of mothers and mothers-in-law is positively associated with love marriage. The effect of mother-in-law's education on love marriage appears to be particularly strong. This finding may show that although love marriage is an individual process, in contrast to jointly arranged and totally arranged marriage, the family still has an influence. The effect of the education of mothers and mothers-in-law on love marriage also stresses the importance of the gender dimension in marriage studies in India.

Keywords: Women's emancipation; Spouse choice; India; Caste groups; Region; Female education.

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1. Introduction

The fundamental difference between love marriage and arranged marriage lies in the decision-making process. Love marriage can be defined as a system in which couples choose their partners themselves independently based on love and companionship. On the other hand, in an arranged marriage, the decision lies in the hands of parents and/or the kin but not the individual. Additionally, arranged marriages are mostly endogamous³ by race, religion, class, caste (Dyson and Moore 1983; Allendorf and Pandian 2016) and other ethnic identities.

Historically, worldwide, marriages were arranged by the adult members of the family to keep the clan intact based on socioeconomic status, communal affiliation and other ethnic identities (Maas and Leeuwen 2005; Leeuwen and Mass 2005). To maintain the ‘purity’ of the family line, some societies also practiced kinship marriage⁴. According to modernization theory, a traditionally tied society experiencing an increase in the level of development and education will also experience an increase in mobility, individualism, freedom of choice and nuclear families. Moreover, kinship authority will be challenged, and the society will gradually open up to more modern marriage practices (Goode 1963). Despite this expected trend, traditional marriage practices to preserve cultural homogeneity are still prevalent in many societies (Dyson and Moore 1983).

India is one of the most rapidly developing economies, but the question of whether cultural development has complemented this economic development remains insufficiently researched. To date, extensive studies have been performed in the areas of individuals’ age at marriage and the marriage squeeze, which refers to the phenomenon of the number of potential grooms exceeding

³ Endogamous marriages refer to marriages of individuals with similar ascribed identities by birth, such as religion, race, and caste.

⁴ A marriage practice in which a cross cousin or the uncle is considered the best candidate for the bride.

the number of potential brides (Desai and Andrist 2010; Dommaraju 2009; Guilmoto 2012; Bhat and Halli 1999). Other aspects of marriage, such as partner selection, have received little research attention. With the use of primary surveys and recently available data from the 2005 and 2011 rounds of the India Human Development Survey (IHDS), studies are now being conducted on interesting aspects of marriage, such as spouse choice, ethnic endogamy, and educational homogamy (Allendorf and Pandian 2016; Mathur 2007; Ahuja and Ostermann 2016; Das et al. 2011; Ray et al. 2017).

In this paper, we closely examine love marriage in India, the diversity of love marriage practices across cultural groups and regions and the relation of love marriage to the education level of parents and parents-in-law. Our research questions are as follows: What are the trends of love marriage in India? What are the main determinants? The study contributes to enriching the limited literature on marriage in India with original research questions and findings. While previous studies on the topic have mostly been descriptive, this study adopts a multivariate, multilevel approach at the regional level and focuses on the emancipatory role of education with respect to traditional marriage.

The study of marriage typologies is of paramount importance for gender equity in India. Several studies have shown that women in love marriages are better off than women in arranged marriages. In particular, arranged marriage can expose women to the risk of violence, especially when they involve a dowry (Rastogy and Therly, 2006), while love marriage and jointly arranged marriage seem to improve women’s agency and marital relations (Jejeebhoy et al. 2013).

2. Theoretical Framework and Research Hypotheses

Modernization theory, formulated by Goode (1963), proposes one main prediction: the convergence towards the Western nuclear family under the influence of industrialization and

urbanization. According to this author, with industrialization, workers need to move where work is available, and the conjugal family is the form of family that enables such movement. Moreover, this family structure corresponds to a value of personal fulfillment rather than solidarity between kin. Other secondary predictions of the theory concern the convergence towards the Western conception of marriage as companionship, as well as the increasing age at marriage and declines in fertility. Some studies support modernization theory and the diffusion of the nuclear family (Bongaarts and Zimmer 2002; Buttenheim and Nobles 2009; Niranjana et al. 2005; Ruggles 2009). In contrast, according to Cherlin (2012), Goode's hypothesis of the dominance of the nuclear family in the Western world and its spread in developing countries has not been verified. First, the dominance of the nuclear family has weakened in Western countries (because of divorce, cohabitation, and births outside marriage). Second, while the hypothesis of the spread of the conjugal family has been verified to a certain extent in China and Japan, it has been less verified in developing countries (Cherlin 2012).

Despite the absence of unanimous agreement about the verification of the main hypothesis of modernization theory, there is agreement about other secondary predictions. Phenomena such as the increasing age at marriage and declines in fertility are observable in developing countries (Bryant 2007; Ortega 2014; Raymo et al. 2015). Concerning the topic of this study, a decrease in family control over the choice of the spouse and the development of an idea of the couple as companions have also been observed (Cherlin 2012). According to Cherlin, changes in the availability of wages and land use were the basis for changes in spouse choice: with urbanization and industrialization, the older generations are no longer those who own the resources, and they therefore have a weak ability to affect spouse choice.

Other factors can amplify the ongoing influence of the economic context on spouse choice (Cherlin 2012). These factors include media exposure (see for India Jensen and Oster 2009), education (Caldwell 2006), and in some regions, even missionaries. The role of such factors can be described under the framework of developmental idealism. In this framework, love marriage is perceived as being associated with the development of Western countries taken as a model (Thornton 2005). Thus, in developmental idealism theory, the primary cause of change is still modernization and in its economic drivers (Thornton 2001 and 2005). Developmental idealism becomes important when, because of their economic development, Western societies become a model, including in terms of their family practices. According to Cherlin, developmental idealism initially concerns the elite, and then its influence spreads to lower levels of society.

The Case of India

The applicability of modernization theory in India is supported by previous literature showing an increase in age at marriage (Bongaarts and Zimmer 2002), fertility decline (Das and Dey 1998; Mohanty et al. 2016) and shifts to nuclear families (Niranjana et al. 2005) and single-child families (Basu and Desai 2016). Concerning the marriage process, several studies have shown ongoing changes. The role of parents in the choice of their children's spouses is still important, but couple formation has taken on new forms (Cherlin 2012). Parents may take into account their daughters' consent or consider their children's happiness (Banerji and Vanneman 2009; Fuller and Narasimhan 2008). In other cases, the provision of parental consent is the final stage after the meeting has already taken place (Netting 2010). Allendorf and Pandian (2016) observed a decrease in arranged marriages and slight increases in love marriage and especially jointly arranged marriages. In line with these studies, *in our first hypothesis, we assume that the youngest cohorts*

are more likely to experience jointly arranged marriage and love marriages than arranged marriages.

