

An Assessment of Fertility Preferences and Behaviour in a Region of Low Fertility: A Case Study of Kolkata

Monorisha Mukhopadhyay¹, Anuradha Mondal^{2*}

Abstract : *This paper seeks to understand the nuances of fertility preferences and behaviour in a sub-population in Kolkata which is experiencing low fertility on the basis of a field investigation during which over 300 currently married and unmarried women were interviewed in the city. The fertility preference depends on number of factors like number of living children, sex composition of the living children, notion of ideal family size and desire for more children. Large proportion preferred one boy- one girl combination although nearly half of the respondents have one birth. This indicates that there is undercurrent of desire for small families and preference for one child is emerging rapidly. There is indication that fertility decline has taken place in the study area along with an undercurrent sex preference. The paper indicates towards the implication of low fertility which will be proportionate increase of the age old population, sizeable decrease of population if in-migration stops and deficiency of young and innovative minds.*

Keywords : *Desired family size, Low fertility, Arnold effect, Gender preference*

Fertility Transition in India: A Regional Context

The successive reduction in fertility from high birth order to low birth order is thus the result of values and disvalues accrued to each birth. The early fertility transition is guided by value of having a child whereas, the post transition fertility being guided by economic considerations (Bulatao, 1981). In course of fertility transition low fertility gradually became intriguing in the developing world. Although fertility transition in the developing countries do not comply with the micro economic theories of socio economic variables like caste, education religion and working status of women (Dev *et al.* 2002). India has come a long way in the history of fertility transition. But the most striking feature of India's transition is that of large divergence due to combination of determinants that produces different fertility regimes in the country (Dyson and Moore, 1983; Rele, 1987; Murthi, Guio and Dreze,

1 Assistant Professor, Department of Geography, Rishi Bankim Chandra Evening College, Email : mono.jnu@gmail.com

2 Assistant Professor, Department of Geography, Vivekananda College for Women, Email : anu.mnd19@gmail.com

* Corresponding Author

1995). The country represents huge regional variation in fertility due to her cultural, economic and geographical diversity and the resultant combination of determinants generate different fertility regimes in the country.

In India, at the outset fertility first started declining in the southern states and then it diverged to Hindi speaking belts of Northern India. Kerala among the southern states showed fertility decline even in the absence of substantial economic development. High female literacy was identified as the main reason for such decline (Susuman *et al.* 2014). Also, higher level of contraception use, with higher age-at-marriage, catalyzed as intermediate or proximate variables which led to lower fertility in Kerala (Nair, 2010). In most of the studies economic and social factors are given the maximum importance in explaining fertility variation. But it was also found that cultural factors like religion (Alagarajan and Kulkarni, 2008) and size of family (Pandey *et al.* 2012) influence fertility variation.

The fertility transition in other southern states of India like Tamil Nadu (Krishnamoorthy *et al.* 2005), Andhra Pradesh (Matthews *et al.* 2009; Saavala, 2010), and Karnataka (Lingaraju and James, 2012) took place without substantial level of female literacy or lowering of child mortality. The major factor contributing to the decline was connectivity between urban and rural areas which had prompted the rural poor to commute to urban areas for job. The access to the urban areas had influenced the rural population longing for education of children to bring down the fertility level (Krishnamoorthy *et al.* 2005). Rising aspirations about children and quantity-quality trade-off contributed to lowering family size desires and the family planning programmes provided the means to regulate fertility (Kulkarni, 2011). The fertility decline in Karnataka was at a much lower rate compared to the surrounding states of Tamil Nadu, Kerala, and Andhra Pradesh. The state showed large regional variations in transition with the northern districts lagging in the process due to lack of mass movement and low status of women; however fertility decline in southern Karnataka took place rapidly because of the neighbourhood influence of Kerala and Tamil Nadu.

