

Patterns, Determinants and Comparative Account of Son Preferences in India

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ABSTRACT

Over the last century, India has been consistently showing imbalances in the sex ratio. According to sociologists and economists, it is the reflection of high son preference prevailing over the last century in India. The main objective of the study is (i) to see the ideology and pattern of son preference among adult men respondents (ii) to see the variation in son preference by zone, state and its relationship with child sex ratio and its comparative account by its women counter respondents, and (iii) to identify the determinants of son preference through some socio-economic variables and its differentiation by gender using National Family Health Survey (NFHS-3) data of 2005-06.

The study is based on mainly 40,020 men aged 15-54 years from all states in India and only for making comparison 81,844 reproductive aged women (15-49 years). It is seen through our data that Indian fathers prefer two children with at least one son in their families. Many of them prefer two sons out of the two children. The groups in the lower strata in the development tree show high intensity of son preference. These groups are the illiterate men in rural sector and who are scheduled tribes, agricultural labourers or have low income. Incidence of son preference is seen more among men than women in some selective socio-economic groups such as urban area, lower age group, primary to higher educational level, men with no occupation and professional or higher level, and well to-do families. On the other hand, women of urban areas, higher educated, belonging to professional job category show less son preference than men but in general women's bias on son preference is more than men.

Nevertheless, it can be said that only social development like education, good health facilities or modernization or urbanization may not be sufficient to neutralize the gender inequality but it is recommended that improving literacy status, especially of women, and minimized gender gap will help to stop or minimize the son preference in India.

Keywords: Son preference, MDS, Socio-economic variables, NFHS-3

INTRODUCTION

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Over the last century, from a demographic point of view, India has been consistently showing imbalances in the sex ratio. According to 1901 Census, the sex ratio (female/ 1000 male) was 972. If we take every successive ten year, the sex ratios from 1971 to 2011 were 930, 936, 929, 933 and 943 respectively. According to the sociologists and development economists, it is the reflection of high son preference prevailing over the last century in India (Klaus and Tipandjan, 2015).

From sociological point of view, son preference largely depends on women autonomy and socio-cultural compositions. The economy in India is primarily based on agriculture where land is the main source of subsistence. The kinship system is patrilineal, which implies that productive assets are passed on to the male descendants (Dasgupta, 1987). From anthropological point of view, son preference is directly linked with the rigidity of patrilineality of the society. The degree of rigidity is different for different states. In some states it is possible to get a reverse result, because the states may not be patrilineal. Instead it may be matrilineal as in Meghalaya. The degree of rigidity about son preference is different for different states. Economists relate it to the stage of development of the country. More a country is developed less is the son or girl preference. Inter-regional variation of son preference of India can thus be best explained through the variation of patrilineal kinship system (Dasgupta, 1987; Nag, 1991). For example, in the northern India, kinship system, according to Dyson and Moore (1983), are demonstrated through the marriage rules which are exogamous and property inheritance to men descendants. Exclusion of women from property inheritance is seen almost everywhere in northern India, though laws state that sons and daughters have equal right to the properties of the family. Even the widowed mother can claim her due share. In southern India however, the marriage rules are endogamous and inclusion of women in the property inheritance are most of the times followed. The rigid patrilineality is prominent among the 'Jat' kinship system (Dasgupta, 1987) – “there is no question of women owning land. If she insists on her right to inherit land equally under the civil law, she would stand a good chance of being murdered”.

The dowry system, which forces the bride's family to give a lump sum amount in cash or in kind to groom's family during marriage, is another cultural reason for the existence of son preference in India. In northern India, the status of bride's family is put at an inferior position than the groom's family while in south India, as it is endogamous; brides are more acceptable in the groom's house if not given equal status. Another important aspect of south Indian kinship system is that daughter also can look after their parents during their old age which is almost impossible in northern India.

On the basis of religion differences, it is seen that that child sex ratio of Muslims is 950, Hindus 925, Sikhs 786 and among Jains 870 though the literacy rate of Hindu is 65.1 per cent (Census, 2001), Sikhs (69.4), Jains (94.1) and among Muslims, it is 59.1 per cent (Census, 2001). The fact that the sex ratio of Sikhs is 786 indicates that high induced abortions exist in Sikh community. It is also true in Jain community to a large extent. This is despite the fact

that Sikhs and Jains are economically and educationally more sound than Muslim community.

So far no national level study has been carried out regarding ideology of son preference from the men respondents in India though data have been collected from men respondents taking their views about son preferences and three consecutive national level reports regarding son preference from women respondents have been published. In this context, the main objective of the study is (i) to see the ideology and pattern of son preference among adult men respondents (ii) to see the variation in son preference by zone, state and its relationship with child sex ratio and its comparative account by its women counter respondents, and (iii) to identify the determinants of son preference through some socio-economic variables and its differentiation by gender.

DATA SOURCE

We have used the National Family Health Survey (NFHS–3) data conducted by the International Institute for Population Sciences (IIPS) Mumbai in 2005-06 in this study. The study is based on 74,369 men of age 15-54, from all states in India. The survey included men in the sample households who were usually resident or who were visitors or who stayed in the sample households the night before the interview.

It is important to note that our sample size is 40,020 in our case. The sample size is reduced from the original size due to the following additional selective criteria: (i) The selected men should be currently married, and (ii) The selected men should have at least one child. To make parity with the socio-economic variables, some outlying observations have been excluded. There have been some changes in the determination of sex composition of the children born to the mothers. We have not considered total number of children ever born. Total number of sons, for us, constitutes sons at home and sons elsewhere, and not total number of sons ever born. A similar approach has been followed for total number of children.

Ideal number of total children have been ascertained from men respondents who has at least one living children. The question was: “If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be?” (NFHS-3, 2007). And to know about ideal no. of sex composition of the children, they were asked how many of these children they would like to be boys, how many they would like to be girls and for how many the sex would not matter. For making comparison, we have used reproductive aged women (15-49) years of NFHS-3 data. The selective criteria and methodology for son preference is same as in men data.

METHODS

To assess the satisfaction level of the respondent, the difference between the ideal/desired number of children (or boys) and the actual number of children (or boys) has been measured. Satisfaction of a respondent as regards to number of children is identified by the value of this difference (actual minus ideal) being '0'. If the value of this difference is positive, then the respondent would prefer fewer children, and it is the other way round if the divergence is negative. Satisfaction level of a respondent as regards to number of boys is defined in a similar way.

To identify gender preferences in choice of children, only the ideal numbers of boys and girls were considered. Son preference of a respondent was identified when the ideal number of sons was more than half the ideal number of children. Likewise, daughter preference was identified when the ideal number of daughters was more than half the ideal number of children. 'Others' category has been computed when choice of ideal no. of children is odd and distribution of choice will be equal in case of ideal no. of son, daughter and no sex.

