

K. G. Jolly

Differential Fertility Performance by Education, Age at Marriage and Work Status of Women in Delhi Metropolis

DIFFERENTIAL Fertility has been known alt through the history of population and it attracted considerable attention when most of the Western European countries started observing a decline in the fertility trend. This declining trend in. fertility has also been observed significantly in all the developed countries, in all the regions and also some decline in general fertility levels in other developing countries. Differential fertility provides a detailed analysis of various variables which affect the general fertility levels. The importance of such an analysis is that it provides an insight into the process of permeation of the pattern of fertility behaviour for formulating population policy more systematically and in a realistic manner.

There are a number of variables which are traced for fertility differentials, notable among them are, religion, residence status, education level, age at marriage, work status, income, etc. A review of various studies exhibits relationship between these variables and fertility behaviour. Several studies have examined the relationship between the female's employment status and fertility. United Nations Mysore study (1959), Dandekar (1959), Driver (1963), Heer (1965), Stycos(1965), Collver (1968), Mauryur (1968), Berelson (1969) and some other studies have shown a negative relationship and generally supported the proposition that working women have fewer children than non-working women. Judith Blake contends that foregoing employment is an indirect cost considered by working women. She further says that employment often entails satisfaction

alternative to children such as companionship, recreation, simulation and creative activity. On the other hand, we have studies like Stycos and Weller(1967), Zarate(1967), Sovani and Dandekar (1955), Dandekar (1959), which show that female labour force participation does not have any impact on their fertility level. It is quite obvious that these disparities in findings may be attributed to the differences in the design of study, source of data, type of measurement, analytical approach etc.

With the progress in economic development and education, a change has been observed in the fertility rate among the different strata of society. Generally, we find an inverse relationship between fertility and the socio-economic status i.e. higher the status lower the fertility and vice versa. Also the relationship between fertility and work status of women is a product of several causal relationships of various socio-economic and cultural variables. An attempt has been made in the present study to bring into light the fertility differentials by education, age at marriage and work status of women. The study is based upon the data collected in the Delhi Demographic Survey covering Delhi Metropolis, conducted by the Institute of Economic Growth, Delhi.

Delhi Demographic Survey

The main object of this survey was to study the level of fertility and family planning acceptance in Delhi Metropolis. Data on female fertility formed a part of the comprehensive demographic study. The sample design of the survey was a two stage stratified random sample; the first stage unit was the sample block, comprising 125 to 200 households, selected at random out of total blocks and at the second stage households were selected at random from the selected blocks. The Demographic Survey comprised a household survey and two complementary male and female fertility surveys. The respondent in the female fertility survey was the woman belonging to the sample households, ever-married living woman, married only once and below 50 years in age. In this way, about 1.5 per cent of the total households in metropolis were selected in the sample. The total *size* of the sample for female fertility survey was 8230, of which 7248 interviews were completed but the data for 7211 women have been used for final analysis.

The survey results show that the mean age at marriage of these women was 17.3 years, having marriage duration of about 15 years and the mean present age was 32.4 years. During this period these women had, on an average, 4.2 pregnancies, 3.8 live-births and 3.0 living children. The mean number of additional children wanted by these women was 1.4 and this makes a total of 4.4 children as

Expected size of family. Of the total women 84.3 per cent were not working, 6.7 per cent were found working either in higher professions or as clerks or in nursing and other non-manual profession and the remaining 9 per cent were working either as dhobis, sweepers, domestic servants or casual workers. The first group of the working women has been classified as "non-manual" workers and the other group as "manual" workers. The participation rate by level of education shows that it was the highest among women with matric or above education followed by illiterate women and the least among the women with below matric education, Participation rate among illiterate women was about 20 per cent. It was the highest in the age-group 35 or more years of age and in other ages it was uniform except in the age-group 20-29 where it was about 17 per cent. The participation rate among the women with below matric education was 8 per cent. It was found to be the highest in the age-group 35 or more years, least in the age-group 20-24 years and was about 7 to 8 per cent in other age-groups. The participation rate among the women with matric or above education was about 23 per cent. The proportion increased with age till 34 years and thereafter it declined in the age-group 35 or more years of age. As mentioned earlier, there are number of factors responsible for fertility differentials and in this particular exercise only education, age at marriage and work status of women have been considered.

Education, Age at Marriage and Fertility

The age-specific fertility rate has been used to measure the level of fertility. "Women without any education have been classified as "Illiterate", upto 9 years of schooling including Jiterate as "Below matric" and 10 or more years of Schooling as "Matric and above." Similarly age at marriage refers to age at gauna or the age at which marriage is consummated.

