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The NFHS BULLETIN summarizes findings from the 1992–93 National Family Health Survey. The NFHS collected information from nearly 90,000 Indian women on a range of demographic and health topics. The survey was conducted under the auspices of the Indian Ministry of Health and Family Welfare to provide national and state-level estimates of fertility, infant and child mortality, family planning practice, maternal and child health, and the utilization of services available to mothers and children.

The International Institute for Population Sciences (IIPS), Mumbai, conducted the NFHS in cooperation with various consulting organizations and 18 population research centres throughout India and with the East-West Center in Honolulu, Hawaii, and Macro International in Calverton, Maryland. The U.S. Agency for International Development provided funding for the NFHS and for this publication.

Is Son Preference Slowing Down India's Transition to Low Fertility?

Family planning researchers and programme managers have been concerned for some time that couples with a strong preference for sons might be slow to limit their fertility. Many have speculated that parents in societies with high child mortality would not stop having children until they had at least two sons. The goal of such parents would be to ensure that at least one son survived to adulthood. The evidence for this effect has been mixed, however. Fertility has declined sharply in South Korea and Taiwan, for example, while son preference has remained strong.

In high-fertility societies, son preference may not have a great influence on fertility levels because most couples will choose to have large numbers of children whether they have sons or daughters. Similarly, in low-fertility societies, couples will choose to have only one or two children regardless of their children's sex. Theoretically, the impact of son preference should be greatest in societies where the transition to low fertility has started but is not yet complete.

As a country in the midst of such a transition, India offers an excellent opportunity to evaluate the influence of son preference on fertility behaviour. In addition, India's regions and states vary widely, both in terms of fertility levels and degree of son preference, offering good opportunities for making comparisons and evaluating trends. This issue of the *NFHS Bulletin* examines fertility levels and indicators of son preference in 19 Indian states, analyses the impact of son preference on fertility decline, and offers policy recommendations for alleviating some of the constraints that son preference imposes on India's social and economic development.

Evidence of son preference

The 1992–93 National Family Health Survey (NFHS) included several questions that shed light on the degree of son preference among currently married Indian women. When asked to describe their ideal family composition, Indian women as a whole said they wanted 50% more sons than daughters. Women in every state wanted more sons, but the preference for sons was particularly strong in Punjab, Rajasthan, Uttar Pradesh, Bihar, and Gujarat. It was weakest in Kerala, Delhi, Assam, Goa, Karnataka, and Tamil Nadu.

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Another way to measure son preference is based on a woman's stated intention to stop having children. If son preference is strong, then a woman with sons should be more likely to want to stop having children than a woman with daughters. By this measure, son preference was strongest in Haryana and Rajasthan and weakest in Kerala.

A related measure is based on contraceptive use. NFHS results showed that women in every state were more likely to practice family planning if they had two sons than if they had two daughters. According to this measure, Rajasthan stood out as having particularly strong son preference. Son preference appeared relatively weak in Kerala, Andhra Pradesh, Goa, and Tamil Nadu.

Based on all three of these measures, son preference appears to be strongest in the northern and central regions of India (apart from Delhi) and weakest in the south. Other indicators of son preference, based on sex discrimination in the care of young children, confirm this pattern. A comparison with state-level fertility patterns suggests that son preference tends to be strong in states where fertility is high, but there are exceptions. In Bihar and Assam, for example, fertility is high, but son preference is only moderate.

Son preference and fertility

After the birth of a child, does the probability of having another child depend on the sex of the previous child and of the other children in the family? The NFHS provides an answer to this question based on complete birth histories collected from 89,777 ever-married women age 13–49. This discussion focuses primarily on the group of women with three surviving children who did or did not go on to have a fourth child within five years after the

