Chapter III

DEMOGRAPHIC FACTORS AND FAMILY PLANNING ACCEPTANCE

The concept of family planning acceptance was explicated in the first chapter. We had postponed presentation of relevant demographic data till this chapter to discuss them at one place so that a focussed presentation can be facilitated. Accordingly, we will first present data about mothers' present age and number of living children. On the basis of these two variables, we will derive the measure of high or low family planning acceptance (i.e. excess number of children). This concept of F.P. acceptance will be validated by comparing acceptance among early users and late users as well as early users and non-users of contraception. After this validating procedure, relationship of F.P. acceptance with four major demographic variables; viz., mother's age at marriage, her age at first birth, sex preference and child survival would be discussed. Summary of major findings is provided at the end of the chapter.

Mothers' Age and Number of Living Children :

Table 1 presents data regarding age of the mothers of

Baroda Municipal Corporation Balwadi Children and number of living children they had at the time of interview. These sampled mothers had an average age of 28.31 years (with standard Deviation = 4.45). Similarly, average number of living children they had was 2.9 (SD = 1.26).

TABLE - 1 : MOTHER'S AGE AND NUMBER OF LIVING CHILDREN.

Number of Living Children	Mother's Age in years			Total
	20-24 years	25-29 years	30 or more years	
1	10	12	3	25
2	26	48	22	96
3	16	42	37	95
4	1	17	19	37
5	-	4	16	20
6	1	1	7	9
7	-	-	2	2
8	-	-	1	1
Total	54	125	107	285
Mean	2.22	2.65	3.53	2.90
Median	2	3	3	3
Mode	2	2	3	3
Permissible number of children	2	3	4	-

TABLE - II : ASSOCIATION BETWEEN MOTHER'S PRESENT AGE AND NUMBER OF LIVING CHILDREN

No.of Living Children	Mother's Present Age				Total	
	28 years or Less		29 years or more			
	Fre.	%	Fre.	%	Fre.	%
1-2	91	57	30	24	121	42.5
3 or more	68	43	96	76	164	57.5
Total	159	100	126	100	285	100.0

$X^2 = 32.142$ df = 1 $p < .001$

G = .621 $\emptyset = .336$ $r_t = .52$

Table II is a summarized version of the data in first one. It is amply clear that there was moderately high association between mother's age and number of living children she had. The association was significant at much above .001 level. The implication was that if we directly used number of living children as our major dependent variable, it was contaminated by mother's present age. It was here that Hamilton's concept of 'Excess Birth's (for our purpose excess children), which we explicated in the ~~last~~ first chapter; was made use of to purify the concept of family size or number of living children. On the basis of three measures of central tendency provided in Table I, it seemed safer to derive the permissible number of children for each age-group. Accordingly, the age-group 20-24 was permitted 2 children. If a mother in this age-group

had exactly 2 children, she received the score of 0 (zero) in terms of excess children. If she had one child, she received the score of -1. If she had 3 children, she received the score of +1. After applying this criteria of permissible number of children to the next two age-groups, Table III was prepared.

TABLE - III : NUMBER OF EXCESS CHILDREN.

Number of Excess Children	Frequency	Total	Explanation
-3	3	132	These Respondents are
-2	34		classified in High Family
-1	95		Planning Acceptance Group.
0	87		These respondents are
+1	49		classified in Low
+2	12	153	Family Planning Acceptance
+3	3		Group.
+4	2		
Total	285	285	

Number of Excess Children and Family Planning Acceptance :

As we can see from Table III, the model number of excess children is -1 while mean and median lie between 0 and -1. Looking at the frequency distribution and measures of central

tendency we thought of treating this variable for parametric statistical treatment, however, because of arbitrary nature of operations involved we decided to use non-parametric statistics. For this reason, we divided the excess children around median, i.e. mothers with -1 or less excess children were classified as having high family planning acceptance.

