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A Study of Women whose Reproductive Goals were Yet to be Conceptualized

Introduction

THE data collected in any survey about the desired family size is always useful for the deeper insight into the norms regarding the present and future course of fertility behaviour of that population. Moreover, it is used to measure the unmet need for family planning and the unwanted fertility that may exist in a population, also helpful to project the fertility in cohorts that have not completed their childbearing experiences. The importance of studying the issue of desired family size is widely accepted, as family size norms play an important role in shaping the fertility behaviour of the population (Lightbourne (1985b), Westoff (1990) and UN (1995)). Here in this study the reproductive goal is measured with the help of the desired family size, as it is widely used in the current research. If a woman could be able to cite a numerical number as her ideal size of the family then, she is considered to have conceptualized about her reproductive goal.

According to some researchers the question asked in the WFS about the desired family size was probed in an aggressive manner. In DHS II, the question asked regarding the desired family size was as follows:

"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 ?"

as against the WFS question,

"If you could choose exactly the number of children to have in your whole life, how many would that be ?".

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There was no provision for recording of the non-numeric answers in WFS. Whereas in DHS-n questionnaire the options like "Up to God", "as many as" etc were made available for the interviewer to record the non-numeric responses. The National Family Health Survey (1992-93) has followed the same pattern of questionnaire as of DHSII since it was probed in more scientifically and technically advanced manner.

The most common problem in dealing with the desired family size data is the occurrence of non-numeric responses. These responses are usually considered to be "fatalistic" in nature and which point towards the desire for large number of children. The problem has two dimensions i) methodological and ii) differences in the characteristics of those who responded non-numerically in relation to their counter parts. The methodological issue is more or less technical aspect - how to use or - how not to use such responses in data analysis. Since high level of non-responses or inappropriate response to items are a persistent concern in survey analysis because those who do not answer numerically may not be the representative of the study population (Ann P. Riley *et al.* 1993). In usual practice, either these respondents may be included in the analysis under the assumption that they desire to have higher family size or they may be excluded from the analysis in accordance with system miss values.

Here in this paper the study is confined to look into the second dimension of the problem, that is to study the characteristics of the respondents who gave non-numeric answers in comparison to their counterparts or in other words those who responded numerically to the question on desired family size. It is very unlikely that the respondents who have given non-numeric responses are the random sample of all the study population, rather it reflects the individual's inability to conceptualize their reproductive goal. These respondents are expected to have different characteristics in terms of social, cultural, economic, the contraceptive use and of course fertility also. For the fertility regime to be under control, it is necessary that persons to have some concrete ideas about the norms regarding the size of the family. And hence the study of the background characteristics of the group having no fixed family size norms assumes much importance.

Some of the existing literature suggests that, usually in Developing countries this type of hypothetical questions make little sense to the respondents as compared to those from the Developed countries. For example, in Bangladesh most of the women believed that the number of children a woman will have is determined by God. But many other studies have shown the validity of the data on the issue of Desired Family Size, (some of which are cited earlier in this paper). The issue of non-numeric response is of special interest because child bearing preferences figure prominently in fertility and family planning research. As it is assumed that the women with non-numeric responses have a sceptical view about their own child bearing behaviour. Not much research has been carried out in this area. Jensen, Eric (1985) argues that the empirical evidences are insufficient to show that the true preferences of non-numeric respondents are different from those women who gave numeric responses. Typically, these women are believed to have large family norms, but from the surveys it is revealed that few of these women controlled their fertility after three or four children.

Few of the existing literature figure out some of the probable characteristics of the non-numeric respondents which are likely to influence the ability to understand and to phrase

a number as the desired family size for a hypothetical question on desired family size. The most important factor that differentiates the respondents who gave numeric answers to those who gave non-numeric answers may be the difference in the level of education. Ann P. Riley *et.al* (1993) stated that, the respondents' cognitive skills; in the sense of ability to understand and cite a number to a hypothetical question is the most important factor to separate respondents who responded numerically from the women who responded non-numerical answers. Due to the impact of modernisation, the urban and higher income group women are expected to think more specifically (numerically) about their reproductive goals compared to rural or lower income group women. The age and parity also may play an important role in the reporting of the question on desired family size. Young women with comparatively more modern behaviour may be more specific about the family size preferences. Women with high fertility may also try to rationalize their fertility. The other probable characteristics of the respondents who gave non-numeric answers are the differences in the effective use of contraception either for spacing or for limiting purposes, that is individual's control over their reproduction. As different societies approve specific 'values' to family size norms hence the effect of cultural norms also may play an important role in answering the question on desired family size.