Some western and north-western states of India followed the southern states in lowering fertility to replacement level; so did the eastern state of West Bengal. Recent study based on reverse survival estimation based on 2011 census, revealed that The Total Fertility Rate (TFR) of the city-Kolkata had come down to 1.2 (Guilmoto and Rajan, 2013). Interestingly, a sub-population of this eastern state had been historically experiencing a low fertility regime (Basu and Desai, 2016; Ghosh, 2017). Ironically, the process of fertility transition in India, especially the southern states, had been well addressed, but little had been discussed about various processes that had propelled low level of fertility in one-off regions. TFR which is a standardized measure of fertility is consistently low at 1.3 in 2017 (RGI, 2017) in urban West Bengal in comparison to urban fertility of other demographically

progressive states like Andhra Pradesh (TFR of 1.5), Karnataka (TFR of 1.6), Tamil Nadu (TFR of 1.6) and Kerala (TFR of 1.7) respectively (SRS, 2017). Urban West Bengal reached replacement level fertility well in 1991 (RGI, 2009). Thereafter, the TFR has declined continuously being 1.8 and 1.6 in 1996 and 2001 respectively. In the year 2006 TFR reached 1.3 thus initiating the phase of lowest low fertility in urban West Bengal. This challenges to unravel the preferences and behaviour which may have resulted in occurrence of low fertility in the region. The principal objective of this paper is to determine the preferences and fertility behaviour facilitating low fertility in urban West Bengal particularly Kolkata.

Methods and Materials

The psyche of the women towards marriage and childbearing is significant as they are probable future mothers and their inclination will indicate the course of family building and level of fertility in the population. In India nationally administered Demographic and Health Survey namely National Family and Health Survey (NFHS) is been collecting information on critical population and health indicators like marriage, childbearing, morbidity, health care utilization, family welfare and information on non-communicable diseases. So far four rounds of survey had been conducted and the reports of these were published. The estimates from most recent round of NFHS-4 (IIPS, 2017) showed that eight out of ten girls are married in the age group of 25-29 years and 45-49 years respectively in the urban parts of West Bengal; indicating a phenomenon of universal marriage. From the survey data the information on marital status, women with number of children, women with one child family and usage of contraceptives are obtained. Further, the primary survey facilitated in understanding the reasons for inconsistency between ideal family size and actual family size and change in desire to have an additional child from the past experience of childbearing.

A primary survey was carried out in Kolkata-the state capital of West Bengal. She had been chosen as the representative unit of study as she symbolizes the urban characteristics of the state and houses about fifteen% of the total urban population of the state (RGI, 2011). In a metropolis like Kolkata, the population is widely heterogeneous i.e., varies socially, economically and demographically. Therefore, a two-stage systematic random sampling method had been chosen with city wards as the first-stage unit and currently married and unmarried women from these as the second stage unit with a total sample of 300. Kolkata is divided into 141 municipal wards and four special wards and among these 141 wards, four wards were chosen for sample survey. Female Literacy Rate was chosen as an indicator to arrange the wards in descending order and a systematic sample of four selected; this amounts to implicit stratification by female literacy. The data from the 2011 census were not available at the time of data collection and hence the selection of wards was based on the data from the previous census, that of 2001. From each

ward two localities, one identified as poor and the other as non-poor, were selected based on the local enquiries and perception of the researcher. This was done to avoid homogeneity in the population. After listing of households in each locality, it was proposed to select 25 currently married women in reproductive age group and 12 unmarried women at random but in order to allow for non-response up to 30 currently married women of reproductive age and 15 unmarried women (The scope of findings results associated with unmarried women remains in a separate paper) were selected from each locality. Structured questionnaires were prepared and a face-to-face interview schedule was designed. The data were collected during the year - 2013-14. In all 213 currently married women of reproductive ages (15-49 years) and 110 unmarried women of (15 – 40 years) were interviewed.