According to Cherlin (2012), new forms of marriage can be observed among the urban, well-educated middle class. Education and urbanization can weaken patriarchal gender values and norms related to endogamy. Because spouses' education measured at the time of a survey often indicates education that the spouses received after marriage, to reflect the order of causality, it is preferable to use variables related to parents' education. A high level of education of parents and parents-in-law can positively influence love marriages. Moreover, a feature of Indian marriages is the patrilocal family system, that is, the custom of a woman living with her husband and her in-laws after marriage (Allendorf, 2013; Char et al. 2010). This custom makes consent to the marriage by the parents-in-law extremely essential for living together, communicating, and sharing the same house after marriage. Therefore, *in our second hypothesis, we assume that the higher the educational level of parents (father and mother) and, particularly, parents-in-law (father-in-law and mother-in-law), the higher the likelihood of love marriage will be.*

Underlying the transformation in marriage practices is the entangled set of kin, community and state factors, such as gender values, patriarchal norms and the caste system, that create enough friction to prevent further changes in marital norms. While the caste system is prevalent among all religions in India, it is most entrenched among Hindus, who represent approximately 80% of the total population, with Hinduism being the major religion in India. Historically, Hindu society was majorly divided into four *varnas* or groups: *Brahmins* (the priestly class), *Kshatriyas* (warriors), *Vaishyas* (traders or businessmen) and *Sudras* (untouchables/slaves). In postindependence India, the constitution reformulated the caste groups by recognizing only the economically underprivileged groups as Scheduled Castes (SCs), Scheduled Tribes (STs), Other Backward

Castes (OBCs), and General Castes (higher-caste groups), with the aim of acknowledging and uplifting the marginalized sections of society (Fig. 1).

[Fig. 1 here]

According to the Indian Socio-Economic Caste Census 2011, the SCs represent 22.7 % of the population, the STs represent 8.5 %, the OBCs represent 51.1 % and others represent 17.8 %. The SCs and STs (the lowest castes in the caste hierarchy) are caste groups who historically were the most deprived of basic human rights, lived in extreme poverty, experienced malnutrition and were socially excluded. The OBCs were also historically oppressed castes, while the General Castes comprise all the other upper castes. Several studies have shown that caste remains a strong factor in Indian society and that women from the SCs and STs often experience the highest burden of social exclusion, including educational exclusion, poverty, the lowest maternal health care utilization (Kumar and Gupta 2015), a lack of occupational mobility across generations (Banerji 2012), and high fertility outcomes (Ramesh 2014). *In our third hypothesis, we assume that women from lower castes (the STs and SCs) have a greater likelihood of choosing their husbands themselves than women belonging to intermediate castes (the OBCs) or higher castes (the Brahmins) because lower-caste women have no privilege to preserve with marriage.* In addition, given the preference for consanguineous marriages among Muslims (Allendorf and Pandian 2016; Bittles and Hussain 2009), *we expect that women belonging to religions other than Islam are more likely to experience love marriage.*

The caste system can also explain the regional variation in love marriage. Other regions' cultural specificities contribute to the formation of marriage norms, such as patrilocality, kinship,

and bride price. The caste system and patriarchy continue to prevail in North India through the patrilineal, patrilocal family system (Jones 2010; Kolenda and Haddon 1987), whereas in the South, kinship and bride price remain dominant (Dyson and Moore 1983; Trautman 1981). Allendorf and Pandian (2016) observed that parental control in marriage, as well as consanguineous marriage, has declined steadily over the decades in the South, whereas the North remains the bastion of arranged marriages in India. In addition, teenage marriage is still a norm in northern regions of India, while it has become less common in more developed southern regions (Desai and Andrist 2010). The differences between regions may depend on the influence of the caste system on marriage.

Moreover, we can assume the existence of two other pathways by which region-level factors influence the marriage process. First, the development level of a region can directly or indirectly influence modern behavior in marriage practices. Second, state-level institutions within regions directly influence marriage policies. For example, the central government (in Delhi in North India) provides an incentive of two-and-a-half lakh Indian rupees (approximately 3000 euros) to every marriage involving a person of an SC that is registered under the Hindu Marriage Act. This scheme is called the ‘Dr. Ambedkar scheme for social integration through inter-caste marriage’. The incentive amount varies by state: some states have an upper income limit, some states give higher incentives, and other states have differential incentives by the type of marriage. According to the social welfare department, the Karnataka government in South India provides an incentive of two lakh Indian rupees (approximately 2500 euros) to an SC man who marries a higher-caste woman and three lakh Indian rupees (approximately 3500 euros) to an SC woman who marries a higher-caste man, provided that the couple’s annual income is below two lakhs. The highest incentive is given by the Rajasthan government, in West India, who provides an incentive of five lakhs

(approximately 6000 euros) for inter-caste marriages. Through these policies, states aim to reduce caste-based prejudice and discrimination and encourage love marriage or exogamy. *Thus, in our fourth hypothesis, we assume that women living in more developed regions, where castes and the patriarchal system have weakened and where antidiscrimination policies are more likely to be implemented, have a higher probability of love marriage than women living in other regions.*

Finally, because of the profound differences between regions at the cultural, political and socioeconomic levels, in our *fifth hypothesis, we expect that the effects of parental education and cultural groups on love marriage vary by region.*

3. Data and Methods

In this study, we use data from the second round of the IHDS in 2011-12, which was jointly conducted by researchers from the University of Maryland and the National Council of Applied Economic Research (NCAER), New Delhi. This is the only available nationally representative sample survey that provides detailed information on marriages in India. Information was collected from 42,152 households across 384 districts, 1,503 villages and 971 urban neighborhoods in India, covering topics such as health, education, employment, economic status, marriage, fertility, gender relations, social capital, village infrastructure, wage levels, and panchayat composition. In our study, we use the eligible women data file, which provides information on 39,523 ever-married women above 15 years of age. Information on spouse choice is available for 39,459 women. We restrict our study to women’s first marriage history and women in the 15-50-year-old age group, thus reducing the sample size to 35,830 women. Furthermore, we excluded 695 women because they were missing information on key variables. Thus, our final sample size was reduced to 35,135 ever-married women.

The spouse choice variable is based on the question, ‘Who chose your husband?’ The answers are as follows: respondent herself, respondent along with her parents and other relatives, only parents and other relatives and others. For the first part of our analysis, we explore love marriage as a dichotomous variable, with ‘love marriage’ coded as (1) and ‘not love marriage’, including all other choices, coded as (0). For the second part of our analysis, our dependent variable is categorical, and ‘love marriage’ coded as (1), ‘jointly arranged marriage’ coded as (2) and ‘arranged marriage’ coded as (3).