The covariates, considered here in respect of individual and household characteristics of the respondents, are area of residence (rural/urban), age group, religion and caste, education, occupation, wealth index and family type. Wealth index represent the economic status of the households. It is an indicator of the level of the wealth, which is consistent with expenditure and income measure (Rutstein, 1999). It is based on the possession of 33 types of household assets and housing characteristics. Not de jure resident means – Individuals not stayed in the household on the previous night (IIPS, 2007)

To assess the relative and effective intervention, the risk of Z-score value for son preference was regressed on socio-economic variables using categorical logistic regression analysis. The dependent variable – son preference – was binary, taking value '1' if son is preferred, and '0' otherwise. An estimated odd ratio of '1' indicates that the nature of the dependent variable is not different from the reference category. If the estimated odd ratio is >1, the probability of preferring son is more in this category compared to the reference category and if it is <1, then it is the reverse. The Statistical Package for the Social Sciences (SPSS, version 12.0) was used for the entire analysis. Levels of significance of $p < 0.01$ and $p < 0.05$ were considered.

RESULTS

Table-1 shows the satisfaction level of respondents is viewed in two ways. The first is the with respect to the number of children and the second with respect to the number of sons. Satisfaction level of men respondents has an inverse relation with the desire for more children, which is expected. Among families with a single child the desire for a second child is 86.3 % and 79.1 % respectively for no son and single son families. The percentages of fathers desiring for a more children seem to be very high. The satisfaction levels among fathers are 66.2 %, 75.3 % and 76.7 % for families with no sons, one son and two sons

respectively and the desire for further child among them are 25.3%, 17.9% and 16.4% respectively. Satisfaction level after that gradually decreases as the number of children increases, the range of satisfaction level being 3% to 15%. Naturally percentages of families desiring for more children also decreases and the percentage of men who do not want more children increases up to 93.0 %. The second view point is the satisfaction level of respondents in relation to total number of sons out of total number of living children. There is evidently an outlying row of observations located in the case of 3 sons with 5 children having 85.6% men who want more sons and 0.0% men who do not want more sons. This is in contradiction with the other observations. In the following discussions we ignore this case. It is seen from the table 1 that the percentage of men desiring for more son drops drastically at 2 sons compared two 1 son. 66.2% respondents in single child families with no son want more sons, whereas the percentage is 13.2 with one son. In case of two children families, with single son, 14.6 % men want more sons, while it is only 1.8% with two sons. So it can be assumed from the table 1 that, in India, two children families with at least one son is preferred by most of the fathers.

The phenomenon of son preference being more than daughter preference will be clearer if we consult Table 2. Contrary to the expectation, we see from Table 2 that the preference for girls decreases as number of sons increases, whereas son preference either remains more or less same or increases as number of sons increases. The preferences seem to be conditional to number of children and number of sons. i.e. there is a two-way causality between the preference and the actual numbers of children and sons.

Table 3 and Figure 1 describes the zone and state wise expression of son preferences in India from men respondents and finds satisfaction level by comparing actual number of children, sons and daughters with the corresponding desired numbers. By zone wise variation, it is seen that North-east zone shows the highest son preference (32.1 %) and then it is followed by Central zone (30.4 %) and the zone with lowest son preference is southern zone (13.9 %) followed by west zone (18.2 %). The states with more than 40% men showing son preference are Manipur (41.8 %), Mizoram (41.5 %) and Bihar (40.6 %) and the states with less than 15% son preference are Tamil Nadu (9.6 %), Kerala (12.0 %) and Himachal Pradesh (11.0 %). For zone and state wise comparison of satisfaction level of men on their children, sons and daughters we find the difference between the means of actual and desired numbers of such cases. This difference may be termed as 'mean divergence of satisfaction' (MDS). MDS values (actual minus desired) are seen to be negative only for North-east zone for total no. of children and no. of sons. Is this because there is desire for larger number of children/sons or because there are lesser number of children/sons on the average in this zone? The MDS values for total number of children and number of sons are both negative only for Arunachal Pradesh, Meghalaya, Manipur and Mizoram of North-east zones. Other than these states, the negative MDS values for total number of children were found only in Nagaland, Goa and Kerala. Negative MDS values for total number of daughters were found only in Meghalaya and Mizoram states of North-east zone in India. In all other states and zones, the MDS values were found to be positive for all the three cases, i.e., total number of children, number of sons and number of daughters. Developed states usually have less number of children and hence less number of sons and daughters. Goa and Kerala are developed states. So far as health and

education are concerned, North-east zone is also developed compared to other zones and states. This is reflected in the MDS values. (Scatter plot with identification of states showing desired no. of sons in x axis and actual number of sons in y-axis is to be inserted)

Also there is a mysterious relationship between sex ratio at birth (SRB) and son preference (Figure 3). For example, in Punjab, Haryana, Gujarat, Bihar and Jharkhond, SRB is below 850 but in Punjab, Haryana and Gujarat, ranges of son preference are 20.3, 25.7 and 26.3 respectively (Table 3) but in Bihar and Jharkhand, son preference are 40.6 and 29.7 respectively.

Son preference is thought to be dependent on many of the socio-economic variables. We have taken only a few variables to see the dependency. Table 4 shows that son preference is related with area of residence, religion and castes, literacy, occupation and wealth, but not much related with age-group of the respondent and type of family. It is seen to be high in rural areas, Scheduled Tribe communities, illiterates, agricultural labourers and poor families.

Table 5 and Figure 4 compare son and daughter preferences by men and women. Along with percentages of son and daughter preferences, the differences of these two percentages (i.e., preferences by men minus preference by women) are also given. Negative value thus indicates that the percentage of preference by men is less than that of women. In India as a whole, percentages of preferences are more or less same for both men and women respondents but there are great inter-zone and inter-state variation. Out of six zones, four zones such as north-east, east, west and south have more son preference by men than its counterpart. At all India level, women have both son and daughter preferences more than men do. It may only reflect the desire for children, and hence for boys and girls, is slightly more among women than among men.

Now we can try to analyze the differences of son/daughter preferences by socio-economic variables. Table 6 indicates that in rural areas, son preference is more among women respondents than men where as the reverse picture is seen in urban area. Though it is less likely that son preference will be more among men than women, but men in some selective socio-economic groups, such as lower age groups, literates, professionals or higher level workers, and well to-do families, have higher son preferences. It is also interesting to note that higher educated women have much less son preference than men in the same category.

Table 7 and Fig. 2 represent son preference among the men respondents in India who belong to different occupational categories in the perspective of different religions, castes and communities. Agriculture communities, especially the agricultural labourers, show the highest son preference compared to other occupational categories. Also men among general Hindus have the lowest son preferences almost in all occupational groups.