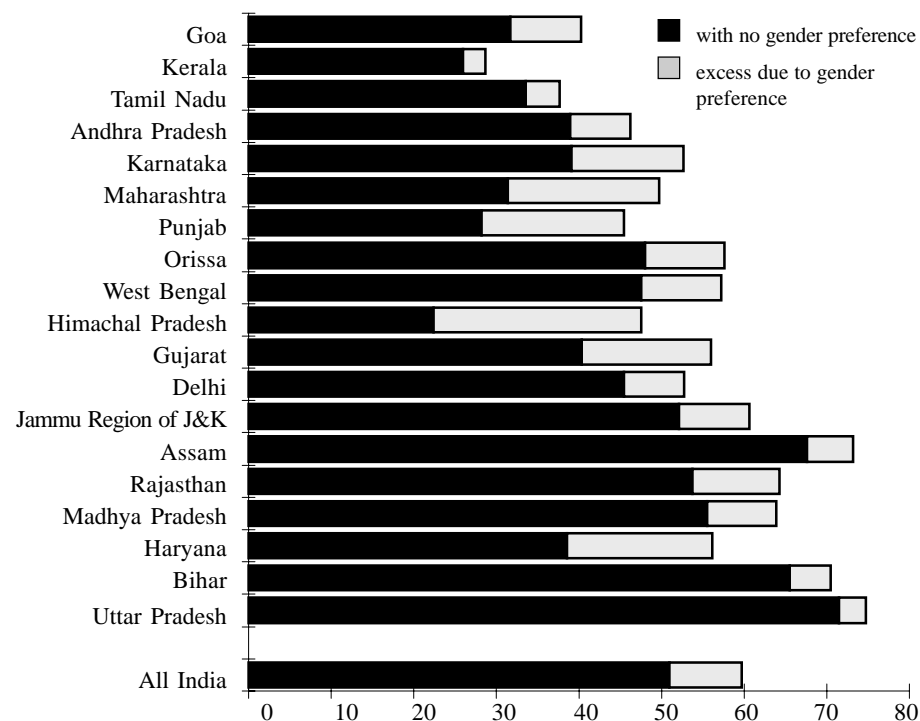


Figure 1. Percentage of women with three surviving children who go on to have a fourth child, decomposed to show the influence of gender preference, for India and for individual states ranked in ascending order according to total fertility rate, National Family Health Survey, 1992–93

previous birth. This is a crucial decision point for many couples in India.

For this analysis, all women with three surviving children were categorized according to their previous children's sex. The percentage who went on to have a fourth child within five years of the previous birth was then calculated for each group. In Rajasthan and Madhya Pradesh, women with three sons and no daughters were the least likely to have a fourth child, indicating strong son preference in these states. In most of the other states, women with two sons and one daughter were least likely to have another child, suggesting that once a succession of sons is assured most Indian couples also wish to have at least one daughter.

In every state but Tamil Nadu, women with two sons were less likely to have a fourth child than women with one. The difference between these two groups was often substantial. This may suggest a concern about child mortality, with couples preferring to have 'an heir and a spare' before completing their families. In all states, women with only daughters were by far the most likely to have a fourth child.

The analysis included a calculation of the percentages of women with two children who went on to have a third child. This group showed evidence of son preference similar to levels found among women with three children. In most states, women with two children were least likely

to have an additional child if they had two sons and most likely if they had two daughters. In contrast, women in Kerala were least likely to have another child if they had one son and one daughter.

Arnold (1985) has developed a method to estimate the influence of gender preference on fertility levels in quantitative terms. First, women with a specific number of children are grouped according to their children's sex. The influence of gender preference is then estimated by identifying the group of women least likely to have another child. The assumption is that if there were no gender preference, all women would be just as likely to have another child as this group. The difference between this—lowest—percentage having another child and the percentage of all women having another child is taken as a measure of the 'extra' fertility that is due to gender preference.

This extra fertility is related to gender preference, but not necessarily to son preference. For example, a preference for a balanced number of sons and daughters, as in Kerala, also tends to elevate fertility.

Figure 1 shows the percentages of women with three children who go on to have a fourth child, for India as a whole and for 19 states. The figure shows the lowest percentage having another child (in most states for the group of women with two sons and one daughter) and the overall percentage for all women. The difference between these two levels approximates the excess fertility due to gender preference. These estimates indicate that gender preference has a particularly strong effect on fertility in the northern states of Himachal Pradesh, Maharashtra, Punjab, and Haryana and a particularly weak effect in the low-fertility southern states of Kerala and Tamil Nadu as well as the high-fertility state of Uttar Pradesh.

Table 1. Percentage of women with three surviving children who go on to have a fourth child, broken down by number of sons and selected demographic characteristics, National Family Health Survey, 1992–93

Characteristic	Three sons	Two sons	One son	No sons	Ratio	Ratio
					no/three sons	one/two sons
Urban residence	52.9	48.6	62.5	75.4	1.42	1.29
Rural Residence	56.5	51.7	66.8	79.0	1.40	1.29
Literate	43.7	40.7	54.8	75.1	1.72	1.35
Illiterate	62.3	56.8	71.4	79.5	1.28	1.26
Hindu	53.3	48.4	64.0	77.1	1.45	1.32
Muslim	72.2	69.0	76.6	85.2	1.18	1.11
Other religion	53.1	48.9	64.5	75.4	1.42	1.32

In general, there is a tendency for gender preference to have the strongest effect in states with intermediate levels of fertility. There are wide variations, however, and the pattern is not entirely consistent, which suggests that other state-level characteristics influence fertility levels apart from gender preference.