Fertility preference and behaviour of the couple has been assessed through two variables - ideal family size and children desired for whole life. Cross-tabulation is used to appraise the fertility preferences by number and sex of the of living child. Given the well known preference for sons in India, the effect of sex preference was assessed by use of contraception by number of living children. For this the acknowledged Arnold measure (Arnold, 1985) has been used. Arnold Index gives the difference between the expected use of contraception and actual use of contraception. The difference in use gives the level of sex preference in the population. For this the maximum usage of contraception of the sub-category is considered as the highest use of contraception for the entire category. This indicates that the maximum usage of contraception for one category could have been for all sans any sex preference.

Arnold Effect = Expected use of contraception- Actual use of contraception where, the expected use is derived as

$$\frac{(\text{Maximum use of contraceptive in\%} * \text{Total Number of women})/100 * 100}{\text{Total Number of women}}$$

Results

Fertility Preferences

The fertility transition from high order births to low order births are determined by the fertility preference of the population. The fertility preference depends on number of factors like number of living children, sex composition of the living children, notion of ideal family size and desire for more children. The analysis of living children and preferential behaviour for particular sex and size will help in the analysis of desire for an additional child. Low fertility in the study area is perhaps the outcome of curtailment of the desire for an additional child after the first child and it is indicative that complete voluntary childlessness is conspicuous by its absence (Mukhopadhyay, 2019).

Number of Living Children and Ideal Family Size

The respondents, were asked “what do you think should be the ideal family size?” During the survey further probing was done for married women to understand their sex preference within the family. Women with one living child, about 54.3% idealizes a family of two children with 11.7% saying that there is no specific sex composition, 42.7% said that it can be one girl and one boy and 4.9% said that their ideal family will constitute of two girls. Further, about 31% said one-child family is an ideal family, with 22% having no choice, 5.8% want it to be a boy and 3% want it to be a girl. About 6% of the women wanted a family constituting of at least one boy. About 1.9% of the women said that they do not have an idea about an ideal size of family (Table 1).

Women with two living children, about 73% of women idealize a family of two children with 3.6% wanting both of them to be girls, 18% have no choice and 52% want a boy and a girl. About 12.5% said that a single child is ideal, amongst them 8% said that it has to be a boy. About 7% said that ideal number can be anything but there has to be at least one boy in the family. Only 5.4% of the women said that three is an ideal family size. Women with three living children, forty-four% idealize one girl-one boy family, followed by two boys-one girl family (27.8%) (Table 1).

Number of Living Children and Children Desired for Entire Life

In the survey the women who completed their fertility i.e. desired not to have any more children are asked if they are given a chance to choose a number of children for entire life what will be that number. The question particularly asked was “If you can go back at the time when you did not have any children and could choose number of children for whole life how many that would be?” It is assumed that the number of children they desire for whole life will depend on their surviving children.

Women with one living children, about 37% desire two children for their whole life; of them 3.7% want two girls, 2.4 have no choice, 31.7% want one boy and one girl and 1.2% want two boys. About 57% are happy with one child (Table 1). Women with two living children, about 71.6% of the women are satisfied with two children, amongst them 5.7% want two daughters, 17% have no choice and 51% prefer one boy and one girl. About 11.3% of the women want one child if given a choice (Table 1). Women with three living children, about 46.7% want two children, 20% want at least one boy and 33% want three children comprising of two boys and one girl.

Consistency between Ideal Family Size, Number of Living Children and Desire for

Table 1: Percentage of Respondents by Number of Children for Whole Life and Ideal Family Size by Sex Composition of The Living Children, Kolkata, 2013-14

No of living children	One living child			Two living children				Three living children			
	1 Boy	1 Girl	1Any	At least 1Boy	2 Girls	2 any	1Boy-1Girl	2 Boy-1 Girl	3Any	Don't know	Total
0											
Ideal no of Children											
Desired children											
1											
Ideal no of children											
Desired children											
2											
Ideal no of children											
Desired children											
3+											
Ideal no of children											
Desired children											
Total											
Ideal no of children											
Desired children											