To see which socio-economic groups significantly influences men to have son preferences we have carried out a logistic regression taking son preference as the response variable and the socio-economic groups as the explanatory variables. Table 8 gives the results of different logistic models. Model 1 considers only the place of residence, i.e., rural vs. urban, as the

only binary variable to explain son preference which is also a binary variable, which takes value 1 if son is preferred and takes value 0 otherwise. Effect of education and other development parameters is reflected through this place of residence. Probability of son preference is seen to be significantly more in rural India. Model 2 shows the influence of individual developmental characters. Here it is observed that literate men are less biased to sons. Since men can work as agricultural labourers and can earn for the family, so son preference is more in the agricultural sector especially among agricultural labourers. New generation is more enlightened and thus the effect on son preferences increases as age of men respondent increases. Model 3 gives influences at household level.

Compared to Muslim community, son preference is less among Hindus, but more among ST (Christians). Son preference is highest among the poorest men and the lowest among nuclear families.

DISCUSSION

The paper analyses and compares the actual numbers of children, sons and daughters of Indian families with the corresponding numbers of children, sons and daughters as desired by father. The main emphasis is given on the number sons. In doing so, a few terms like son preference, satisfaction, 'mean divergence of satisfaction' (MDS) have been defined. It appears that Indian fathers prefer two children with at least one son in their families. However, the desire for daughters also exist among fathers like mothers with two or more children and it is the universal phenomena for all religious groups of India after having a boy, wanting a girl (Grant, 1988). Many of them prefer two sons out of the two children. It is now an open secret in India that there are some states like Punjab, Haryana, Gujarat etc. where sex selective abortions are practiced in a large scale resulting into sex ratio (Female/Male ratio) at birth (SRB) in those states to be less than 0.9, and even less than 0.8 in some states. No doubt, this phenomenon is directly linked with son preference (cited in Professor Ashish Bose, 2010 and Patel, V. 2003).⁶ However, our study does not find such a clear relationship between SRB and son preference. The answer to this dilemma possibly lies in the definition of the son preference and the status of development (mostly economic development) of these states. These states are usually economically developed but not so much socially developed like in respect of other development parameters like education, mainly women's education and women's status in the society. So this finding coincides with the view that inter-states variation of human development depends not only on economic development, it also depends on cultural norms, political willingness which give support for human development (Bajpai and Goyal, 2004). Average family size and hence the number of children is not as small as it should be for a developed state and it necessitates truncating the number of children by

⁶ The following remark by Dr. Betty Cowen, who spent many years at CMC, Ludhiana is appropriate here "There was a time in Punjab when the first daughter was welcome, the 2nd was tolerated and the 3rd was eliminated, we are now facing the tragic prospect that first daughter will be eliminated" (Ref. Bose, A. 2010). Again Chandigar based Institute for Development and Communication (2002-03) found that every ninth household acknowledged this abortion (Patel, 2003).

eliminating the future girl child. Low status of education and economic affordability have active role in taking and implementing such a decision of truncating number of children.

Mainly the groups in the lower strata in the development tree show high intensity of son preference. These groups are the illiterate men in rural sector and who are Scheduled Tribes, agricultural labourer or have low income. These findings coincide according to Census 2001, literacy status has a great jump between 1991 to 2001 but there is a great hidden disparity between genders, castes, income classes and rural urban areas. Incidence of son preference is seen more among men than women in some selective socio-economic groups such as urban area, lower age group, primary to higher educational level, men with no occupation and professional or higher level, and well to-do families. On the other hand, women of urban areas, higher educated, belonging to professional job category show less son preference than men.

This study also reflecting the idea of importance of participation of labour force of women because from the development point of view, another interesting finding is noticed through the comparative study of son preference from inter-state variation in India that excepting Assam, all other states of north-east zone along with north-east zone itself, rate of son preference among women is higher than men where participation of women labour force is good and literacy rate also high to highest. On the contrary, in north zone, most of the states have standard of living is very high and literacy rate also high but as women participation in labour force is very low showing the son preference is less than men respondents. So this findings support the Korean experience (Chung et al.2007) where the idea that women education and labour force participation reduce the gender inequality which help indirectly to break the rigidity of patrilineal kinship from the society. Nevertheless, it can be said that only social development like education, good health facilities can not stop or minimize the son preference because Kerala is demographically and socially highly developed and it is comparable with the developed country but this state has had a sex ratio at birth is below 900, suggesting a strong son preference. It is also seen that the ideology of son preference from men respondents does not support the theory of more industrialization for reducing gender inequality because it is seen that modernization or urbanization does not neutralize the gender inequality (Brockmann, 2001) and it is recommended that improving educational status, mainly women's education and minimized gender gap will help to stop or minimize the son preference in India.

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Table 1: Satisfaction level of respondents in relation to number of children or sons by number of children and sons

| Number of living children | Number of sons | Number of respondents (%) | | | | | | Total |
|---------------------------|----------------|--|-----------|---------------|--------------------------------|-----------|---------------|-------|
| | | Actual no. children – ideal no. children | | | Actual no. son – ideal no. son | | | |
| | | Wants more | Satisfied | Does not want | Wants more | Satisfied | Does not want | |
| 1 | 0 | 86.3 | 12.8 | 0.9 | 66.2 | 33.8 | 8.0 | 3501 |
| | 1 | 79.1 | 20.2 | 0.8 | 13.2 | 51.2 | 35.5 | 4136 |
| 2 | 0 | 25.3 | 66.2 | 8.5 | 68.2 | 31.8 | 0.0 | 2138 |
| | 1 | 17.9 | 75.3 | 6.7 | 14.6 | 60.4 | 25.0 | 6969 |
| | 2 | 16.4 | 76.7 | 6.9 | 1.8 | 18.4 | 79.9 | 3986 |
| 3 | 0 | 15.0 | 21.6 | 63.4 | 80.8 | 19.2 | 0.0 | 749 |
| | 1 | 13.1 | 27.1 | 59.8 | 27.4 | 51.7 | 20.9 | 3379 |
| | 2 | 9.5 | 39.1 | 51.3 | 3.2 | 37.3 | 59.5 | 4055 |
| | 3 | 8.5 | 37.5 | 54.0 | 0.9 | 6.8 | 92.3 | 1253 |
| 4 | 0 | 5.4 | 15.3 | 79.3 | 85.6 | 14.4 | 0.0 | 222 |
| | 1 | 4.7 | 18.0 | 77.2 | 40.1 | 44.4 | 15.5 | 1349 |
| | 2 | 4.9 | 28.5 | 66.6 | 4.8 | 45.5 | 49.6 | 2125 |
| | 3 | 4.9 | 26.5 | 68.6 | 1.9 | 10.3 | 87.8 | 1175 |
| | 4 | 4.9 | 28.7 | 66.4 | 0.8 | 4.9 | 94.3 | 247 |
| 5 | 0 | 1.1 | 6.3 | 92.6 | 92.6 | 7.4 | 0.0 | 95 |
| | 1 | 2.4 | 7.7 | 89.9 | 49.9 | 35.8 | 14.3 | 455 |
| | 2 | 3.4 | 9.2 | 87.4 | 8.4 | 50.6 | 41.1 | 874 |
| | 3 | 3.4 | 12.5 | 84.2 | 85.6 | 14.4 | 0.0 | 650 |
| | 4 | 3.1 | 11.8 | 85.1 | 1.6 | 5.3 | 93.2 | 322 |
| | 5 | 0.0 | 10.3 | 89.7 | 0.0 | 0.0 | 100.0 | 68 |
| 6 | 0 | 0.0 | 0.0 | 100.0 | 87.9 | 12.1 | 0.0 | 33 |
| | 1 | 0.0 | 1.3 | 98.7 | 49.7 | 36.9 | 13.4 | 157 |
| | 2 | 2.1 | 9.9 | 88.0 | 12.3 | 51.3 | 36.4 | 382 |
| | 3 | 1.7 | 7.9 | 90.4 | 2.3 | 14.2 | 83.6 | 353 |
| | 4 | 2.8 | 8.5 | 88.7 | 1.2 | 6.9 | 91.9 | 248 |
| | 5 | 1.8 | 5.5 | 92.7 | 1.8 | 2.8 | 95.4 | 109 |
| | 6 | 4.5 | 22.7 | 72.7 | 0.0 | 4.5 | 95.5 | 22 |
| 7 & 7+ | | 3.5 | 2.5 | 94.0 | 10.7 | 17.1 | 72.1 | 968 |