Table 1 shows the interaction between son preference and urban/rural residence, literacy, and religious affiliation. Again, the analysis focuses on women who had three children and went on or did not go on to have a fourth. The fifth column compares women with no sons and women with three sons in terms of subsequent fertility, and the sixth column compares women with one son and two daughters and women with two sons and one daughter. These comparisons are presented as ratios: any result above 1.0 indicates the influence of son preference.

The results of this multivariate analysis indicate that rural women have slightly higher fertility levels than urban women. Rural women with three children are more

likely to have a fourth child than urban women regardless of the sex of their first three children. The influence of son preference is similar in both settings.

In general, literate women have much lower levels of fertility than illiterate women. This difference is particularly large among women who have surviving sons, suggesting that the influence of son preference on fertility is stronger among literate women. Among religious groups, the influence of son preference on fertility levels is weakest among Muslim women. Indeed, in most states son preference does not have a statistically significant effect on fertility among Muslims.

Results are similar for women with two surviving children who go on or do not go on to have a third. In this group, son preference has a slightly stronger effect among urban women than among rural women. It has a much stronger effect among literate women than among illiterate women, and it has a weaker effect among Muslim women than among Hindus or women of other religions.

Policy implications

This analysis of NFHS results shows that a preference for sons exists to varying degrees in every part of India. It also shows that son preference has an adverse effect on the government's goal to reduce fertility. Couples who reach their desired family size may not stop having children if they have not reached their desired number of sons.

Estimates presented here suggest that fertility at the national level would decrease by an estimated 8% in the absence of gender preference, which is most often a preference for sons. Among women with three children fertility would decrease by about 15%, and among women with two children it would decrease by about 8%. Thus a concerted effort to reduce son preference, while admirable in its own right, would also bring considerable benefits in terms of reducing India's rate of population growth.

One finding with interesting policy implications is the comparison of son preference among literate and illiterate women. Although literate women in India have much lower levels of fertility than illiterate women, the influence of son preference on fertility levels is actually

higher among women who are literate. This suggests that literate women may want to have small families and may be well equipped to stop childbearing when they choose, but literacy does not necessarily change a woman's attitude concerning the importance of having sons. Although differences between urban and rural women are small, the pattern is similar: urban women have somewhat lower fertility than rural women, but they show similar, or even stronger, effects of son preference on fertility levels.

At a practical level, any programme to change attitudes concerning son preference will be difficult to implement in the context of widespread female illiteracy and limited exposure to mass media. However, the evidence presented here suggests that women's social and economic development, in itself, may not lower the level of son preference, at least not right away. At the same time, government legislation to end gender discrimination has not proven to be sufficient to change thousands of years of cultural heritage.

Social development for women—in the form of education, media exposure, and the opportunity to work outside the home—can provide access to new ideas, but these ideas must be presented to

women in clear and compelling terms. And the cultural and economic factors that underlie attitudes such as son preference must be transformed. Community-based programmes, such as those in Indonesia, or 'mothers' clubs', as in South Korea, may be effective in India, but such programmes will need to pay particular attention to the cultural and religious characteristics of local communities.

References

- Arnold, Fred. 1985. Measuring the effect of sex preference on fertility: The case of Korea. *Demography* 22(2): 280–88.
- Arnold, Fred, Minja Kim Choe, and T. K. Roy. 1996. *Son preference, the family-building process, and child mortality in India*. East-West Center Working Papers: Population Series No. 85. Honolulu: East-West Center, Program on Population.
- R. Mutharayappa, Minja Kim Choe, Fred Arnold, and T. K. Roy. In preparation. *Son preference and its effect on fertility in India*. National Family Health Survey Subject Report. Mumbai: International Institute for Population Sciences and East-West Center Program on Population.

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The *NFHS BULLETIN* Editorial Committee consists of Fred Arnold, B. M. Ramesh, Robert D. Retherford, T. K. Roy, and Sidney B. Westley.

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