-- Table 1 shows the age-specific fertility rate by age at gauna and level of education of women. Looking at the fertility differential by education level alone we find that educational level has a notable influence on the fertility level, both age-specific and total fertility. The age-specific and total fertility was found to be the highest among illiterate women followed by women with education upto 9 years of schooling and it was the lowest among the women with 10 or more years of schooling. Compared to women with no education, the total fertility was less by 20 per cent and 48 per cent for the women with the education level upto 9 years of schooling and to women with 10 or more years of schooling respectively. It is important to note that total fertility among various educational levels, is significantly different. The age-specific fertility rates, in

TABLE 1—AGE-SPECIFIC FERTILITY RATES BY AGE AT EFFECTIVE MARRIAGE AND LEVEL OF EDUCATION OF WOMEN

<i>Education and age</i>	<i>Ageatmarriage</i>				<i>All</i>
	<i>Below 16</i>	<i>16-17</i>	<i>18-19</i>	<i>20+</i>	
Illiterate					
Below 15	0.03	0.00	0.00	0.03	0.01
15-19	1.43	0.87	0.25	0.00	0.96
20-24	1.74	1.77	1.77	1.24	1.72
25-29	1.50	1.58	1.57	1.50	1.54
30-34	1.22	1.23	1.29	1.27	1.23
35-39	0.69	0.76	0.74	0.88	0.74
40-44	0.20	0.30	0.27	0.50	0.26
45+	0.02	0.01	0.00	0.00	0.02
Total	6.83	6.52	5.89	5.44	6.48
Below Matric					
Below 15	0.03	0.00	0.00	0.00	0.01
15-19	1.44	0.96	0.34	0.00	0.81
20-24	1.61	1.75	1.92	1.22	1.69
25-29	1.30	1.31	1.34	1.35	1.32
30-34	0.79	0.78	0.85	1.05	0.81
35-39	0.37	0.34	0.33	0.70	0.37
40-44	0.07	0.08	0.10	0.30	0.09
45+	0.01	0.00	0.00	0.00	0.00
Total	5.62	5.22	4.88	4.62	5.10
Matric and above					
Below 15	0.00	0.00	0.00	0.00	0.00
15-19	1.47	0.94	0.34	0.00	0.30
20-24	1.12	1.50	1.59	1.81	1.11
25-29	0.82	1.02	1.02	1.15	1.07
30-34	0.36	0.53	0.48	0.74	0.59
35-39	0.44	0.16	0.12	0.25	0.21
40-44	0.00	0.12	0.00	0.04	0.05
45+	0.00	0.00	0.00	0.00	0.00
Total	4.30	4.27	3.55	2.99	3.33
A«					
Below 15	0.03	0.00	0.00	0.00	0.01
15-19	1.44	0.94	0.32	0.00	0.79
20-24	1.66	1.73	1.80	0.98	1.64
25-29	1.39	1.38	1.34	1.26	1.42
30-34	0.87	0.93	0.90	0.95	0.97
35-39	0.53	0.50	0.40	0.59	0.52
40-44	0.13	0.17	0.12	0.31	0.16
45+	0.01	0.00	0.00	0.01	0.00
Total	6.06	5.65	4.88	4.10	5.51

the age-groups 20-24 and 25-29 are quite high and as much as two-third of the total fertility among illiterate and about three-fourth both among upto 9 years of schooling and 10 or more years of schooling are during this period.

The study clearly demonstrates a significant negative relationship between the level of education and fertility performance. Table 1 also demonstrates that there is negative relationship between the age at marriage and fertility. In such a situation the relationship can not be interpreted literally to imply a reduction in fertility on account of advancement in the level of education and age at marriage, unless these factors, along with other important variables, are studied simultaneously. Comparison of the fertility levels of women within similar level of education shows that with the increase in the age at marriage there is decline in fertility and this trend is true at all levels of education. The reduction in the total fertility among illiterate and women with 9 or less years of schooling, is about 20 per cent from the marriage age of the first group to the marriage age of the last group i.e. 20 plus. However, the decline in the total fertility among the women with 10 or more years of schooling, is 30 percent among women with age at marriage 20 years or more compared to women with below 16 years age at marriage. These results suggest that the education of women leads to decline in the level of fertility. The education level of the women improves their status both within and outside their immediate family as it leads to easy exposure to the knowledge and ideas disseminated through mass media and particularly printed material. Advancement in the age at marriage is generally expected to influence the increased opportunities for women to go for education for longer period and also for increased participation in the economic activities and particularly in the modern sectors of economy. All these factors are expected to influence the fertility behaviour. Thus, it is important to study the influence of participation of women in economic activity on fertility behaviour.

Work Status of Women and Fertility

The participation rate among the women was about 16 per cent, 7 per cent were manual workers and 9 per cent were non-manual workers. Manual workers include dhobi, sweeper, domestic servant and casual labourer and the rest have been classified as non-manual. Manual workers among the women with 10 or more years of schooling and "non-manual" among upto 9 years of schooling were excluded from our analysis. Table 2 shows the age specific fertility rates of women by level of education and work status.