This being relatively new way of measuring Family Planning Acceptance, we had no evidence, other than Hamilton, to justify the reliability of the concept. As mentioned earlier, while reporting the reliability of other concepts, we had adopted the test-retest procedure (with 5 months gap) for finding out the reliability. The calculated $\emptyset$ was .764. To test its significance we applied chi square test which was 16.352; significant at well above .001 level. Tetrachoric or r_t was .94 and Gamma was .971. Similarly, of the total respondents who were classified as having high or low Family Planning Acceptance during the first test, 89 per cent of them were classified in the same category in the retest.

Accepting that this is a fair evidence of reliability, let us go back to see if we are able to prove that family planning acceptance is a more valid concept than the straight forward adoption of number of living children. To validate the concept of F.P. Acceptance we adopted the criterion

method of validation. The criteria groups which we used were early, late and non-users of contraception. The validating evidence is provided in the following pages.

Contraceptive Use and F.P. Acceptance :

Once a person consciously plans to have certain number of children, he/she has various options open to him/her. At an early stage of reproductive cycle one may adopt temporary methods like IUCD, condom, Pill etc. After having desired number of children one may opt for permanent method like vasectomy or tubectomy. Another alternative, applicable at any stage, may be abstinence. Considering all the options, from the demographic and medical point of view, use of modern contraception is most reliable way of planning family size or number of children.

Now, the question is at what stage of reproductive cycle one opts for planning the family size? Or After how many children do they start using contraception or finding out some ways of restricting the future births? It is natural to expect that people who are conscious of having fewer children will adopt contraception at an early stage of their reproductive cycle.From this perspective, we can hypothesize that if our concept of F.P. acceptance is valid then majority of

early users should be classified as high acceptors while majority of late or non-users should be classified as low acceptors. Table IV and V provide the data.

TABLE - IV : EARLY OR LATE USE OF CONTRACEPTION AND F.P. ACCEPTANCE

F.P. acceptance	Use of contraception				Total
	Early		Late		
	Fre.	%	Fre.	%	
High	56	84	27	25	83
Low	11	16	80	75	91
Total	67	100	107	100	174

$X^2 = 56.227$ df = 1 $p < .001$

G = .876 $r_t = .80$ $\emptyset = .568$

TABLE - V : EARLY USE OR NON-USE OF CONTRACEPTION AND F.P. ACCEPTANCE

F.P. acceptance	Use of Contraception				Total
	Early Use		Non-use		
	Fre.	%	Fre.	%	
High	56	84	49	44	105
Low	11	16	62	56	73
Total	67	100	111	100	178

$X^2 = 26.862$ df = 1 $p < .001$

G = .731 $r_t = .63$ $\emptyset = .389$

Early, Late or Non-Use of Contraception and F.P. Acceptance :

Early use was defined as use of contraception when the couple had two or less children. Respondents or their spouses who had adopted contraception before having third child were classified as early users. Similarly, late users were those who either themselves or their spouses started using contraception when they had 3 or more children.

Before we comment upon Tables IV and V let us state few facts which will help us to understand the situation better.

Condom as a temporary contraception and tubectomy as a method of sterilization were most frequently used.

In all, there were 69 (24%) ever users of temporary contraception, 105 (37%) who used only sterilization and 111 (39%) were non-users. From the 69 ever users of temporary contraception, 2 were late users. Again from this 69 ever users of temporary contraception, 25 had switched over to sterilization at the time of survey while 44 were still using temporary methods. Thus, at the time of survey, 130 (46%) respondents themselves or their spouses were sterilized, 111(39%) were non-users and 44 (15%) were using temporary contraception.

Now, let us discuss some of the salient aspects of tables IV and V. The percentage of high F.P. acceptors among early users, non-users and late users was 84, 44 and 25 respectively. When we placed all these three groups in a single table to measure association between F.P. acceptance and contraceptive use; the X^2 was 56.759, which was significant at much above .001 level. Similar trend can be observed in Table IV. The tetrachoric correlation coefficient was .80 showing that early and late use of contraception was highly related with F.P. acceptance. When we turn to Table V, the association between early or non-use of contraception and F.P. acceptance remains highly significant, however, the strength of relationship (r_t = .63) is slightly reduced. One possible reason may be that the non-users might have adopted some conscious way like abstinence or they may be victim of involuntary causes like separation, sickness etc., where by they had less than permissible number of children.