Note: Satisfaction Level (SL) is measured by the difference between actual number and the desired number. Thus = 0 means satisfied, SL > 0 means the respondent does not want any more and SL < 0 means the respondent wants more children in the respective category.

Table 2: Percentage showing preferences of sex of the children by sex composition of living children and sons

| Number of living children | Number of sons | N | No answer | No preference | Others | Girl preference | Son preference |
|---------------------------|----------------|-------|-----------|---------------|--------|-----------------|----------------|
| 1 | 0 | 3501 | 0.9 | 82.7 | 0.8 | 3.7 | 11.9 |
| | 1 | 4136 | 0.8 | 78.0 | 0.5 | 1.4 | 19.4 |
| 2 | 0 | 2138 | 0.5 | 76.9 | 1.9 | 7.6 | 13.0 |
| | 1 | 6969 | 0.9 | 84.1 | 1.0 | 1.4 | 12.6 |
| | 2 | 3986 | 0.5 | 77.9 | 0.6 | 1.2 | 19.8 |
| 3 | 0 | 749 | 1.7 | 71.6 | 0.7 | 8.7 | 17.4 |
| | 1 | 3379 | 1.4 | 70.3 | 2.2 | 5.9 | 20.2 |
| | 2 | 4055 | 1.8 | 59.6 | 1.8 | 1.3 | 35.4 |
| | 3 | 1253 | 2.5 | 59.8 | 1.8 | 0.9 | 35.1 |
| 4 | 0 | 222 | 2.7 | 66.7 | 3.6 | 8.1 | 18.9 |
| | 1 | 1349 | 1.6 | 66.0 | 1.7 | 4.7 | 26.1 |
| | 2 | 2125 | 2.4 | 69.4 | 1.7 | 1.4 | 25.1 |
| | 3 | 1175 | 2.0 | 57.2 | 1.8 | 0.7 | 38.3 |
| | 4 | 247 | 2.8 | 60.7 | 0.8 | 0.8 | 34.8 |
| 5 | 0 | 95 | 0.0 | 61.1 | 3.2 | 10.5 | 25.3 |
| | 1 | 455 | 3.3 | 58.9 | 2.0 | 6.2 | 29.7 |
| | 2 | 874 | 1.8 | 54.3 | 2.2 | 3.9 | 37.8 |
| | 3 | 650 | 2.0 | 49.4 | 1.1 | 2.6 | 44.9 |
| | 4 | 322 | 0.9 | 49.4 | 1.2 | 2.2 | 46.3 |
| | 5 | 68 | 2.9 | 48.5 | 0.0 | 1.5 | 47.1 |
| 6 | 0 | 33 | 3.0 | 57.6 | 0.0 | 6.1 | 33.3 |
| | 1 | 157 | 1.3 | 65.6 | 1.9 | 2.5 | 28.7 |
| | 2 | 382 | 2.6 | 55.5 | 1.8 | 4.7 | 35.3 |
| | 3 | 353 | 2.8 | 58.9 | 1.7 | 2.8 | 33.7 |
| | 4 | 248 | 1.2 | 53.6 | 2.0 | 1.6 | 41.5 |
| | 5 | 109 | 1.8 | 46.8 | 1.8 | 0.9 | 48.6 |
| | 6 | 22 | 0.0 | 36.4 | 4.5 | 4.5 | 54.5 |
| 7+ | | 968 | 2.4 | 51.9 | 2.0 | 2.4 | 41.4 |
| Total | | 40022 | 1.3 | 71.7 | 1.3 | 2.8 | 22.9 |

Table 3: Zone and state wise distribution of son preferences through MDS

| Zones and States | N | Difference between means of living and desired children (MDS) | | | % of Son preferences |
|-------------------|--------------|---|-------------|--------------|----------------------|
| | | Total children | Daughters | Sons | |
| North-east | 6368 | -0.13 | 0.23 | -0.03 | 32.1 |
| Arunachal Pradesh | 380 | -0.11 | 0.19 | -0.13 | 32.4 |
| Assam | 654 | 0.22 | 0.45 | 0.33 | 20.8 |
| Manipur | 2024 | -0.10 | 0.21 | -0.18 | 41.8 |
| Meghalaya | 269 | -0.44 | -0.01 | -0.16 | 23.8 |
| Mizoram | 354 | -1.32 | -0.38 | -0.86 | 41.5 |
| Nagaland | 1912 | -0.17 | 0.27 | 0.09 | 29.8 |
| Sikkim | 418 | 0.28 | 0.33 | 0.24 | 21.3 |
| Tripura | 357 | 0.28 | 0.54 | 0.32 | 19.9 |
| East | 3635 | 0.39 | 0.55 | 0.30 | 26.4 |
| Bihar | 702 | 0.69 | 0.83 | 0.34 | 40.6 |
| Jharkhand | 589 | 0.33 | 0.57 | 0.23 | 29.7 |
| Orissa | 890 | 0.34 | 0.52 | 0.32 | 25.6 |
| West Bengal | 1454 | 0.31 | 0.43 | 0.29 | 18.8 |
| Central | 8729 | 0.60 | 0.63 | 0.48 | 30.4 |
| Chhattisgarh | 808 | 0.3 | 0.48 | 0.19 | 29.2 |
| Madhya Pradesh | 1607 | 0.26 | 0.48 | 0.30 | 29.7 |
| Uttar Pradesh | 6314 | 0.73 | 0.69 | 0.55 | 30.7 |
| West | 5953 | 0.29 | 0.44 | 0.34 | 18.2 |
| Goa | 543 | -0.02 | 0.28 | 0.21 | 15.5 |
| Gujarat | 838 | 0.31 | 0.47 | 0.29 | 24.3 |
| Maharashtra | 4572 | 0.31 | 0.44 | 0.36 | 17.4 |
| North | 4569 | 0.48 | 0.55 | 0.51 | 20.2 |
| Haryana | 617 | 0.48 | 0.45 | 0.31 | 24.1 |
| Himachal Pradesh | 598 | 0.48 | 0.49 | 0.47 | 11.0 |
| Jammu & Kashmir | 494 | 0.54 | 0.61 | 0.40 | 28.1 |
| New Delhi | 700 | 0.47 | 0.59 | 0.68 | 15.9 |
| Punjab | 723 | 0.49 | 0.58 | 0.7 | 15.6 |
| Rajasthan | 902 | 0.33 | 0.50 | 0.36 | 27.8 |
| Uttaranchal | 535 | 0.72 | 0.70 | 0.65 | 17.6 |
| South | 10766 | 0.17 | 0.43 | 0.35 | 13.9 |
| Andhra Pradesh | 3893 | 0.18 | 0.45 | 0.35 | 15.2 |
| Karnataka | 3070 | 0.21 | 0.36 | 0.07 | 17.1 |
| Kerala | 607 | -0.26 | 0.41 | 0.25 | 12.0 |
| Tamil Nadu | 3196 | 0.21 | 0.56 | 0.48 | 9.6 |
| India | 40020 | 0.29 | 0.47 | 0.33 | 22.9 |