Looking at the macro level we found that working women had lower fertility

TABLE 2-AGE-SPECIFIC FERTILITY RATES BY EDUCATION AND WORK STATUS OF WOMEN

Age	All				Illiterate			Below Matric		Matric and above	
	Not working	Manual	Non-Manual	All	Not working	Manual	Non-manual	Not working	Manual	Not working	Non-manual
Below 15	0.03	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.02	0.01	0.00
15-19	0.75	1.05	0.31	0.79	0.93	1.05	1.06	0.80	1.11	0.34	0.14
20-24	1.62	1.78	0.85	1.64	1.72	1.73	1.55	0.80	1.68	1.96	0.67
25-29	1.37	1.57	0.90	1.42	1.52	1.64	1.32	1.49	1.49	1.17	0.83
30-34	0.92	1.22	0.53	0.97	1.22	1.33	0.83	0.81	1.01	0.61	0.48
35-39	0.47	0.78	0.23	0.52	0.70	0.92	0.43	0.36	0.33	0.21	0.20
0-44	0.15	0.21	0.15	0.16	0.26	0.21	0.33	0.10	0.06	0.02	0.12
45+	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Total	5.32	6.62	2.97	5.51	6.38	6.89	5.57	5.25	5.98	3.62	2.44

than non-working. Classifying the working women into "manual" and "non-manual" workers, we found that the women participating among "manual" professions had higher fertility than "non-manual" workers and this was rather higher than even the "non-worker" women.

Though peon/attendants have been classified as non-manual workers but we find that these women have comparatively the lower fertility than both non-worker and manual workers. Manual workers, with no education or some education, had the highest fertility compared to both non-workers, and manual workers. The high rate of fertility among the Manual workers can possibly be attributed to the fact that children are asset to them as the children of such working mothers start their career at an early age and also look after other children when their mothers go out for work. Among the women with 10 or more years of schooling the fertility rate was found to be lower among working women than non-working women and the difference between the two groups was significant. This situation clearly demonstrates that the fertility among the women with low education, tend to go up for the women who take up some manual work than the women who either do not go for job or take up non-manual work. Among the educated women, the fertility is low among the women who take up some job than the women who do not take up job outside the house.

The prevailing age-specific fertility rates clearly demonstrate that the fertility is quite high and it calls for the efforts for the higher acceptance of family planning. The study also demonstrates that age at marriage is a crucial factor responsible for lowering the fertility level. Higher age at marriage will consequently lead to greater opportunities for women to go in. for education thus raising the status of women both inside and outside the family. Education of women will also lead to potential participation of women in the economic activities. Such a situation will bring about a change in their general behaviour, including greater use of contraception, which ultimately will lead to a reduction in fertility. Our birth rate can be reduced to half if the minimum age at marriage for girls is raised to 20 years and are given at least 10 years of schooling. Employment opportunities for women are very likely to reduce the birth rate still further.

References

1. Aldeo, Speare *et al* 1973, Urbanisation, non-familiar work, education and fertility in Taiwan. *Population Studies* 27 (3).
2. Berelson, Bernard, 1969, Beyond family planning. *Studies in Family Planning*, 38.

3. Collver, O. Andrew, 1968, Women's work participation and fertility in metropolitan areas. *Demography*, 5(1).
4. Dandekar, K., 1959, *Demographic Survey of Six Rural Communities*. Poona Gokhale Institute of Politics and Economics.
5. Driver, E. D., 1963, *Differential Fertility in Central India*. Princeton, Princeton University Press,
6. Frank, L. Mott, 1970, Fertility, life cycle stage and female labour force participation in Rhode Island : A perspective overview. *Demography*, 9.
7. Heer, David, 1965, Aerial differences in Latin American fertility. *Population Studies*, 18
8. John, D. Kasarda, 1971, Economic structure and fertility; A comparative analysis.
9. John, J. Macisco *et al*, 1970, The effect of labour force participation on the relation between migration status and fertility in San Jaun, Puerto Rico. *Milbank Memorial Fund Quarterly*, 48.
10. Maury, petter, 1968, Birth control and regional differentials in Soviet Union. *Population Studies*, 22,
11. Sovani. N. K. and Dandekar, K., 1955, *Fertility Survey of Nasik, Kolaba and Satara Districts* Poona Gokhale Institute of Politics and Economics.
12. Stycos, J. Mayons, 1965, Female employment and fertility in Lima, Peru. *Milbank Memorial Fund Quarterly*.
13. Stycos, J. Mayone and Robert, H. Weller. 1967. Female working roles and fertility. *Demography*, 4(1).
15. zarate Alvan, 1967, Differential fertility in Monterrey Mexico : Prelude to transition *Milbank Memorial Fund Quarterly*,