Data and Methodology

National Family Health Survey (1992-93) data is used in this paper. Analysis is confined only to currently married women. The analysis has been carried out in three parts.

In the first part, the percentage distribution of the respondents who gave non-numeric responses are tabulated for all 16 major states and India by different characteristics of the respondents, namely (i) education (ii) Urban/rural and child hood place of residence (iii) the living standard (iv) religion and caste (religion is bifurcated into Hindu, Muslim and third religion in Kerala is Christian, in Maharashtra is Buddhists, in Uttar Pradesh and at All India level is Sikhs) (v) the experience of child loss and (vi) age and parity. With such tabulation it is possible to pinpoint some of the macro level variables that are likely to vary significantly between the non-numeric and the numeric respondents.

A micro level study has been carried out in the second part of the analysis to get the contribution of each of the individual level characteristics that may differentiate the respondents who could not be able to give numeric values from those who responded numerically for the question on desired family size. To fulfil the aforesaid purpose a step-wise logit regression analysis has been carried out. The dependent variable is dichotomised by taking 1, if the response is non-numeric and 0, otherwise (that is if the response is numeric) for the desired family size question. The specifications of the independent variables are given below: -

1. Socio-economic variables viz., (i) Caste, (ii) Religion, (iii) the economic (Standard of Living Index)¹ and (iv) the current as well as child hood place of residence (i.e. TYPE and Q102).

¹ The Standard of Living Index is a composite index by taking different household characteristics and grouped into three groups viz. Low, Medium and High.

2. Cognitive variables viz., (v) the educational status of the woman, which is group ed into four categories viz. illiterates, upto primary (PRI), upto middle (MID) and high school and above (SSC).
3. Reproductive control variables viz., (vi) the use of contraception for spacing purpose (i.e. currently using modern contraceptives SP) and for the limiting purpose (i.e. either husband or wife sterilized STZ).
4. Demographic variables (History variables) viz., (vii) The age of the respondent is categorised into adolescent age group (<19), the middle age group (20 - 34) i.e. AGE1, and the older age group (35 - 49) i.e. AGE2, (viii) the actual family size is divided into three mutually exclusive group namely, (a) less than or equal to two surviving children (b) three surviving children (TCS1) and (c) more than three children (TCS2) and (ix) the experiences of child loss of the respondents (CHLOSS).

In the third stage of the analysis a macro level study has been carried out to find the association between the level of development of the state and the percentage of respondents that gave non-numeric responses with help of Spearman's Rank correlation coefficient. The level of development of the state is measured by the Human Development Index proposed by the Population Foundation of India (1993) along with proportion of illiterates by taking state as the unit of analysis. The Index was constructed by taking important statistics of the states such as Expectation of life at Birth, State Domestic Product per capita, % Illiterates (Adult).

Results

Table 1 gives the percentage of respondents who gave non-numeric responses to the question on desired family size for 16 states and All India by different basic characteristics of the respondents. The percent varies from a high of 16.2 in Uttar Pradesh to a minimum of 1.5 in Tamil Nadu, with all India average is 10.1. In case of all the key demographic indicators. Bihar, Madhya Pradesh and Rajasthan along with Uttar Pradesh fall in one end as against Kerala and Tamil Nadu on the other end. The same pattern is observed here also, with only exception that Kerala and Karnataka included in the group consisting of Uttar Pradesh and Bihar by falling above the national average. On the other hand in the states like Tamil Nadu, Gujarat and Punjab, virtually all the respondents answered numerically for the question on desired family size.