There seems to be an adequate evidence for reliability and validity of our concept of F.P. acceptance. With this assurance, let us move to test four major hypotheses which have been widely discussed among social scientists researching on population problems. These four hypotheses relate F.P. acceptance with age at marriage, age at first birth, sex preference and child mortality.

Age At Marriage and F.P. Acceptance :

Social Science researches on reproductive behaviour have found strong evidence that groups which value high fertility or large number of children have strong norms regarding early entrance into marital union. High fertility is, thus, closely associated with early entry into marital union. In other words, women belonging to the group with high fertility values will marry at an younger age. Our hypothesis is that there will be greater proportion of high acceptors among mothers who married late and smaller proportion of high acceptors among those who married at an younger age. Thus, higher the age at marriage, higher the F.P. acceptance.

For 285 sampled mothers, average age at marriage was about 18 years (Mean = 18.214; SD=3.815; Median=18). We divided our sample into two groups around median. Mothers who had married at an age of 19 years or more were classified in the group called 'married at later age'. Similarly, mothers who married at the age of 18 years or less are classified in the group called 'married at an younger age'.

Data in Table VI proved our earlier assertion. Among mothers who married at a later age, 70.5 per cent were high acceptors while among mothers who had married at an younger age only 25.5 per cent were high acceptors. The association

TABLE - VI : MOTHER'S AGE AT MARRIAGE AND F.P. ACCEPTANCE.

F.P. Acceptance	Mother's Age at Marriage				Total
	19 years or more		18 years or less		
	Fre.	%	Fre.	%	
High	93	70.5	39	25.5	132
Low	39	29.5	114	74.5	153
Total	132	100.0	153	100.0	285

$X^2 = 57.621$ df = 1 $p < .001$

G = .749 $r_t = .65$ $\emptyset = .450$

($X^2 = 57.621$) was significant at much above .001 level. Tetrachoric correlation coefficient was .65.

Age at First Birth and F.P. Acceptance :

In continuation with the above hypothesis, one can argue that it is not only marrying early or late which matters, but it is equally important to find out the age at which they begin to have children. Thus, the question is, what was the age of mother when first child was born to her? In accordance with our preceding argument it is logical to expect that the norms which govern entry into marital union should also operate in determining the age of mother at the time of first birth. Therefore, we hypothesized that there will be greater proportion of high acceptors among mothers who produced their first child at later age and smaller proportion of high acceptors

among mothers who produced their first child at an younger age. Thus, higher the age of mother at first birth, higher the F.P. acceptance.

The average age of mother at the time of first birth was about 21 years (mean = 20.674; SD = 3.396; Median = 20). We divided our sample into two groups around median.

Data in Table VII supports the hypothesis. Among mothers who produced their first child at the age of 21 years or more, 69 per cent were high acceptors; while among mothers who produced their first child at the age of 20 years or less, only 26 per cent were high acceptors. The association (X^2 = 52.440) was significant at much above .001 level.

TABLE - VII : MOTHER'S AGE AT FIRST BIRTH AND F.P. ACCEPTANCE.

F.P. acceptance	Mother's Age at First Birth				Total
	21 years' or more		20 years or less		
	Fre.	%	Fre.	%	
High	93	69.0	39	26.0	132
Low	42	31.0	111	74.0	153
Total	135	100.0	150	100.0	285

X^2 = 52.440 df = 1 $p < .001$

G = .726 r_t = .63 ϕ = .429

Sex of Children and F.P. Acceptance :

Data presented so far prove that high acceptors (or mothers with fewer children than permitted at their age) were characterized by early use of contraception, higher age at marriage and higher age at the birth of their first child. Now, it is well known that people are not only concerned about number of children but they do have preference for sex of the child; i.e. they want certain number of boys and certain number of girls. Sons are preferred to daughters because in a developing country like India son is viewed in terms of security in old age, economic gains, continuation of family line, status symbol, etc. Researchers have shown good evidence that almost all (excepting few) want at least one son.

TABLE - VIII : NUMBER OF SONS AND F.P. ACCEPTANCE.