Source: Primary survey

More Children

Consistency of response had been determined from three variables- ideal number of children, number of living children and desire for more children. To find out the consistency of responses the variables ideal number of children, number of living children and desire for more children were grouped in to consistent and inconsistent responses respectively (Ali, 1989). Responses were consistent if the women did not desire any more children when their current number of living children are more than or equal to their ideal number. Inconsistent responses were considered when women wanted more children in spite of having as many, or more than, their ideal number, or when they did not want any more children despite having fewer than their ideal number. About three-fifths of the women showed consistent responses, most among these were the women whose ideal number of children corresponds to their number of living children (Table 2). This shows a satisfactory consistency of responses (Palmore and Concepcion, 1985). On the contrary, most inconsistent responses (about one-fourth) were given by those women whose ideal number is greater than their actual number of living children yet they have no desire for an additional child.

Table 2: Responses of Currently Married Women by Ideal Family Size and Desired Family Size Field Survey, Kolkata, 2013-14

CONSISTENT RESPONSE	%	No of married women
Ideal number= Number of living children and want no more	42.4	78
Ideal number< Number of living children and want no more	10.9	20
Ideal number> Number of living children and want more	13.0	24
	66.3	
INCONSISTENT RESPONSES		
Ideal number= Number of living children and want more	3.3	6
Ideal number> Number of living children and want no more	27.7	51
Ideal number< Number of living children and want more	2.7	5
	33.7	
Total	100.0	184

Source: Computed from primary data;

Note: Only Currently married women with birth >0 is taken

Sex Preference and Desire for More Children

Women's desire for more children is strongly affected by number of living children particularly number of sons. Desire for an additional child has been cross-tabulated with number of living children. In the survey, women had been asked after each birth do they desire an additional child or they want to stop at that particular birth. About 72% of women with one living child said that they did not want any more children. Similarly, 87.5% and 70.8% with two and three living children did not want any more child. Results (Table 3) show that among the women with one son, about 73.7% of women do not want any more children. Among women with two living children, all the women with one son- one daughter and with two sons do not want an additional child. This shows that preference of one son is higher than two sons. This is also true for women with three children.

Table 3: %age of Respondents by Sex Composition of Number of Living Children and Desire for More Children, Kolkata, 2013-14

Sex composition	% of women who wants no more children	Currently Married women
0 Son 0 Daughter	0.0	30
1 Son 0 Daughter	75.4	57
0 Son 1 Daughter	76.1	46
2 Sons 0 Daughter	100.0	17
1 Son 1 Daughter	100.0	25
0 Son 2 Daughter	92.9	14
3 children or more	75.0	24
Total	70.9	213

Source: Primary survey

From the results it is apparent that there is slight undertone of sex preference in the population. Hence in-depth study of sex preference becomes imperative. It is likely that change in desire to have an additional child will be ascertained by the contraceptive usage of the couple. To find out the effect of number of living sons and daughters on the contraceptive use Arnold measure has been used. From this the sex preference of the couple can be measured. Arnold measure indicates the expected use of contraception in the absence of son preference. The use of contraception will increase by the difference of points of the actual and expected use of contraception (Arnold, 1985). From the results (Table 4) it is evident that current use of contraception will increase by 14.26 points in absence of sex preference.

Table 4: Effect of sex preference on the contraceptive use by Arnold Measure, Kolkata, 2013-14

No of living children	No of living sons	Current use	Total
1	0	73.9	46
	1	87.7	57
	Total	81.6	103
2	0	85.7	14
	1	100.0	25
	2	94.1	17
	Total	94.6	56
3	0	60.0	5
	1	87.5	8
	2	44.4	9
	3	50.0	2
	Total	62.5	24
Actual use of contraception	77.091.2514.26		
Expected use of contraception			
Arnold effect (Expected-Actual)			