The percentage of respondents that gave non-numeric responses varies considerably with the women's education. There is a substantial fall in the percentage of women with non-numeric responses between those from the illiterate category to the middle completed. The homogeneity pattern can be observed within SSC and above educated women and an inevitably high heterogeneity is existing between the different educational group. There exists a monotonic increasing relation ship between the education of the women and the percentage of women who responded numerically for the question of desired family size. The illiterate women behave almost in the same way in all the states except in a very few states, where already the percentage of non-numeric respondents is very low.

Urban respondents excel the rural women consistently except in Rajasthan and Haryana but the difference is very small. The living standard of the respondents do not have any

impact in giving the numeric answers barring a very few states like UP, Bihar, Orissa and Karnataka where the percentage of non-numeric respondents vary significantly from Low to High (standard of living). The scheduled caste/tribe women could be able to answer numerically in the same way as their counterpart women did.

While the religion seems to be a deciding factor in determining the non-numeric from the numeric respondents. A high percentage of Muslim women were unable to cite a number as their choice for the question on desired family size in most of states viz., Bihar, Kerala, Uttar Pradesh and Karnataka. These are the states where the muslims constitute significant proportion of the state population. This may explain the surprise inclusion of Kerala in the list of four states. In Kerala about one-fourth of the Muslim women could not be able to find a suitable answer (i.e. numerically) for their desired size of the family.

One of the important implication is drawn from this table is the remarkable consistency in phrasing the numeric answers to the question on desired family size by the highly educated women (that is those who completed the seven years of schooling). This may explain the need for a "threshold" level of education for the women to develop a clear idea about the family size norms. This is rather a precondition for the fertility to come under control. The other variables like experience of child loss, age and parity show high consistency in phrasing the answer to the question on the desired family size. As expected at the higher parity level lesser women respond numerically and the old age group women were unable to recite a number as their desired family size. Those who experienced the child mortality were reluctant to give numeric answer to the question on desired family size.

The result of step-wise logit regression analysis suggests that the rural/urban difference is significant only in Bihar, Himachal Pradesh, Rajasthan and West Bengal. The educational attainment of the women makes a significant change in the level of understanding and thereby giving a number as their desired family size. But the level of education is significant only after seven years of schooling (i.e those women who educated were beyond the primary level). This result approves the need of threshold level of education for understanding and the formulation of ideal family size. Among other variables the caste of the women, the childhood place of residence and the living standard of family did not have any significant impact on the dependant variable, except in a few states. Also the pattern is not consistent at all. The other important variable comes into the picture is the experience of child mortality. It is keeping a consistent and significant positive relationship with the dependant variable, except in Gujarat where the relationship is inverse. The middle aged women (20 - 34) show a significant negative relationship in comparison with the adolescent women (< 19) in phrasing non-numeric responses. While the 35 and above age group women are more likely to give non-numeric responses to the question on desired family size as compared to the adolescent group. But the impact of these variables are significant only in a few states. Parity is the strongest predictor among all the predictors as it holds a significant positive relationship with the dependent variable. The impact of use of contraception especially the sterilization in giving numeric responses is significant. This may be the result of either the planning of family size and the accomplishment of the desired family size by adopting suitable family planning methods or the effect of rationalization in deciding the desired family size.

Further analysis has been carried out at the macro level by finding Spearman's rank correlation between the percent of non-numeric respondents with % illiterate and the Human Development Index for all the 16 states and for all India.