F.P. acceptance	Number of sons				Total
	Nil or one		Two or more		
	Fre.	%	Fre.	%	
High	90	58.0	42	33.0	132
Low	66	42.0	87	67.0	153
Total	156	100.0	129	100.0	285

$X^2 = 17.940$ df = 1 $p < .001$

G = .477 $r_t = .39$ $\phi = .251$

With a simple understanding that there is a good probability of having a son with 2 to 3 children, majority of couples who determine to restrict their family size, usually go up to 2 to 3 children. Couples wanting to have more sons will produce more children. But our concept of family planning acceptance was against more children. Accordingly, mothers with fewer children (on average 2.1) were classified as high acceptors and mothers with more (on average 3.6) children were classified as low acceptors.

It is logical to expect that because high acceptors had fewer children they will have fewer sons and the contrary would be found among low acceptors. As it can be seen from Table VIII, majority of the respondent with nil or one son were classified as high acceptors while majority of the respondents with two or more sons were classified as low acceptors. The Gamma coefficient or correlation was moderately high and the association (X^2 = 17.940) was significant at much above .001 level.

The data seems to suggests that high acceptors were satisfied with an average of 1.2 sons while low acceptors went upto an average of 1.6 sons. A question can be raised at this point that our acceptance categories do not mean completed family size. As a result high acceptors may end up with more children at a later stage. For a more direct proof, we

constructed Table IX where we just ~~included~~ included only those who had completed their family size. In other words only those respondents who had been sterilized.

TABLE - IX : NUMBER OF SONS AND F.P. ACCEPTANCE AMONG RESPONDENTS WITH COMPLETED FAMILY SIZE

F.P. acceptance	Number of sons				Total	
	Nil or One		Two or More			
	Fre.	%	Fre.	%	Fre.	%
High	26	62.0	26	29.5	52	40.0
Low	16	38.0	62	70.5	78	60.0
Total	42	100.0	88	100.0	130	100.0

$X^2 = 12.404$ df = 1 $p < .001$

G = .590 $r_t = .49$ $\emptyset = .309$

Table IX shows similar trend which were found in previous table. Gamma coefficient of correlation between number of sons and F.P. acceptance was moderately high (.59) and the association ($X^2 = 12.404$) was significant at much above .001 level. Thus, there was an improvement in the association.

To avoid an exaggerated assertion about the relationship between number of sons and F.P. acceptance, we adopted still another method; that of calculating sons to daughters ratio. The 52 sterilized respondents in high F.P. acceptance category

had 79 sons and 48 daughters, while 78 sterilized low acceptors had 157 sons and 142 daughters. Thus, the son to daughter ratio was 165 and 111 respectively. In other words, for every 100 daughters, high acceptors had 165 sons while low acceptors had only 111 sons. This should help us to check our earlier assertion that high acceptors were satisfied with fewer sons. Though high acceptors had fewer ($\bar{X}$=1.5) sons than low acceptors ($\bar{X}$=2.0); we should remember that to have this number of sons high acceptors had to produce an average of only 0.9 daughters while low acceptors had to produce 1.8 daughters.Thus, favourable son to daughter ratio seems to be one of the factors contributing toward higher F.P. acceptance.

Child Survival and F.P. Acceptance :

Alike sex preference hypothesis, child survival hypothesis also has attracted good attention. Many researchers who worked on the child survival hypothesis (e.g. Khan, 1973; Snyder, 1974; Heer and Wu, 1975) indicated strong evidences that higher fertility was related to experiences with or fear of child mortality. In these studies, the effect of child survival on fertility remained even after eliminating those portions of relationship attributable to maternal age, marriage duration, parity and socioeconomic differentials (Tylor et al., 1976).

On the other side some authors feel that high fertility causes high infant mortality. Recognizing psychological aspects of relationship, Bogue (1974) revealed that much publicized relationship between high fertility and high infant mortality and widely accepted assertion about the child bearing motivation of individual couples turns out to be almost entirely, if not wholly, a spurious correlation caused by their joint causation by socioeconomic status. Explanatory value is negligible when this is controlled and could easily be due to the effect of high fertility in causing excess infant mortality.