In this study, we are particularly interested in going beyond an examination of national-level trends and descriptive findings to contribute original findings based on individual-level analysis, with a special focus on cultural and regional diversity in India. Thus, our main explanatory variables are birth cohort, cultural group (caste and religion), region and parents’ education level. The IHDS dataset is also important for sociocultural studies since it is the first to provide additional information on Brahmins. In the Indian constitution, Brahmins are considered under the General Caste category. However, because of their superior social status over all other caste groups since time immemorial, they may have a different demographic characteristics; thus, it is important to identify them. In our study, we consider all available cultural groups: Brahmins, Forward/General Castes, OBCs, SCs and STs, which all pertain to the Hindu religion, as well as Muslims and Others (Christians, Sikhs, and Jains). Regarding the regions of India, we employ the generally accepted classification also used by Allendorf and Pandian (2016), which is presented in Table 1.

[Table 1 here]

Because post-marriage education is quite common in India, to avoid reverse causality issues, we use parents’ education level as the indicator of modernization at the individual level. Thus, we take into account the mother’s, father’s, mother-in-law’s and father-in-law’s education level. We also add other control variables to our model, such as age at marriage and partner’s childhood place of residence.

In the first step, we conduct an exploratory analysis on love marriage. We start our analysis by examining the trend of love marriage over time (birth cohorts) by cultural group, region and educational level of parents and parents-in-law. We then confirm our findings with multivariate analysis. In our data, 35,135 women are nested in 373 districts, and the average size of each district is 94. Therefore, we use a multilevel logistic model to reduce bias in standard errors and p-values for the group-level effects. This approach also allows us to take into account group-level unobserved heterogeneity, which is often underestimated in a normal regression model (Nezlek and Zyzanski 1998). We conduct a stepwise analysis, in which we first separately examine the effect of our explanatory variable on the dependent variable. Therefore, in models 1 to 4, we run regressions to explain love marriage according to birth cohort, cultural group, region and education level of parents and parents-in-law. In the final model 5, we also control for age at marriage and partner’s childhood place of residence. We estimate further models with interaction terms to verify whether the effect of caste and the effect of the education level of parents and parents-in-law on love marriage change according to geographical region.

Furthermore, we run an additional model to check the robustness of our findings with a multilevel multinomial logistic model, taking into account a categorical dependent variable distinguishing love marriage, jointly arranged marriage, and arranged marriage. For the estimation, we use generalized structural equation modeling (Gsem) in Stata (Palmer and Sterne 2015). This

model allows us to run a two-level regression model (observations nested in districts) of the multinomial dependent variable (love marriage, jointly arranged marriage and arranged marriage) to assess the change in the log odds of love marriage and jointly arranged marriage relative to the reference category, i.e., arranged marriage.

4. Results

4.1 Descriptive Results

In the district-level maps, we observe that love marriages are mostly clustered in highly developed districts in the South, East, Northeast and North (Fig. 2 and Table 3).

[Fig. 2 here]

Although love marriage remains a marginal spousal arrangement in India, the practice has more than doubled in female birth cohorts, from 3.71 % for the 1960-1969 cohort to 8.58 % for the 1990-1997 cohort, indicating a total increase of approximately 4.87 %age points (Table 3). Although other kinds of spousal arrangements, such as jointly arranged marriages or arranged marriages, are more commonly practiced than love marriage, these practices have increased by only 1.11 % and decreased by -5.88 %, respectively (Table 3). This finding indicates that love marriages are increasing over generations.

When analyzing love marriage practices by cultural group and region, we find interesting results (Fig. 3). Considering caste hierarchy among Hindus, the lowest caste group, i.e., STs, shows the highest practice of love marriages across all birth cohorts, while the OBCs show the lowest practice of love marriages. Among the higher caste groups, the Forward and General Castes show relatively higher practice of love marriages than Brahmins (the highest group in the caste hierarchy) across

all birth cohorts. Except for the latest cohort, love marriage has been almost stagnant among Brahmins and the OBCs. Among other religious groups, Muslims show the lowest practice of love marriages across all birth cohorts. Overall, all cultural groups (castes and religions) have shown an increase in love marriage practices across all birth cohorts; however, the highest increase in love marriage practices is observed for the latest cohort of 1990-1997.

[Fig. 3 here]

Even after decomposition by region, the lowest caste group, the STs, shows the highest practice of love marriage, and the OBCs show the lowest practice of love marriage in all regions (Fig. 4). All cultural groups in the Northeast region show higher love marriage practices than those in other regions, and the East shows the next highest practice of love marriage. The highest caste group, the Brahmins, shows high love marriage practices only in the East.

[Fig. 4 here]

By decomposing love marriage by the education level of parents and parents-in-law, we find that when education levels are low, love marriage practices are very limited. Love marriage gradually begins to increase when parents and parents-in-law have secondary and higher levels of education (Fig. 5). In particular, secondary and higher levels of education among mothers and mothers-in-law favor daughters' love marriage.

[Fig. 5 here]

4.2 Multilevel Logistic Regression Model

Our multilevel logistic regression model mostly confirms the descriptive results (Table 2). In our first model for love marriage by birth cohort, we find that the likelihood of having a love marriage is highest among the youngest cohorts. The youngest cohort, born in 1990-1997, is approximately three-and-half times more likely to have a love marriage than older cohorts. In our second model for love marriage by region, we find that love marriages are more significantly more likely to occur in the Northeast region (OR=57.09, $p<0.01$) than in the Central region and all other regions. The South, as the most developed region in the country, shows a greater likelihood of love marriages than the North and West, but overall, it does not have the highest likelihood for love marriage in the country.

In our third model for love marriage by cultural group, the lowest caste groups in the Hindu hierarchy, STs, and then the SCs show higher odds of having a love marriage than OBCs (OR=2.03, $p<0.01$ for the STs and 1.49, $p<0.01$ for the SCs, Table 2). The OBCs and Muslims show the lowest odds of having love marriages. The highest-caste groups, Brahmins and Forward/General Castes, are more likely to have love marriages than OBCs and Muslims but are less likely than STs and SCs. Among non-Hindus, other religious groups, such as Christians, Jains and Sikhs, together are more likely to experience love marriages than Muslims and most Hindu castes (except STs). In our fourth model, considering the education level of parents and parents-in-law, we observe that the higher the mother's and mother-in-law's education level is, the higher the odds of experiencing love marriage (among mothers, OR=1.37 and $p<0.01$ for secondary education and OR=1.51 and $p<0.05$ for higher education; among mothers-in-law, OR=1.53 and $p<0.01$ for secondary education and OR=1.78 and $p<0.01$ for higher education, Table 2). In contrast, the likelihood of love marriage is negative or does not vary according to father's and father-in-law's

education. Therefore, in the Indian context, the most educated mothers drive change and favor love marriage.