TABLE 1: DISTRIBUTION OF NON-NUMERIC RESPONDENTS BY DIFFERENT CHARACTERISTICS

<i>State</i>	<i>Educational</i>				<i>Type</i>		<i>SLI</i>			<i>Caste</i>		<i>Religion</i>		<i>TR</i>
	<i>ILL</i>	<i>PRI</i>	<i>MID</i>	<i>SSC</i>	<i>Rural</i>	<i>Urban</i>	<i>Low</i>	<i>Medium</i>	<i>High</i>	<i>SC/ST</i>	<i>Others</i>	<i>Hindu</i>	<i>Muslim</i>	
Andhra Pradesh	9.8	7.8	4.9	1.6	8.9	5.5	9.4	7.7	4.0	10.6	7.4	8.2	7.0	6.3
Assam	10.1	5.0	3.4	1.5	7.7	5.0	8.9	5.6	4.0	5.0	8.0	5.6	11.6	7.1
Bihar	14.0	9.4	4.6	3.5	12.9	6.6	14.0	9.3	6.3	11.8	12.0	9.8	23.6	10.7
Gujarat	4.8	1.6	0.4	—	3.3	2.1	5.1	2.4	0.3	3.8	2.6	2.6	6.4	—
Haryana	5.8	2.7	1.3	0.7	4.4	3.2	7.4	4.7	1.3	4.5	4.0	3.1	31.8	2.0
Himachal Pradesh	5.9	2.3	2.1	1.5	3.8	4.6	5.2	3.7	2.9	5.4	3.3	3.7	14.7	2.6
Karnataka	16.3	8.6	7.7	4.5	13.3	10.7	16.4	10.3	6.2	15.4	11.9	11.6	19.0	12.7
Kerala	20.1	17.5	9.2	4.6	11.5	8.7	11.2	10.8	9.7	7.9	10.9	5.6	24.7	6.4
Maharashtra	4.8	2.3	2.4	1.4	4.0	2.6	4.7	2.9	1.8	3.5	3.4	2.9	8.2	1.7
Madhya Pradesh	11.2	11.0	5.0	3.1	10.4	7.4	11.3	9.0	6.5	11.4	8.9	9.8	10.5	2.5
Orissa	18.8	9.3	6.2	3.6	15.4	11.2	17.7	11.3	6.7	19.6	12.6	14.8	18.1	10.1
Punjab	3.0	4.7	0.9	0.4	2.1	1.8	2.5	2.4	1.5	2.7	1.7	1.6	6.3	2.1
Rajasthan	10.4	9.3	4.8	3.6	9.0	11.5	9.5	9.7	8.5	9.2	9.6	8.8	23.8	1.9
Tamil Nadu	1.9	2.4	1.2	0.7	1.7	1.2	1.8	1.6	0.7	2.2	1.4	1.3	2.6	3.2
Uttar Pradesh	19.6	13.0	6.6	2.9	17.4	11.5	20.3	15.3	6.2	19.1	15.6	14.3	27.2	9.5
West Bengal	12.4	6.9	3.8	0.7	8.6	7.3	10.7	7.1	2.6	6.6	8.5	5.5	18.0	5.1
INDIA	12.2	7.1	4.3	2.1	10.2	6.2	11.8	8.3	4.1	10.4	8.9	8.2	18.2	4.4

State	Q102		Chloss		Age Group			TCS			Total
	City	Vill	No	Yes	13-19	20-34	35+	SFS (<3)	MFS (=3)	LFS (4+)	
Andhra Pradesh	5.0	8.8	6.8	11.9	5.1	6.0	13.4	5.9	7.8	13.3	8.04
Assam	5.4	7.6	4.8	12.0	5.1	5.9	11.5	4.0	6.1	11.9	7.38
Bihar	6.2	12.7	10.3	15.8	12.3	10.0	15.5	10.3	9.7	15.5	11.96
Gujarat	0.9	3.6	2.9	2.6	5.4	2.8	2.5	2.5	2.0	4.2	2.86
Haryana	2.4	4.5	3.0	7.2	2.7	3.3	6.5	1.6	3.5	8.5	4.12
Himachal Pradesh	3.0	3.9	3.3	5.7	3.7	2.0	6.9	1.9	2.6	8.4	3.87
Karnataka	11.3	12.9	9.6	20.7	8.9	10.2	18.2	8.1	9.9	22.6	12.49
Kerala	8.5	11.1	9.2	22.2	15.3	6.7	15.7	6.0	9.5	30.0	10.71
Maharashtra	2.1	3.9	2.9	5.3	5.1	2.4	4.6	3.4	1.4	5.3	3.40
Madhya Pradesh	6.3	10.3	7.6	14.5	7.7	8.3	13.5	6.9	10.5	13.9	9.72
Orissa	9.5	15.2	12.6	18.9	18.8	11.5	20.2	13.2	10.4	20.9	14.76
Punjab	1.7	2.1	1.3	5.1	1.5	0.7	4.0	0.5	1.8	4.6	1.98
Rajasthan	10.4	9.3	7.1	17.7	7.2	6.9	14.5	5.6	7.4	15.9	9.45
Tamil Nadu	0.7	1.9	1.4	2.1	0.4	1.0	2.5	1.3	1.7	1.9	1.54
Uttar Pradesh	10.0	17.4	13.4	20.8	14.9	14.7	19.4	13.5	15.8	20.0	16.22
West Bengal	4.2	9.2	5.5	15.7	5.1	5.6	14.1	4.3	7.6	16.7	8.22
INDIA	5.3	10.3	7.2	14.3	8.6	7.5	12.4	6.8	7.7	14.4	10.12