Table 4: Sex preferences with respect to different socio-economic variables

| Variables | N | No answer | No preference | Others | Girl preference | Son preference |
|--------------------------------|--------------|------------|---------------|------------|-----------------|----------------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Type of place | | | | | | |
| Rural | 20762 | 1.4 | 67.4 | 1.3 | 2.7 | 27.1 |
| Urban | 19258 | 1.2 | 76.3 | 1.4 | 2.8 | 18.3 |
| Age-groups (in years) | | | | | | |
| 15-24 | 1725 | 0.6 | 74.0 | 1.0 | 2.6 | 21.8 |
| 25-34 | 12780 | 0.7 | 74.0 | 1.3 | 2.8 | 21.1 |
| 35-54 | 25515 | 1.7 | 70.4 | 1.4 | 2.7 | 23.8 |
| Religion & Caste | | | | | | |
| Muslim | 4691 | 1.7 | 65.1 | 2.0 | 2.5 | 28.7 |
| Hindu (SC) | 6202 | 0.8 | 69.9 | 1.5 | 2.4 | 25.5 |
| ST (non-ch) | 2479 | 1.9 | 63.7 | 1.6 | 3.4 | 29.3 |
| ST (Ch) | 2209 | 1.7 | 56.0 | 0.9 | 8.3 | 33.2 |
| Hindu (Oth.) | 21795 | 1.2 | 75.9 | 1.2 | 2.2 | 19.6 |
| Others* | 2196 | 2.5 | 76.6 | 1.0 | 3.6 | 16.3 |
| Respondent's education | | | | | | |
| Illiterate | 7884 | 1.9 | 62.4 | 1.8 | 2.5 | 31.4 |
| Primary | 7465 | 1.8 | 67.4 | 1.5 | 3.1 | 26.2 |
| Secondary | 18926 | 1.1 | 74.2 | 1.3 | 2.9 | 20.5 |
| Higher | 5730 | 0.7 | 82.0 | 0.6 | 2.2 | 14.5 |
| Respondent's occupation | | | | | | |
| No occupation | 574 | 0.9 | 73.7 | 1.4 | 3.0 | 21.1 |
| Ag. Labour | 4961 | 1.4 | 65.7 | 1.4 | 2.0 | 29.5 |
| Other agro-employee | 656 | 1.8 | 64.6 | 1.7 | 4.6 | 27.3 |
| Skilled/unskilled/manual | 13770 | 1.4 | 71.4 | 1.6 | 2.6 | 23.0 |
| Farmer/cultivator | 6198 | 1.6 | 66.4 | 1.3 | 3.3 | 27.4 |
| Professional/sales/service | 13861 | 1.1 | 76.7 | 1.1 | 2.8 | 18.3 |
| Wealth index | | | | | | |
| Poorest | 4562 | 1.8 | 58.8 | 1.8 | 2.4 | 35.2 |
| Poorer | 6106 | 1.4 | 64.3 | 1.6 | 2.8 | 29.9 |
| Middle | 8093 | 1.3 | 69.3 | 1.4 | 2.7 | 25.3 |
| Richer | 9857 | 1.2 | 74.0 | 1.1 | 3.0 | 20.7 |
| Richest | 11402 | 1.2 | 80.5 | 1.1 | 2.7 | 14.4 |
| Family Type | | | | | | |
| Nuclear | 22089 | 1.4 | 71.2 | 1.3 | 2.8 | 23.2 |
| Non-nuclear | 17146 | 1.3 | 72.4 | 1.4 | 2.6 | 22.3 |
| Not de jure resident | 785 | 0.5 | 69.9 | 0.9 | 2.8 | 25.9 |
| India | 40020 | 1.3 | 71.7 | 1.3 | 2.8 | 22.9 |

* Excludes Muslim, Scheduled Tribe Christian & non-Christian

Table 5: Comparative account of state-wise sex preferences by men & women respondents