In our final model (Model 5), we consider all the explanatory variables and add other control variables, such as age at marriage and partner's childhood place of residence (Table 2). The odds ratio slightly decreases, but the direction of the effects on love marriage remains the same. In addition, we observe that love marriage is not significantly associated with age at marriage. Moreover, as expected, love marriage is more likely when both the respondent and her partner share the same childhood place of residence than when the childhood place of residence is different.

The variance at the district level is higher in models 1, 3 and 4 than in models 2 and 5, which indicates considerable heterogeneity in love marriage probabilities within districts by birth cohort, cultural group and parental education level. The heterogeneity is much lower in the second model, in which we check for the effect of region, and in the final model, in which we control for other independent variables. The intraclass correlation coefficient (ICC) reports the correlation between love marriage and district. Conditional on the fixed effects covariates, we find that the district level random effects contribute approximately 40 % of the total residual variance in models 1, 3 and 4; contribute much less, approximately 30 %, in model 2; and contribute approximately 27 % in the final model 5. The high ICC ($>.10$) confirms the relevance of the multilevel analysis.

[Table 2 here]

We also run a model to check for the interactions between cultural group and region and between parental education level and region (Table 4 and Table 5). Cultural group has the strongest statistically significant effect on marriage behavior in the East region. In the East region, women

of the ST caste are more likely to experience love marriage than women in the OBCs ($OR = 2.92$, equal to $1.92 * 1.52$). In the same region, Brahmin, Forward Castes and Muslim are also more likely than OBCs to have a love marriage (OR are 2.42, 2.24 and 1.72, respectively). Always in the East region, women belonging to other religions have higher odds of love marriage than OBCs ($OR = 19.73$, equal to $34.01 * 0.58$). This result may be related to the specific cultural composition of this region, especially due to the presence of Christians (Indian Census, 2011).

Concerning the interaction between region and the education level of parents and parents-in-law, some statistically significant effects also are observed. For women who reside in the East region and whose mothers have a high education level, the odds of experiencing a love marriage are more than double ($OR = 2.19$, equal to $1.36 * 1.61$) than those of women whose mothers have a lower level of education. An even greater effect is observed for women residing in the Central region and whose mother-in-law's education is high. In this case, the odds of experiencing love marriage is more than three times that of women whose mother-in-law has a lower education level ($OR = 3.66$, equal to $1.44 * 2.54$).

Finally, to check the robustness of our findings, we distinguish love marriage, jointly arranged marriages and arranged marriages. Then, we compute a generalized structural equation model to account for both the multilevel structure of the data and the multinomial dependent variable (Table 6). We contrast love marriage and jointly arranged marriage with arranged marriage, the reference category. The results are consistent with those previously obtained. Because we are comparing more dissimilar typologies of marriage, it is not surprising that those factors that favored love marriage in the analysis above now present even higher OR s.

5. Conclusion

Although still a marginal phenomenon, the practice of love marriage has slightly increased in India, especially among the youngest generations, confirming our *first hypothesis*: the youngest cohorts are 3-4 times more likely to experience love marriage than the oldest generations, even when control variables are considered in the multivariate analysis. Additionally, consistent with our first hypothesis, our multivariate analysis showed that the odds of jointly arranged marriage are 50 % higher for recent generations once a multivariate analysis is performed.

Our *second hypothesis* assumed a positive effect of the educational level of both sets of parents and parents-in-law on love marriage, in line with modernization theory and developmental idealism. However, we observed consistent and statistically significant results only for mothers and mothers-in-law: the high education level of the mother and, particularly, the mother-in-law is associated with greater odds of love marriage. In a patriarchal system, men compete to obtain a higher social status through 'a good marriage' (Chatterjee 1989; Dube 1996; Srinivas 1977). Consequently, a higher education may support mothers' ability to negotiate with their husbands for love marriages for their daughters and may support the ability of mothers-in-law to negotiate a love marriage for their sons. The effect of the mother-in-law's education level on love marriage appears to be particularly strong. After marriage, the wife often lives with her husband and her in-laws (Allendorf, 2013; Char et al. 2010), making consent to the marriage by the parents-in-law extremely important. In addition, mothers have to have greater efficacy in the negotiation than mothers-in-law because they have to compensate for both their own and their daughters' lower status as women, while mothers-in-law negotiate for their sons' love marriage and thus may have more chances of success. The effect of the education level of mothers and mothers-in-law may

show that although love marriage is an individual process, in contrast to jointly arranged and totally arranged marriage, the family still has an influence.

Our findings showed that women from the ST caste are more likely to experience love marriage than women from the OBCs, the largest caste in India. This finding was in line with our *third hypothesis* predicting that women of lower castes have no privilege to preserve with an arranged marriage. However, women of higher castes, such as the General Castes, are also more likely to experience love marriage than women of the intermediate OBCs. Notably, previous descriptive studies showed limited differences in love marriage among castes (Allendorf and Pandian 2016). Moreover, as expected, other cultural groups, such as Christians, Jains and Sikhs, showed high odds of love marriage as well.

Concerning the regions, in our *fourth hypothesis*, in line with modernization theory, we expected that women in more developed regions are more likely to experience love marriage. This assumption was supported by findings showing that the least developed regions, North and Central India, present smaller odds of love marriage. Thus, it appeared that the regions of the Hindi-speaking belt, i.e., North, West and Central India, where patriarchy is the most entrenched (Desai and Andrist 2010; Jones 2010), are the regions where the arranged marriage system continues to be the dominant marital arrangement. However, the strongest likelihood of love marriage was not observed in the most developed region, i.e., South India, but in the Northeast of India, a region that is bordered by neighboring countries such as China and Myanmar and where the culture is distinct from that of the rest of India (Allendorf and Pandian 2016). In particular, according to the 2011 Census, in the Northeast region, the percentage of Christians is higher than that in the rest of India, reaching 87.93 % of the population in Nagaland.

The statistical interactions showed that differences between cultural groups are especially accentuated in the East region of India. In this region, Christians, Jains and Sikhs have a much stronger likelihood of having love marriages than OBCs. In addition, Brahmins are four times more likely to experience love marriage than OBCs, followed by the General Castes, Muslims and STs. In the East, we may observe greater contrasts between cultural groups because the presence of Christians is strong but not as pronounced as in the Northeast, thus leading to a less homogenous context. Moreover, the distinct behavior of Christians can promote developmental idealism in the upper castes, producing a higher likelihood of love marriage. Regional differences in the effect of cultural groups on love marriage support our *fifth hypothesis*.