TABLE 2: COEFFICIENTS OF LOGIT-REGRESSION OUTPUT (STEP-WISE) OF DIFFERENT CHARACTERISTICS

State	Type	Education (Illiterate)			Caste	Religion	Class	Q102	Standard of Living (Low)		Age Group (Adolescents)		Actual Family Size ($n < 2$)		Contraceptive Use (non-users)	Const	
	Rural				SC/ST	Muslim	(Yes)	Villag	SL1	SL2	Age1	Age2	TCS1	TCS2	Cuse	Size (SP)	
		PRI	MID	SSC													
Andhra Pradesh	—	—	-.522 ^b	-1.33 ^a	.275 ^b	—	-.176 ^a	—	—	—	—	.815 ^a	—	.472 ^a	—	—	-2.881
Assam	—	-.762 ^b	-.992 ^a	1.89 ^b	-.519 ^b	.285 ^b	.62 ^a	—	—	—	—	—	.438 ^a	.872 ^a	—	—	-.799 ^b
Bihar	—	—	-.843 ^a	-.932 ^a	—	.561 ^a	.270 ^b	—	-.26 ^b	—	-.30 ^a	—	—	.382 ^a	-1.28 ^b	-1.05 ^a	-1.854
Gujarat	—	-.884 ^a	-2.08 ^a	—	—	.844 ^a	-.504 ^b	.857 ^b	—	-1.08 ^a	—	—	—	.782 ^a	—	-2.01 ^a	-4.502
Haryana	—	—	-1.00 ^b	-1.11 ^a	—	.427 ^b	.386 ^b	—	—	-1.25 ^a	—	—	.887 ^b	1.64 ^a	—	-.667 ^a	-3.474
Himachal Pradesh	1.23 ^a	—	-.533 ^a	—	-.381 ^a	—	—	.245 ^a	—	—	.802 ^a	—	—	1.27 ^a	-1.903 ^b	-.467 ^b	-3.279
Karnataka	—	-.567 ^b	-.486 ^a	-.887 ^a	—	.316 ^a	-.412 ^a	—	-.28 ^b	-.426 ^b	—	.383 ^a	.254 ^a	.986 ^a	—	-.617 ^a	-1.934
Kerala	—	—	-.338 ^b	-.699 ^b	—	1.34 ^a	.420 ^a	—	—	—	-.556 ^b	—	.488 ^a	1.22 ^a	—	-.602 ^a	-2.804
Madhya Pradesh	—	—	-.669 ^a	-.991 ^a	—	—	.490 ^a	—	—	—	-.284 ^a	—	.497 ^a	.696 ^a	-.863 ^b	-.377 ^a	-2.301
Maharashtra	—	-.554 ^a	—	—	—	1.07 ^a	.401 ^b	—	—	—	—	—	-.61 ^a	.423 ^a	—	-1.43 ^a	-3.570
Orissa	—	-.624 ^a	-.962 ^a	-1.29 ^a	2.07 ^b	—	.270 ^a	—	-.24 ^a	—	-.465 ^a	—	—	.61 ^a	-1.98 ^b	-.755 ^a	-1.187
Punjab	—	—	-.864 ^b	-1.52 ^b	—	—	.993 ^a	—	—	—	-1.60 ^a	—	.946 ^a	1.42 ^b	—	—	-3.381
Rajasthan	.604 ^a	—	-1.03 ^a	-1.38 ^a	-.2 ^a	—	.956 ^a	1.02 ^b	—	—	-.572 ^a	—	.331 ^a	1.08 ^a	—	-.442 ^a	-2.165
Tamil Nadu	—	—	—	—	—	1.23 ^b	—	—	—	—	1.345 ^a	-2.35 ^b	—	—	—	-1.13 ^a	-7.505
Uttar Pradesh	—	—	-.817 ^a	-1.33 ^a	—	.696 ^a	.252 ^a	.393 ^a	-.14 ^b	-.441 ^a	-.126 ^b	—	.178 ^a	.276 ^a	-1.25 ^a	-.905 ^a	-2.108
West Bengal	.462 ^a	.568 ^a	-.793 ^a	2.21 ^a	-.599 ^a	.718 ^a	.584 ^a	—	—	—	—	-.579 ^b	.441 ^b	.777 ^a	—	-.592 ^a	-3.663
INDIA	-.121	-.541	-.826	-1.22	1.04	.896	.455	.219	-.149	-.223	—	—	.0141	.501	—	-.695	-2.820