| Zones and States | Girl preference | | Differences Between men and women | Son Preference | | Differences Between men and women |
|-------------------|-----------------|------------|-----------------------------------|----------------|-------------|-----------------------------------|
| | Men | Women | | Men | Women | |
| North-east | 5.7 | 6.9 | -1.2 | 32.1 | 24.6 | 7.5 |
| Arunachal Pradesh | 4.5 | 4.0 | 0.5 | 32.4 | 30.2 | 2.2 |
| Assam | 3.8 | 1.6 | 2.2 | 20.8 | 26.9 | -6.1 |
| Manipur | 3.9 | 4.8 | -0.9 | 41.8 | 30.4 | 11.4 |
| Meghalaya | 14.1 | 17.1 | -3.0 | 23.8 | 13.6 | 10.2 |
| Mizoram | 16.9 | 21.1 | -4.2 | 41.5 | 29.2 | 12.3 |
| Nagaland | 5.8 | 8.5 | -2.7 | 29.8 | 22.4 | 7.4 |
| Sikkim | 4.8 | 5.0 | -0.2 | 21.3 | 17.7 | 3.6 |
| Tripura | 2.8 | 1.9 | 0.9 | 19.9 | 19.4 | 0.5 |
| East | 2.0 | 2.4 | -0.4 | 26.4 | 26.2 | 0.2 |
| Bihar | 1.3 | 1.4 | -0.1 | 40.6 | 39.2 | 1.4 |
| Jharkhand | 3.9 | 2.1 | 1.8 | 29.7 | 30.8 | -1.1 |
| Orissa | 1.5 | 2.4 | -0.9 | 25.6 | 28.2 | -2.6 |
| West Bengal | 1.9 | 3.1 | -1.2 | 18.8 | 15.3 | 3.5 |
| Central | 1.3 | 2.1 | -0.8 | 30.4 | 34.4 | -4.0 |
| Chhattisgarh | 2.8 | 4.2 | -1.4 | 29.2 | 37.6 | -8.4 |
| Madhya Pradesh | 0.9 | 2.0 | -1.1 | 29.7 | 31.0 | -1.3 |
| Uttar Pradesh | 1.2 | 1.5 | -0.3 | 30.7 | 35.2 | -4.5 |
| West | 2.9 | 2.8 | 0.1 | 18.2 | 17.4 | 0.8 |
| Goa | 4.6 | 3.5 | 1.1 | 15.5 | 12.1 | 3.4 |
| Gujarat | 1.7 | 2.2 | -0.5 | 24.3 | 26.3 | -2.0 |
| Maharashtra | 3.0 | 2.9 | 0.1 | 17.4 | 15.5 | 1.9 |
| North | 2.0 | 1.8 | 0.2 | 20.2 | 24.1 | -3.9 |
| Haryana | 2.9 | 1.0 | 1.9 | 24.1 | 25.7 | -1.6 |
| Himachal Pradesh | 1.2 | 1.6 | -0.4 | 11.0 | 12.9 | -1.9 |
| Jammu & Kashmir | 3.2 | 3.8 | -0.6 | 28.1 | 28.9 | -0.8 |
| New Delhi | 1.1 | 1.8 | -0.7 | 15.9 | 14.0 | 0.1 |
| Punjab | 1.8 | 1.2 | 0.6 | 15.6 | 20.3 | -4.7 |
| Rajasthan | 2.3 | 1.8 | 0.5 | 27.8 | 38.4 | -10.6 |
| Uttaranchal | 1.3 | 1.8 | -0.5 | 17.6 | 25.7 | -8.1 |
| South | 2.8 | 4.0 | -1.2 | 13.9 | 11.0 | 2.9 |
| Andhra Pradesh | 2.6 | 3.0 | -0.4 | 15.2 | 11.0 | 4.2 |
| Karnataka | 3.1 | 4.1 | -1.0 | 17.1 | 14.6 | 2.5 |
| Kerala | 1.8 | 6.1 | -4.3 | 12.0 | 12.1 | -0.1 |
| Tamil Nadu | 2.3 | 4.0 | -1.7 | 9.6 | 6.7 | 2.9 |
| India | 2.8 | 3.3 | -0.5 | 22.9 | 23.1 | -0.2 |

(+) indicates men's preference > women's preference

(-) indicates men's preferences < women's preference

Table 6: Comparative account of sex preferences with respect to different socio-economic variables

| Variables | Girl preference | | Differences between men and women | Son preference | | Differences between men and women |
|--------------------------------|-----------------|------------|-----------------------------------|----------------|-------------|-----------------------------------|
| | Men | Women | | Men | Women | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Type of place | | | | | | |
| Rural | 2.7 | 3.0 | -0.3 | 27.1 | 27.8 | -0.7 |
| Urban | 2.8 | 3.7 | -0.9 | 18.3 | 17.1 | 1.2 |
| Age-groups (in years) | | | | | | |
| 15-24 | 2.6 | 2.8 | -0.2 | 21.8 | 21.6 | 0.2 |
| 25-34 | 2.8 | 3.4 | -0.6 | 21.1 | 21.8 | -0.7 |
| 35+ | 2.7 | 3.4 | -0.7 | 23.8 | 24.7 | -0.9 |
| Respondent's education | | | | | | |
| Illiterate | 2.5 | 2.6 | -0.1 | 31.4 | 33.1 | -1.7 |
| Primary | 3.1 | 3.5 | -0.4 | 26.2 | 22.9 | 3.3 |
| Secondary | 2.9 | 3.8 | -0.9 | 20.5 | 15.3 | 5.2 |
| Higher | 2.2 | 4.5 | -2.3 | 14.5 | 9.0 | 5.5 |
| Respondent's occupation | | | | | | |
| No occupation | 3.0 | 3.2 | -0.2 | 21.1 | 20.9 | 0.2 |
| Agro-employee | 2.8 | 3.0 | -0.2 | 28.2 | 31.6 | -3.4 |
| Skilled/unskilled/manual | 2.6 | 3.3 | -0.7 | 23.0 | 24.5 | -1.5 |
| Professional/sales/service | 2.8 | 4.9 | -2.1 | 18.3 | 16.5 | 1.8 |
| Wealth index | | | | | | |
| Poorest | 2.4 | 2.8 | -0.4 | 35.2 | 37.6 | -2.4 |
| Poorer | 2.8 | 2.8 | 0.0 | 29.9 | 30.9 | -1.0 |
| Middle | 2.7 | 3.0 | -0.3 | 25.3 | 25.3 | 0.0 |
| Richer | 3.0 | 3.6 | -0.6 | 20.7 | 20.3 | 0.4 |
| Richest | 2.7 | 3.8 | -1.1 | 14.4 | 13.6 | 0.8 |
| Family Type | | | | | | |
| Nuclear | 2.8 | 3.5 | -0.7 | 23.2 | 23.1 | 0.1 |
| Non-nuclear | 2.6 | 3.1 | -0.5 | 22.3 | 23.2 | -0.9 |
| Not de jure resident | 2.8 | 2.8 | 0.0 | 25.9 | 21.5 | 4.4 |
| India | 2.8 | 3.3 | -0.5 | 22.9 | 23.1 | -0.2 |

Table 7: Role of respondent's occupation, religion and castes with respect to son preferences in India

| Occupation | Muslim | Hindu (SC) | ST (non-Ch) | ST (Ch) | Hindu (Oth.) | Others |
|----------------------------------|----------------|-------------------|--------------------|----------------|---------------------|---------------|
| Not working | 24.6 (61) | 13.3 (75) | 43.8 (32) | 30.6 (62) | 17.9 (312) | 25.0 (24) |
| Agricultural Labourers | 34.5 (411) | 32.0 (1225) | 33.4 (383) | 20.9 (43) | 28.0 (2690) | 18.7 (193) |
| Other Ag. Labourers | 36.2 (58) | 30.1 (103) | 30.2 (43) | 40.0 (15) | 25.8 (392) | 3.2 (31) |
| Farmer/Cultivator | 34.9 (281) | 24.3 (474) | 31.1 (765) | 36.2 (840) | 24.9 (3406) | 17.0 (711) |
| Skilled/unskilled/ Manual labour | 28.8 (2292) | 24.8 (2718) | 29.1 (828) | 36.8 (405) | 18.9 (6648) | 17.0 (711) |
| Professional/ service/sales | 25.6 (1588) | 22.2 (1607) | 21.5 (428) | 29.1 (844) | 15.1 (8347) | 14.5 (867) |

Figures between parentheses indicate total number (N).