In the examination of the interaction between region and parental education, our findings also supported the *fifth hypothesis*: we found that the effect of mother's education is greater in East India, while the effect of mother-in-law's education was greater in Central India. Interestingly, these regions overlap with the regions that have been found to have greater violence against women (National Crime Records Bureau, 2012). Thus, in these regions, more educated mothers and mothers-in-law might invest a special effort to limit the risk of violence by trying to avoid an arranged marriage. To our knowledge, this aspect has rarely been addressed in the previous literature and might require further investigations with a qualitative approach.

The fact that the education of mothers and mothers-in-law positively affects love marriage supports both modernization theory and developmental idealism since the most educated people are the most likely to be exposed to transnational cultural flows (Netting 2010). Moreover, the results stress the importance of the gender dimension in marriage studies on India. Women's education may also create a virtuous circle of emancipation and equity through love marriage, exposing women to a lesser risk of violence within the family. In conclusion, if both modernization

theory and developmental idealism can be used to explain love marriage in India, progress towards gender equity should be taken into account as both a cause and consequence of love marriage. Our results encourage policy makers to be sensitive to women's efforts to avoid arranged marriages and the importance of women's education. Moreover, indicators of the gender system, especially at the regional and district level, should be explicitly integrated in future studies to ascertain the extent to which they explain regional differences in love marriage. Finally, although we focus on the Indian case, our approach and results may be applied to other Asian countries where arranged marriage is still predominant.

This study has limitations. First, in the younger cohort, a large share of women were not married yet and were not included in our sample of ever-married women. These single women may marry in the future, and their probability of choosing love marriage may be quite high. Thus, our study could not completely capture the marital behavior of younger cohorts, and we may have underestimated their love marriage practices. Second, as explained above in the methodological section, we considered parents' education instead of women's education to avoid reverse causality issues. However, importantly, women's choice to study and women's choice to marry are strictly connected. Women who decide to pursue higher education may want to postpone the marriage choice (parents might encourage both choices). Moreover, during their studies, women may find their future spouses and pursue a love marriage. To try to ascertain the causal effect between women's education and love marriage, we could have limited our sample to only married women and take as explanatory variable their educational level at the time of marriage. However, the limited size of our sample did not allow us to apply such a selection. Finally, we did not have information on the male partners' characteristics, particularly concerning caste. Consequently, we could not determine which combination of castes is more often associated with love marriage. To

our knowledge, there are no quantitative data from India allowing us to explore this dimension of love marriage.

Appendix

Table 3: Sample Characteristics

SAMPLE CHARACTERISTICS		Love Marriage		Jointly Arranged Marriage		Arranged Marriage		Total
		%	No.	%	No.	%	No.	
Cultural Groups	Brahmin	4.54	81	19.00	339	76.46	1,364	1,784
	General	6.44	390	25.90	1,568	67.66	4,096	6,054
	OBCs	3.08	372	22.12	2,672	74.80	9,036	12,080
	SCs	4.84	374	19.82	1,533	75.34	5,827	7,734
	STs	10.71	315	19.48	573	69.82	2,054	2,942
	Muslim	4.74	203	21.98	941	73.28	3,138	4,282
	Others (Christian, Jain, Sikh)	6.16	58	26.75	252	67.09	632	942
Regions	Northeast	32.83	474	34.42	497	32.76	473	1,444
	North	3.49	406	15.20	1,770	81.31	9,469	11,645
	Central	1.74	103	10.08	596	88.17	5,211	5,910
	East	7.35	300	14.94	610	77.71	3,173	4,083
	West	3.11	151	40.72	1,979	56.17	2,730	4,860
	South	4.56	360	30.83	2,432	64.60	5,096	7,888
Mother's Education	No Education	4.28	1,163	19.63	5,331	76.08	20,660	27,154
	Primary	5.51	240	27.04	1,178	67.45	2,938	4,356
	Secondary	8.93	327	31.15	1,140	59.92	2,193	3,660
	Higher	9.48	51	34.01	183	56.51	304	538
Father's Education	No Education	4.69	923	19.95	3,925	75.36	14,827	19,675
	Primary	4.55	247	23.91	1,297	71.54	3,881	5,425
	Secondary	5.39	426	24.41	1,930	70.20	5,550	7,906
	Higher	6.76	176	25.05	652	68.19	1,775	2,603
Mother-in-law's Education	No Education	4.29	1,237	20.14	5,808	75.57	21,797	28,842
	Primary	6.09	236	27.33	1,059	66.58	2,580	3,875
	Secondary	9.96	250	32.18	808	57.87	1,453	2,511
	Higher	11.69	47	31.09	125	57.21	230	402
Father-in-law's Education	No Education	4.44	929	20.04	4,191	75.52	15,795	20,915
	Primary	5.06	308	23.82	1,450	71.12	4,329	6,087
	Secondary	6.00	392	24.77	1,618	69.22	4,521	6,531
	Higher	6.96	145	26.13	544	66.91	1,393	2,082

Birth Cohort	1960-1969	3.71	304	20.61	1,687	75.68	6,194	8,185
	1970-1979	4.64	579	21.86	2,730	73.50	9,178	12,487
	1980-1989	5.34	643	23.15	2,789	71.51	8,616	12,048
	1990-1997	8.58	266	21.71	673	69.71	2,161	3,100
Age at Marriage	Below 18	3.98	899	19.21	4,337	76.80	17,337	22,573
	18-25	6.48	794	26.45	3,239	67.07	8,214	12,247
	Above 25	9.95	99	30.45	303	59.60	593	995
Childhood place of residence	Same Village	11.27	721	26.48	1,694	62.25	3,982	6,397
	Another Village	3.47	790	20.24	4,606	76.29	17,363	22,759
	Another Town	4.03	243	23.39	1,411	72.58	4,378	6,032
	Metro City	5.87	23	25.77	101	68.37	268	392
Total		5.01	1,794	22.00	7,884	72.99	26,152	35,830

Table 4: Multilevel model of love marriage with the interaction between region and cultural group