Before taking sides with either of this clashing assertions, a reminder about the background of our respondents is essential. Our sample consisted of low middle class urban respondents, who had relatively better availability of health facilities. It is well known that child mortality and fertility are higher among rural poors with inadequate health facilities. In light of this, we should expect low child mortality among our respondents. To assertain this fact, we had asked a simple question as to how many of their children (including all live births) had died? If relationship between high fertility and high child mortality were strong enough then high acceptors should have low child mortality because they had only 2.1 children; while low acceptors should have

high child mortality because they had 3.6 children. Table X presents the data.

TABLE - X : EXPERIENCE OF CHILD MORTALITY AND F.P. ACCEPTANCE

F.P. Acceptance	Experience of Child Mortality				Total
	No		Yes		
	Fre.	%	Fre.	%	
High	109	47.0	23	43.0	132
Low	123	53.0	30	57.0	153
Total	232	100.0	53	100.0	285

$X^2 = .285$ df = 1 $p > .05$

$G = .072$ $r_t = .06$ $\emptyset = .028$

The table reveals that there was almost no relationship between experience of child mortality and F.P. acceptance. To begin with, there were only 53 (19%) respondents who had experienced child mortality. This experience of child mortality was almost equally distributed among high as well as low acceptors. Thus, as far as our sampled respondents are concerned; child mortality was neither a facilitator nor a hindrance in their high or low acceptance of family planning.

After having a look at salient demographic characteristics of our respondents, let us summarize them for an overall assessment.

SUMMARY :

(1) We operationalized the concept of Family Planning acceptance in terms of excess children. On the basis of average children for her age group, a mother was permitted 2 children if she was 24 years or less, 3 children for 25-29 age group and 4 children if she was 30 years or more. Mothers with less than permissible number of children were classified as high F.P. acceptors. Motners with permissible number of children or more were classified as low F.P. acceptors. On average, high acceptors had 2.1 children and low acceptors had 3.6 children. For the total sample, average number of living children was 2.9.

(2) Test-Retest reliability of the F.P. Acceptance concept, calculated with Tetrachoric coefficient was .94. The concept was validated by oriterion method. Three criteria groups were : early, late and non-users of contraception. Tetrachoric correlations were .80 for early-late users V/s. F.P. Acceptance; and .63 for early users-nonusers V/s. F.P. acceptance. Overall association between these three groups and F.P. acceptance was very high ($X^2 = 56.759$; df = 2; $p < .001$). This assured us about high reliability and validity.

(3) Of the total 285 sampled respondents, 46 per cent (or their spouses) were sterilized, 15 per cent were using temporary contraception and 39 per cent were non-users.

Percentage of high F.P. acceptors among early users, non-users and late users was 84, 44 and 25 respectively. Similar trend was observed in terms of type of contraception used. Percentage of high F.P. acceptors among users of temporary contraception, non-users and sterilized was 71, 44 and 40 respectively.

(4) The respondents (mothers) had married approximately at an average age of 18 years. They had produced their first child at the age of 21. Among those who married at the age of 19 years or more, there were 75.5 per cent high F.P. acceptors. While among those who married at the age of 18 or less, there were only 25.5 per cent high F.P. acceptors. Age at marriage and F.P. acceptance were highly correlated (Gamma = .749). Similarly, mother's age at the birth of first child and F.P. acceptance were highly correlated (Gamma = .726). Among those who produced their first child at the age of 21 or more, there were 69 per cent high F.P. acceptors. While among those who produced their first child at the age of 20 or less, there were only 26 per cent high acceptors.

(5) Among those who had no son or only one son, there were 58 per cent high acceptors while among respondents with two or more sons, there were only 33 per cent high acceptors. This trends was slightly stronger among couples who had completed

tneir family size (sterilized couples). This may give an impression that high acceptors were satisfied with fewer sons, however, son to daughter ratio was more favourable for high acceptors. For every 100 daughters, high acceptors had 165 sons but low acceptors had 111 sons.

(6) The respondents had very negligible and insignificant experience of child mortality.