Source: Primary survey

Discussions

The findings show that there is a tendency to regulate fertility among “*bhadrolok*” (white collar upper and middle class) Bengalis. Higher proportion of married women preferred two as their ideal family size. Among the married women a large proportion preferred one boy- one girl combination. In the survey though respondents preferred two children but nearly half of them have one birth. The rise of single child family specially in the urban areas can be attributed to low fertility (Pradhan and Sekhar, 2014). This can be corroborated with the findings of National Health and Family Survey (NFHS) - 4 which points out that 89% of women in urban West Bengal consider the ideal family size to be two or fewer (IIPS, 2017). Hence low fertility seems to be due to decline in second order births (Kohler *et al.* 2002). The phenomenon of having less number of children in Bengal has got historical significance. It got a boost with renaissance in the eighteenth century, the change in socio- cultural milieu, and with the advent of modernization (McDonald, 2008). All these gave growing stress to women’s education and women’s role in the intra-family set-up (Sen, 2000).

Women with one child idealize a family of two children and women with two children try to rationalize by saying their ideal family as two. This is apparent from the responses of women when they were asked to choose the number of children for whole life; majority reported that they would “Again like to have two children”. Some post -facto rationalization may be attached with such responses. It is also interesting to note that one-third women with one living child, if given a chance, self- reported to have desires to have another child (i.e. two children in all). Though, desire to not have an additional child after first child is same for women with one son or one daughter, small%age of women with two daughters still desires an additional child. This is also true for women with three children. This indicates moderate sex preference in the studied population. Thus it can be assumed that fertility decline has taken place in the study area along with an undercurrent of sex preference. This finding also corroborates with the experience of fertility decline in Kerala (Bhat and Rajan , 1990) and results of NFHS-4 which suggests that there is strong preference for sons in West Bengal (IIPS, 2017).

The consistency of reporting of fertility preferences was validated from variables like ideal number of children, number of living children and desire for more children. A considerable proportion of women gave inconsistent responses when ideal number of children is greater than their number of living children; yet they have no desire for an additional child. It can be assumed that after reviewing past experience the respondents in their life course decided to forgo the decision of having an additional child. Given a favourable situation it is possible that these women could have had another child. The reasons given for avoidance of an additional child at each birth order varied in the survey. After the first child, one of the leading causes of avoidance of an additional child was reported to be “low income of the family”. Usually only one child is chosen in anticipation that the financial future can be secured. The most common second reason reported by the respondents was that “child rearing is challenging and in most cases child care has to be hired”. Some also reported that they “wanted to have considerable time for one-self” and they chose only one child as they traded “quality with quantity”. Similarly, among the women who have stopped at two children majority accounted that they thought “two children are adequate and is normal among peers, friends and family”. A few stated that they “believe two is an ideal size and decided to have two children irrespective of sex of the current children”.

Conclusions

In this paper, fertility preferences and behaviour of the currently married women in a sub-population experiencing low fertility were presented. Overall there is an undercurrent of desire for small families; the preference for one child is emerging rapidly. It is logical that the various triggers had determined set of preferences in a population that changed marital norms and family building decisions. This psyche

of the people can be stretched back in history as it was framed over a long evolution of culture. The phenomenon of having less number of children can be associated with Bengal Renaissance. The period saw complete transformation with commencement of social and religious reform movements, introduction of many journals and periodicals providing platform where exchange of ideas and debate was possible.

As an extension to changed fertility preferences and consequent fertility decline, the implications of low fertility will dominate the demographic literature in future. Though this paper has not addressed the implications of low fertility per se, a number of demographers have dealt with the social and economic implications of the phenomenon. Major impacts of low fertility will be proportionate increase of the age old population, sizeable decrease of population if in-migration stops and deficiency of young and innovative minds. Low fertility leading to a one-child family may affect the psychology of the child. In the process children in a small family may start becoming more demanding and self-absorbed. Parents may eventually realize association and affection of the siblings as indispensable for overall growth of the child. It will be a matter of time as one wait to see whether this trend will encourage couples to have more kids in the future.

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