INDEPENDENT VARIABLES			(OR)	
CULTURAL GROUP		OBCs	R	
		Brahmin	0.53	
		Forward Castes	0.96	
		SCs	1.21	
		STs	1.52*	
		Muslim	0.72	
		Christian, Sikh, Jain	0.55	
REGION		Northeast	R	
		North	0.04***	
		Central	0.02***	
		East	0.05***	
		West	0.02***	
		South	0.05***	
CULTURAL REGIONS	GROUPS	X	Brahmin x N	1.76
		Brahmin x C	2.88	
		Brahmin x E	4.67**	
		Brahmin x W	2.91	
		Brahmin x S	1.32	
		Forward Castes x N	1.02	
		Forward Castes x C	2.32**	
		Forward Castes x E	2.34**	
		Forward Castes x W	1.83*	
		Forward Castes x S	1.08	
		SC x N	1.02	
		SC x c	1.30	
		SC x E	1.46	
		SC x W	1.41	
		SC x S	1.28	
		ST x N	1.10	
		ST x C	1.47	
		ST x E	1.92	
		ST x W	1.58	
		ST x S	1.14	
		Muslim x N	0.80	
		Muslim x C	0.57	
		Muslim x E	2.39**	
		Muslim x W	1.86	

			Muslim x S	1.01
			Christian, Sikh, Jain x N	1.68
			Christian, Sikh, Jain x E	35.03**
			Christian, Sikh, Jain x W	13.11*
			Christian, Sikh, Jain x S	2.01
BIRTH COHORT			1960-1969	1
			1970-1979	1.24**
			1980-1989	1.67***
			1990-1997	3.50***
CHILDHOOD RESIDENCE	PLACE	OF	Same Village/Town	1
			Another Village	0.32***
			Another Town	0.34***
			Metro City	0.72
AGE AT MARRIAGE			Below 18 years	1
			19-25 years	1.11
			Above 25 years	0.99
EDUCATION PRIMARY		ABOVE	Mother	1.30***
			Father	0.95
			Mother-in-law	1.39***
			Father-in-law	1.01
			_cons	0.70
			var(_cons)	1.21

Source: Author's own computation from IHDS 2011-12 data. Note: Dependent Variable: 1=Love marriage

***p<0.01, ** p<0.05, * p<0.1.

Table 5: Multilevel model of love marriage with the interaction between region and cultural group

INDEPENDENT VARIABLES		Model 1 (OR)	Model 2 (OR)	Model 3 (OR)	Model 4 (OR)
REGION	Northeast	R	R	R	R
	North	0.04***	0.04***	0.04***	0.04***
	Central	0.02***	0.02***	0.02***	0.02***
	East	0.08***	0.08***	0.09***	0.09***
	West	0.04***	0.04***	0.04***	0.04***
	South	0.06***	0.06***	0.06***	0.06***
Mother's Education (secondary and higher)		1.36*	1.29***	1.31***	1.30***
MOTHER'S EDUCATION X REGION	M X N	0.88			
	M X C	1.37			
	M X E	1.61**			
	M X W	0.70			
	M X S	0.68			
Father's education (secondary and higher)		0.94	1.04	0.95	0.95
FATHER'S EDUCATION X REGION	F X N		0.72		
	F X C		0.97		
	F X E		1.37		
	F X W		0.86		
	F X S		0.81		
Mother-in-law's Education (secondary and higher)		1.42***	1.41***	1.44*	1.41***
MOTHER-IN-LAW'S EDUCATION X REGION	ML X N			0.83	
	ML X C			2.54**	
	ML X E			1.22	
	ML X W			1.10	
	ML X S			0.67	
Father-in-law's Education (secondary and higher)		1.01	1.01	1.01	1.01
FATHER-IN-LAW'S EDUCATION X REGION	FL X N				0.92
	FL X C				1.25
	FL X E				1.40
	FL X W				0.76
	FL X S				0.90

CULTURAL GROUP	Brahmin	R	R	R	R
	Forward Castes	1.11	1.09	1.10	1.10
	OBCs	0.89	0.86	0.88	0.87
	SCs	1.25	1.21	1.24	1.23
	STs	1.70***	1.67	1.71***	1.68***
	Muslim	0.79	0.75*	0.76	0.76
	Christian Sikh Jain	1.43*	1.38	1.41	1.38
BIRTH COHORT	1960-1969	R	R	R	R
	1970-1979	1.25***	1.25***	1.24***	1.25***
	1980-1989	1.67***	1.68***	1.67***	1.67***
	1990-1997	3.51***	3.51***	3.50***	3.51***
CHILDHOOD PLACE OF RESIDENCE	Same Village/Town	R	R	R	R
	Another Village	0.33***	0.33***	0.33***	0.33***
	Another Town	0.34***	0.34***	0.34***	0.34***
	Metro City	0.73	0.74	0.74	0.75
AGE AT MARRIAGE	Below 18 years	R	R	R	R
	19-25 years	1.11	1.11*	1.11*	1.11
	Above 25 years	1.01	1.02	1.01	1.01
_cons		0.63	0.63	0.63	0.64
var(_cons)		1.26	1.24	1.25	1.24

Source: Author's own computation from IHDS 2011-12 data. Note: Dependent Variable: 1=Love marriage
 ***p<0.01, ** p<0.05, * p<0.1.

Table 6: Generalized structural equation model of marital arrangements

Independent Variables		Respondent Alone (OR)	Respondent with Parents/Kin (OR)
CASTE GROUP	Brahmin	1.30*	1
	General Castes	1.63***	1.07
	OBCs	1	1
	SCs	1.46***	1.09**
	STs	1.93***	0.78***
	Muslims	0.83*	1.1
	Others (Christian, Jain, Sikh)	1.79***	0.99
REGION	South	4.05***	5.32***
	West	3.17***	1.80***
	North	2.02***	1.37
	Northeast	121.65***	25.06***
	East	4.96***	1.94**
	Central	1	1
MOTHER'S EDUCATION	No education	1	1
	Primary	1.05	1.11**
	Secondary	1.55***	1.29***
	Higher	1.51**	1.45***
FATHER'S EDUCATION	No education	1	1
	Primary	0.93	1.12**
	Secondary	0.86*	1.06
	Higher	0.91	1.11
MOTHER-IN- LAW'S EDUCATION	No education	1	1
	Primary	1.03	0.95
	Secondary	1.58***	1.14*
	Higher	1.81***	1.13
FATHER-IN- LAW'S EDUCATION	No education	1	1
	Primary	1.16*	1.09**
	Secondary	0.98	1.03
	Higher	1.01	1.19**
BIRTH COHORT	1960-1969	1	1
	1970-1979	1.28***	1.09**
	1980-1989	1.79***	1.30***
	1990-1997	3.80***	1.49***
CHILDHOOD PLACE OF RESIDENCE	Same village/town	1	1
	Another village	0.33***	0.82***
	Another town	0.35***	0.83***
	Metro city	0.63**	0.85
	Below 18 years	1	1

AGE	AT	18 years to 25 years	1.19***	1.10***
MARRIAGE		Above 25 years	1.32*	1.16
DISTRICTS var(_cons)			5.9400	
Observations			35135	
Log Likelihood			-19544.57	

Source: Author's own computation from IHDS 2011-12 data.