Table 8: Results of different models of logistic regressions of son preference

| Variables | Model 1 | Model 2 | Model 3 | Model 4 |
|---|------------|------------|------------|------------|
| | Odd ratios | Odd ratios | Odd ratios | Odd ratios |
| Type of place | | | | |
| Rural [®] | 1.00 | | | 1.00 |
| Urban | 0.602** | | | 0.889** |
| Respondent's age-groups (in years) | | | | |
| 15-24 [®] | | 1.00 | | 1.00 |
| 25-34 | | 1.03 | | 1.12 |
| 35-54 | | 1.18** | | 1.41** |
| Respondent's education | | | | |
| Illiterate [®] | | 1.00 | | 1.00 |
| Primary | | 0.797** | | 0.895** |
| Secondary | | 0.613** | | 0.806** |
| Higher | | 0.426** | | 0.675** |
| Respondent's occupation | | | | |
| No occupation [®] | | 1.00 | | 1.00 |
| Ag. Labour | | 1.32* | | 1.10 |
| Other agro-employee | | 1.23 | | 1.20 |
| Skilled/unskilled/manual | | 1.02 | | 1.02 |
| Farmer/cultivator | | 1.26* | | 1.04 |
| Professional/sales/service | | 0.93 | | 1.04 |
| Religion & Caste | | | | |
| Muslim [®] | | | 1.00 | 1.00 |
| Hindu (SC) | | | 0.728** | 0.735** |
| ST (non-ch) | | | 0.758** | 0.748** |
| ST (Ch) | | | 1.197** | 1.21** |
| Hindu (Oth.) | | | 0.623** | 0.623** |
| Others [*] | | | 0.551** | 0.546** |
| Wealth index | | | | |
| Poorest [®] | | | 1.00 | 1.00 |
| Poorer | | | 0.780** | 0.819** |
| Middle | | | 0.615** | 0.677** |
| Richer | | | 0.474** | 0.564** |
| Richest | | | 0.321** | 0.415** |
| Family Type | | | | |
| Nuclear [®] | | | 1.00 | 1.00 |
| Non-nuclear | | | 1.03 | 1.08** |
| Not de jure resident | | | 1.13 | 1.22* |
| R2 | 0.11 | 0.20 | 0.035 | 0.039 |

^{*}Excludes Muslim, Scheduled Tribe Christian & non-Christian

[®] Reference category. **: Significant at 1 % level; * Significant at 5 % level

Figure 1 : Relationship between actual no. of sons and desired no sons by state

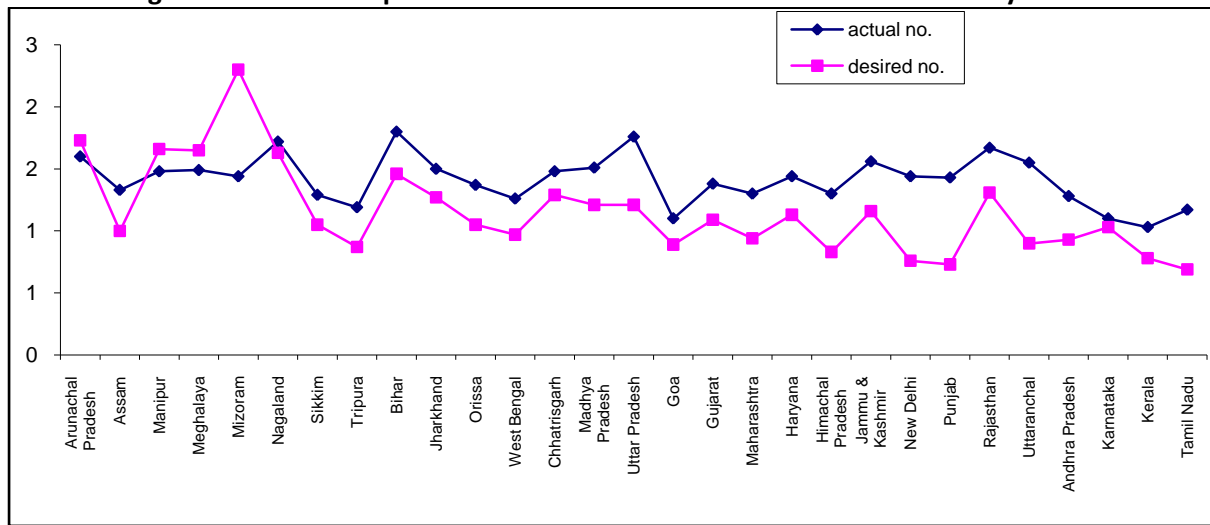


Figure 2: Role of respondent's occupation, religion and castes with respect to son preferences in India

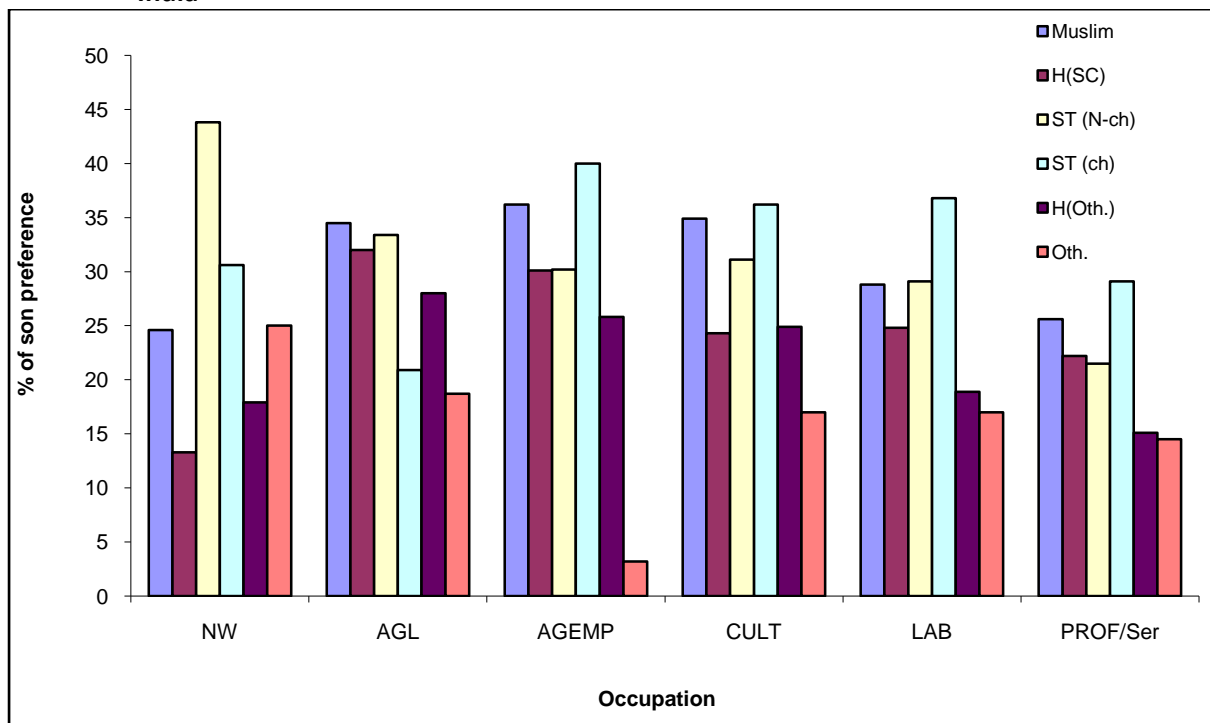


Figure 3 : Relationship between sex ratio at birth and son preference of men and women by States in India