Notes: As regression analysis is carried out on Step-wise method only significant variables are shown in the above table.

^a at .10 % level of significance.

^b at .05 % level of significance.

^c at .001 % level of significance.

and all the coefficients of India is significant at .05 % minimum also the case of constants.

Variables shown in the brackets are reference groups for the corresponding variables.

TABLE 3: COMPUTATION OF SPEARMAN'S RANK CORRELATION COEFFICIENT

States	Rank		Deviations		Squared		
	% Nonresp	% ILLIT (15+)	HDI	ILLI	HDI	ILLIT	HDI
Uttar Pradesh	1	3	2	-2	-1	4	1
Orissa	2	6	4	-4	-2	16	4
Karnataka	3	10	10	-7	-7	49	49
Bihar	4	2	1	2	3	4	9
Kerala	5	17	17	-12	-12	144	144
INDIA	6	9	8	-3	-2	9	4
Madhya Pradesh	7	4	4	3	3	9	9
Rajasthan	8	1	4	7	4	49	16
West Bengal	9	13	9	-4	0	16	0
Assam	10	8	6	2	4	4	16
Andhra Pradesh	11	5	7	6	4	36	16
Haryana	12	7	13	5	-1	25	1
Himachal Pradesh	13	16	13	-3	0	9	0
Maharashtra	14	14	15.5	0	-1.5	0	2.25
Gujarat	15	11	11	4	4	16	16
Punjab	16	12	15.5	4	0.5	16	0.25
Tamil Nadu	17	15	13	2	4	4	16
						2487	1848
						SPEARMAN'S RANK CORRELATION COEFFICIENT	
						0.4920	0.6225

The rank correlation between % non-numeric responses and % of illiterates suggests a moderate positive correlation of + 0.49. While the other two variables gives a stronger correlation of + 0.62. The computation is again carried out by removing Kerala from the analysis as the rank correlation is grossly affected by the outlier. The correlation is increased from 3+0.62 to +0.80 for the non-numeric response with the HDI as well as the relationship between illiteracy and the non-numeric responses increased from 0.49 to +0.65. These values suggest that the overall development of each state (that is HDI) explains about 64 % of the variations that exists in the characteristics of the states with the proportion of non-numeric responses. The effect of education alone makes a contribution of 44 % to explain the variations occurred in the characteristics of non-numeric respondents. Hence the ongoing analysis provided the importance of education as well as the overall development of the state. Further, the calculated value of *t - statistic* is found to be significant at the 5% level for the percent of illiterates and is significant at 1% level for the HDI. But, if

the Kerala state is removed from the analysis, then both the values are significant at 1% level of significance.