Note: Reference category: Arranged Marriage. ***p<0.01, ** p<0.05, * p<0.1

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Tables

Table 1: Classification of Indian States into Regions

REGION	STATES
North	Delhi, Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Chandigarh, Uttarakhand, Uttar Pradesh, Jharkhand and Bihar
Northeast	Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura
Central	Madhya Pradesh, Rajasthan and Chhattisgarh
East	Odisha and West Bengal
West	Goa, Gujarat, Maharashtra, Daman and Diu, and Dadra and Nagar Haveli
South	Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and Puducherry

Table 2: Multilevel logistic regression model of love marriage among ever-married women aged 15-50 years in India.

INDEPENDENT VARIABLES		MODEL 1 (OR)	MODEL 2 (OR)	MODEL 3 (OR)	MODEL 4 (OR)	MODEL 5 (OR)
BIRTH COHORT	1960-1969	1				1
	1970-1979	1.31***				1.23**
	1980-1989	1.78***				1.64***
	1990-1997	3.50***				3.42***
REGION	South		3.28***			2.70***
	West		1.93**			1.79**
	North		1.46			1.63**
	Northeast		57.09***			44.06***
	East		4.65***			4.18***
	Central		1			1
CULTURAL GROUPS	Brahmin			1.29*		1.15
	General			1.37***		1.25**
	Castes					
	OBCs			1		1
	SCs			1.49***		1.42***
	STs			2.03***		1.95***
	Muslims			1.06		0.87
	Others (Christian, Jain, Sikh)			1.64***		1.53**
MOTHER'S EDUCATION	No education				1	1
	Primary				1.07	1.01
	Secondary				1.37***	1.27**
	Higher				1.51**	1.35
FATHER'S EDUCATION	No education				1	1
	Primary				0.94	0.95
	Secondary				0.9	0.9
	Higher				0.96	1.01
MOTHER-IN-LAW'S EDUCATION	No education				1	1
	Primary				1.11	1.09
	Secondary				1.53***	1.42***
	Higher				1.78***	1.53**
FATHER-IN-LAW'S EDUCATION	No education				1	1
	Primary				1.17**	1.17*

PARTNER'S CHILDHOOD PLACE OF RESIDENCE	Secondary			1.04		1.05
	Higher			1.05		1.09
	Same village/town					1
	Another village					0.33***
	Another town					0.34***
	Metro city					0.72
AGE AT MARRIAGE	Below 18 years					1
	18 years to 25 years					1.1
	Above 25 years					0.99
	DISTRICTS var(_cons)	2.3781	1.3437	2.1270	2.1305	1.2431
ICC		0.4196	0.2900	0.3927	0.3930	0.2742
Observations		35,820	35,830	35,818	35,407	35,135
Log Likelihood		5721.65	-5752.02	5783.67	5675.67	-5296.15
Prob > Chi2		0.00000	0.00000	0.00000	0.00000	0.00000

Source: Author's own computations from IHDS 2011-12 data. Note: Dependent Variable: 1=Love marriage, 0= Not love marriage. ***p<0.01, ** p<0.05, * p<0.1

Figures

Fig. 1: Historical and post-independence caste hierarchies in India (Masood 2014)

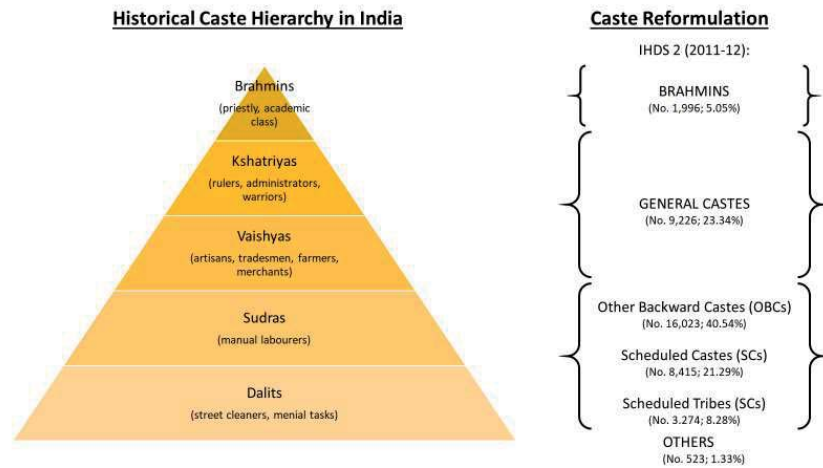
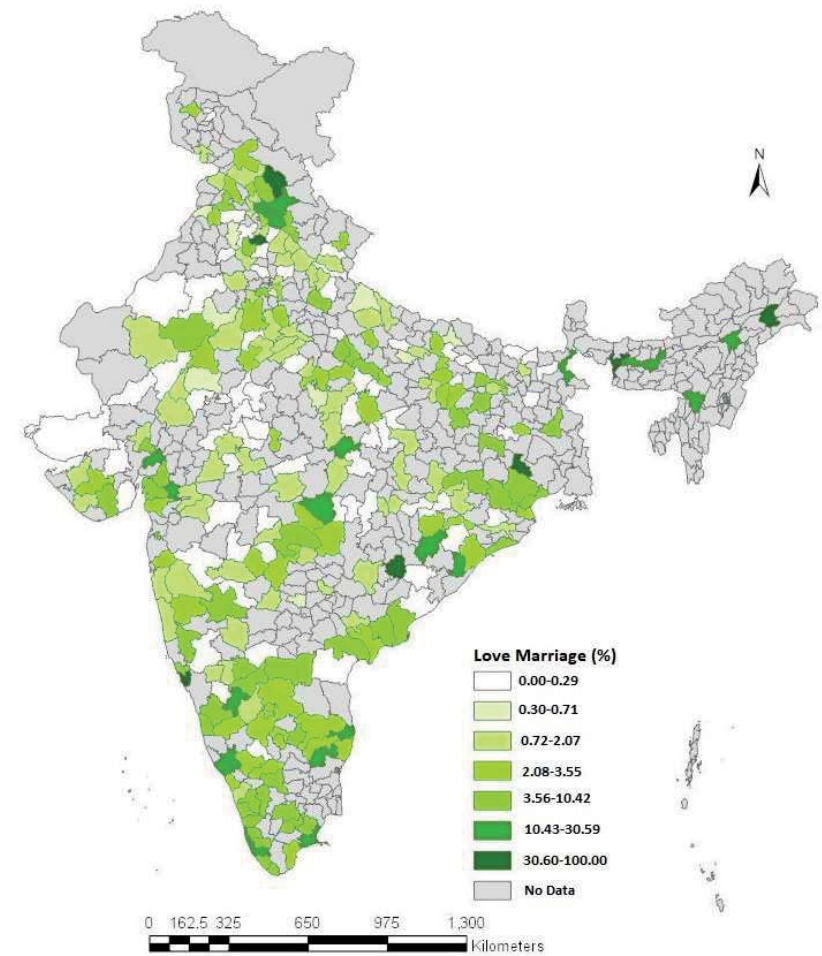
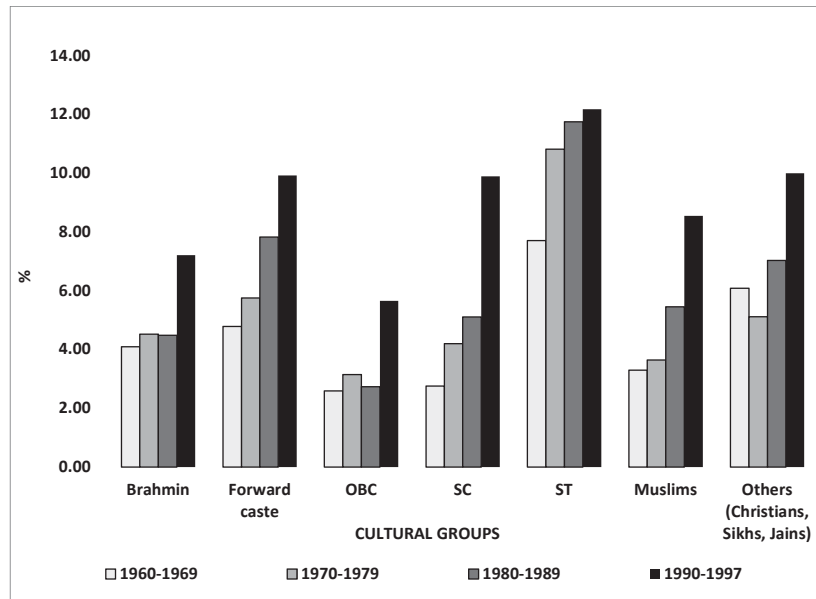