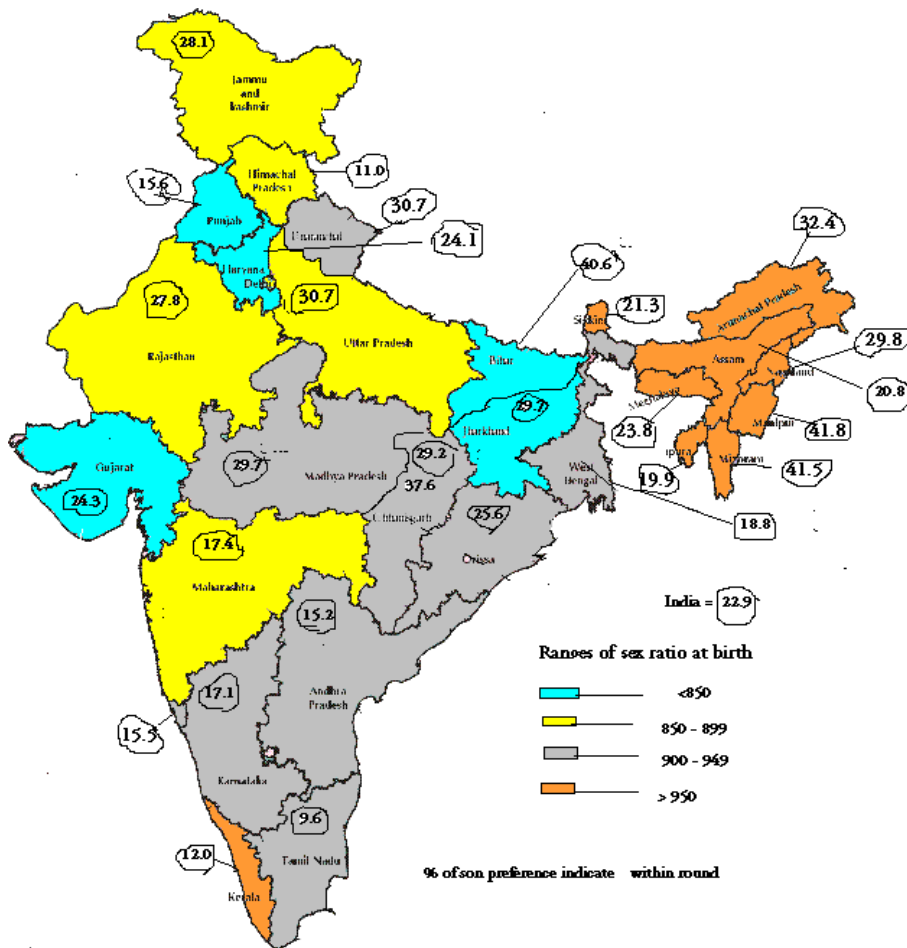
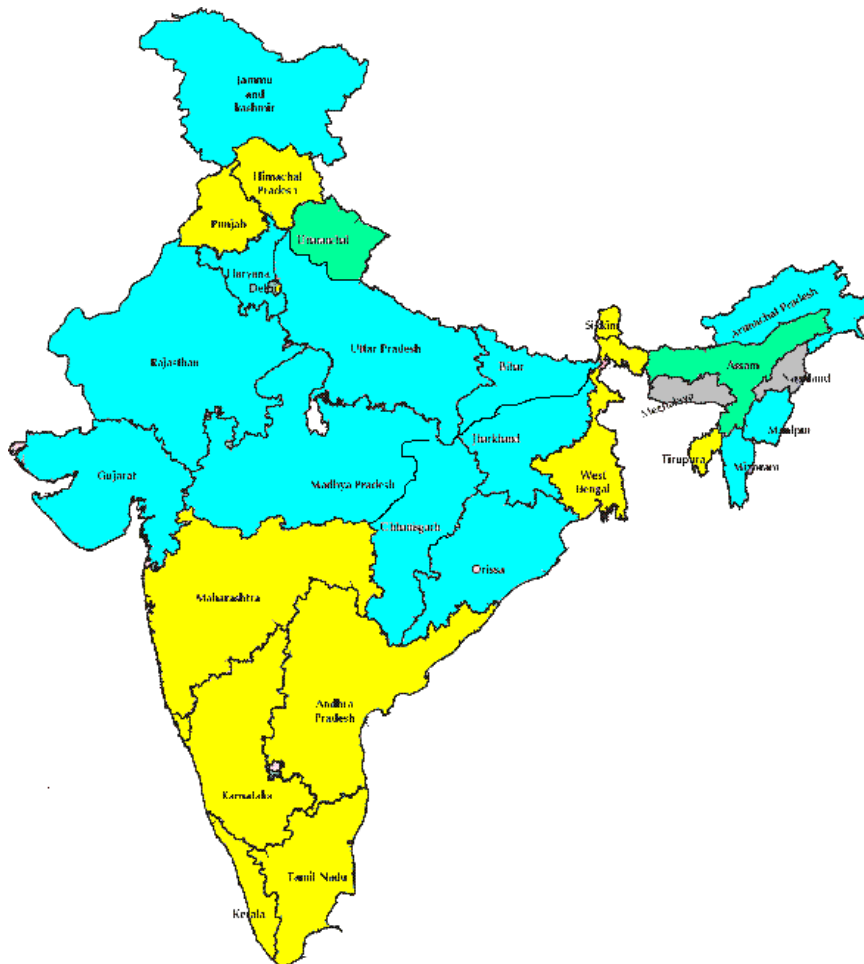


Figure 4: Comparative account between men and women’s son preference by state in India in respect of national average of each sex



- (i) Sky blue colour denotes that both men and women’s son preferences are more than the corresponding national figures.
- (ii) Green colour denotes that men’s son preference is below the corresponding national figure and women’s son preference is above the corresponding national figure
- (iii) Yellow colour denotes that both men and women’s son preferences are below the corresponding national figures.
- (iv) Ash colour denotes that men’s son preference is above the corresponding national figure and women’s son preference is below the corresponding national figure.