Discussion and Conclusion

The study about the non-numeric respondents is of special interest as it carries a dubious distinction in the study of fertility preferences data. In many states, mainly in high fertility state's the women are found to have no specific preference about the family size. As this group of women posses different characteristics from those who responded numerically for the question on the desired family size, it becomes important to study the basic determinants of this group. It is necessary that each couple should formulate an achievable reproductive goal as a demand part then they should realize this goal by accepting appropriate family planning methods. Lee and Bulatao (1983) call these two changes as a transition *to* Demand for children and a transition *in* Demand for children. The ongoing analysis implies a very important conclusion that there is a need for "threshold level" of women's education by which women can be able to understand and to realize their personal goals regarding the reproductive behaviour. Thus enhancement of women's education leads to deliberate and volitional changes in their fertility behaviour. The experiences of child mortality may be another important factor due to which women are reluctant to give a number of their choice. As contradictory to an earlier study by Anne P. Riley *et.al*, (1993) which was conducted in Costa Rica, here the analysis has shown a significant negative relationship between the proportion of non-numeric respondents with the proportion of women sterilized in fourteen states. That is those women who had undergone the fertility regulation for limiting purposes, had already fixed their ideal family size. This result also points to another implication that these women may rationalize their actual family size as then- ideal family size. But this needs further research to look into the details. Hence the family planning programme has a major role to play in formulating and implementing the reproductive goals of couples. Moreover, family size preferences of women are not purely personal choices, but they reflect the reproductive norms of the society. Women are often conditioned by the predominant values of society and they reflect deep seated social and cultural attitudes and aspirations that are usually beyond their control (Unalan, 1997). This may explain the Muslim women's behaviour towards the family size norms all over India and especially in the state of Kerala. The other important factor, which is statistically significant and positively associated with the dependant variable is the parity, hi other words, the absence of any preference for the desired family size may have contributed to the larger family size, and a high percentage of non-numeric response simply reflect this absence of specific preference.

The findings of rank correlation also suggest the importance of educational status as well as the over all development of each state. The testing of t-statistic implies that the existence of correlation between proportion of non-numeric respondents between the HDI and the proportion of illiterates is not only at the sample level but at the population level also. As long ago as 1958, Coale and Hoover established the mutual relationship between macro-economic (here HDI) trends and micro-demographic behaviour (here individual's capacity to understand and answer to the question, on desired family size) for India.

Acknowledgement

I would like to express my sincere thanks to my guide, Dr.(Mrs.) Sulabha Parasuraman, Reader in Dept. of Mathematical Demography and Statistics, UPS, Mumbai- 400 088 for her invaluable suggestions for the improvement of this paper. Also thanks are due to Prof. T.K. Roy, Head, Dept. of Population Policies and Programmes, EPS, Mumbai and the Anonymous reviewer for their constructive suggestions in improving the paper.

References

- Bongaarts, John., 1991, Do Reproductive Intentions Matter. Working paper series No. 30, The Population Council, New York. Coale, Ansley. J and Hoover, E. M., 1958, *Population Growth and Economic Development in Low Income Countries. A Case Study of India's Prospects*. Princeton, Princeton University Press. International Institute for Population Sciences, 1995, *National Family Health Survey (MCH and Family Planning), India, 1992-93*, Bombay: EPS. Jensen, Eric, 1985, Desired fertility, the 'Up to God' responses and sample selection bias. *Demography*, 22(3): 445-454. Lee, Ronald D. and Bulatao, R. A., 1983, The Demand for Children: A critical essay. *In: Rodolfo A. Bulatao and Ronald D. Lee (eds.), Determinants of Fertility in Developing Countries*, vol. I, pp 233-287. New York: Academic Press. Lightbourne R. E., 1985b, Individual Preferences and Fertility Behaviour. *In: John Cleland and John Hobcraft (eds.), Reproductive Change in Developing Countries: Insight from World Fertility Survey*. Oxford, UK, Oxford University Press. Population Foundation of India, 1996, *Human Development Index, 1993*. Hindustan Publishing Corporation, New Delhi.
- Riley, Anne, P. Hermalin, Albert I. and Rosero-Bixby, Luis, 1993, A new look at the determinants, of non-numeric responses to desired family size; the case of Costa Rica. *Demography*, 30(2): 159-174. UN, 1995, Women's Education and Fertility Behaviour: Recent Evidences from the Demographic and Health Survey. Sales No. E.95. XUI.23. Unalan Turgay, 1997, Reproductive Expectations and Fertility Trends in Turkey. *In: Fertility Trends, Women's Status, and Reproductive Expectations in Turkey: Results of Further Analysis of the 1993 Turkish DHS*. Hacettepe University Institute of Population Studies (HIPS) and Macro International Inc., pp. 105-127.
- Westoff, Charles, F., 1990, Reproductive intentions and fertility rates. *International Family Planning Perspectives* (New York), 16(sept): 84-88.