Fig. 2: Love Marriage % in Indian Districts



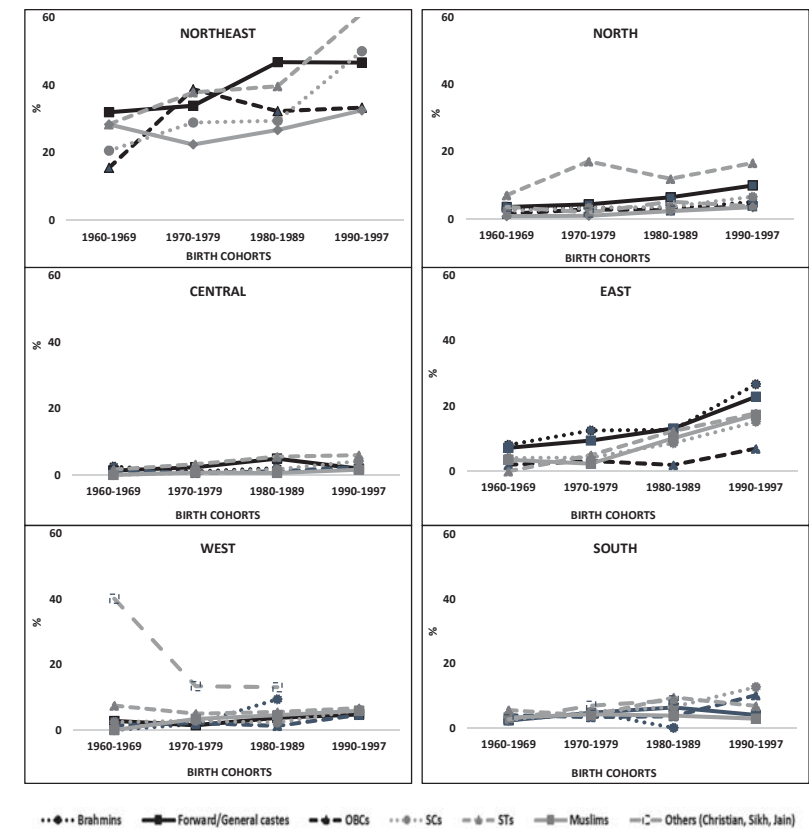
Source: Maps created by the authors from IHDS 2011-12 data.

Fig. 3: Love marriage trends by birth cohort and cultural group in India



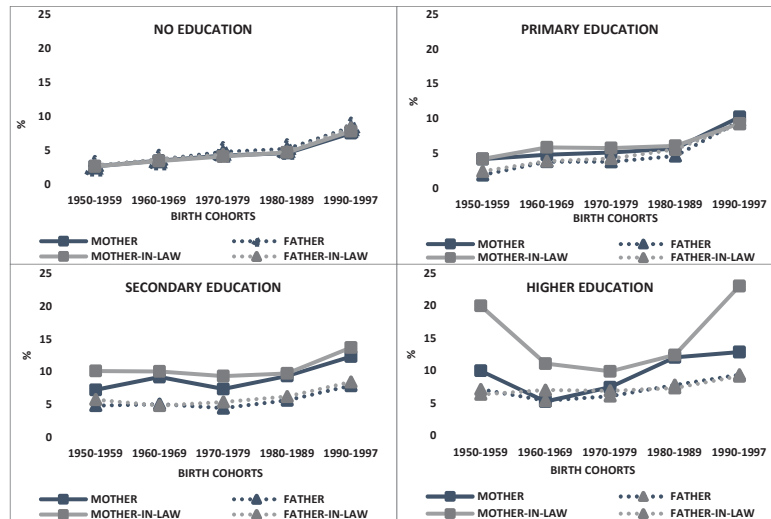
Source: Authors' own calculations from IHDS 2011-12 data.

Fig. 4: Love marriage trends by birth cohorts, cultural groups and regions in India



Source: Authors' own calculations from IHDS 2011-12 data. Note: Since a smaller number of observations often lead to misleading trends when calculated in terms of percentages, we have omitted plotting the following in this figure: Brahmins and Others in northeast; Brahmins for the last cohort in central; Others in central and east; Brahmins and Others for the last cohort in west and south.

Fig. 5: Love marriage trends by birth cohort and education level of parents and parents-in-law.



Source: Own calculations from IHDS 2011-12.

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