



## Interval Between Age at Marriage and First Birth in India

Kanti Pakrasi and Chittaranjan Malaker

*Indian Statistical Institute  
Calcutta, India*

In his study of sixty four sample populations drawn from all over the world, Ford (1945) pointed out the surprising infrequency of childbearing by adolescent girls. His finding strengthens the theory of "adolescent sterility" of Ashley-Montagu (1939). Critical assessments of this theory are available to bear out its import in the field of fertility research (Beebe, 1942; Lorimer, 1954). With respect to the problems of human fertility in general, several pioneering studies on trends and differentials in age at marriage and the timing of births have already been made in different populations (Royal Commission on Population, 1950; Fortes, 1954; Das Gupta et al., 1955; Sovani and Dandekar, 1955; Grabill, Kiser, and Whelpton, 1958; Whelpton, Campbell, and Patterson, 1966). Pursuant to these studies, we have undertaken the present study with the approach that among reproductively mature women the interval between menarche, effective marriage, and first pregnancy does constitute a "highly variable" phenomenon which affects the trends and differentials in the timing of first births.

In this paper we have attempted to examine the following three biosocial issues:

1. What is the mean interval between

age at marriage and first birth among reproductively mature women in India?

2. Is there any perceptible difference in age at marriage and the timing of first birth among Indian women belonging to different socioeconomic groups?

3. What is the nature of the distribution of the average number of months between effective marriage and first birth within and between social classes in India?

### MATERIAL AND METHODS

In examining the above three issues, we have utilized a portion of the survey data collected from urban families of Calcutta, West Bengal. For the collection of relevant data, approximately 12,000 households were selected from the city, excluding certain areas with predominantly non-Bengali population. A master sample of 6,884 couples was obtained from the sampled households in the selected urban blocks with details regarding age, age at effective marriage, education, occupation of married members, etc. (Poti, Malaker, and Chakraborti, 1960). Finally, 1,018 couples were chosen at random in varying proportions from three broad socioeconomic strata for detailed fertility investigations. In this selection a special effort was made to satisfy

these conditions: (a) both husband and wife residing in the same household; (b) couples married only once; (c) wife's age not exceeding 40 years; and (d) couples belonging definitely to any one of the following three socioeconomic groups of the city, (I.) Higher Professions and Services—physicians, engineers, office executives, wholesale business, (II.) Lower Professions and Services—clerks, supervisors, retail traders, and (III.) Manual Laborers—skilled and unskilled. These social classes were identified jointly on the basis of husband's occupational standing, his as well as his wife's educational attainment, and gainful employment of wife.

The complete fertility history recorded for each couple among 1,018 couples has been thoroughly examined to ascertain mother's age at effective marriage and age at first birth. We encountered the common difficulty of other investigators in getting correct age returns in sample inquiries (Das Gupta et al., 1955; Sovain and Dandekar, 1954). Moreover, problems of "recall lapse" were also encountered, but it may be assumed that this problem played a minimum role due to various checks which were adopted for the survey.

For each couple under investigation, husband and wife were independently interviewed by male and female investigators respectively. In case there occurred any serious discrepancies between husband's and wife's reporting, especially on age at marriage, age at several births, the respondents were again interviewed by the supervisors to reconcile all discrepancies (Poti, Malaker, and Chakraborti, 1962). In this matter, the help of the family elders was sought to get confirmation of the reportings made by a couple on its fertility history. Marriage and/or birth certificates were collected from the elderly kinfolk of the family in the absence of any officially sponsored documents.

For the study, the minimum interval between marriage and first birth has been assumed to be 10 months. Premarital conception in Indian families is negligible, and the exact interval between marriage and stillbirth or abortion is very difficult to obtain correctly. Births occurring in less than ten months could not be ascertained in the survey and hence a limitation is imposed. The factors noted above indicate the nature of the limitations in the information given about mother's age at marriage and age at first and subsequent births.

We examined mother's age at marriage under five broad age groups: below 16 years, 16-18 years, 18-20 years, 20-22 years, and 22 years and above. On the other hand, the interval between age at effective marriage and first birth has been classified by four distinct time phases by months: 12-18, 18-30, 30-42, and more than 42 months. These groupings were applied uniformly to all couples, irrespective of social class. In so doing, it was found that for social class III the number of mothers in different cells latticed by age groups of 18-20, 20-22 and 22, and all interval groups were very small. Accordingly, the average interval (months) among the wives of class III has been examined for only three age groups, namely, below 16 yrs, 16-18 years, and above 18 years.

For each social class, the mean and the standard deviation of interval between age at effective marriage and the first live birth have been calculated with respect to each one of the given groups of age at effective marriage and also for all groups combined. We have also examined the most frequently reported interval, that is, the mode for each social class. The distribution of the interval between age at marriage and first live birth has also been studied for all social classes.

For the purpose of the present study, we could utilize relevant fertility histories

of only 906 couples. A further scrutiny revealed that 45 couples belonging to all classes reported no birth even within 5 years from the date of their effective marriage. These couples (5% of total) were excluded from the study. Of these 45 couples, 9, 14 and 22 belonged to social classes I, II, and III, respectively. With this exclusion, we had 207 couples in class

I, 386 in class II, and 268 in class III for necessary analytical observations.

#### RESULTS

The relative intervals (in months) between effective marriage and first birth classified by age at marriage and social class is presented in Tables 1, 2, and 3. In general, the relevant characteristics of

TABLE 1  
DISTRIBUTION OF INTERVAL IN MONTHS BETWEEN EFFECTIVE MARRIAGE AND FIRST LIVE BIRTH BY AGE AT MARRIAGE FOR SOCIAL CLASS I

AGE AT MARRIAGE	INTERVAL IN MONTHS				TOTAL	MEAN	STANDARD DEVIATION
	10-18	18-30	30-42	42+			
Under 16 .....	9	6	8	4	27	28	14
16-18 .....	15	16	8	4	43	26	10
18-20 .....	18	16	7	5	46	25	12
20-22 .....	25	14	3	3	45	22	9
22+ .....	22	20	4	...	46	21	6
Total .....	89	72	30	16	207	24	10
Per Cent .....	43%	35%	14%	8%	100%	...	...

TABLE 2  
DISTRIBUTION OF INTERVAL IN MONTHS BETWEEN EFFECTIVE MARRIAGE AND FIRST LIVE BIRTH BY AGE AT MARRIAGE FOR SOCIAL CLASS II

AGE AT MARRIAGE	INTERVAL IN MONTHS				TOTAL	MEAN	STANDARD DEVIATION
	10-18	18-30	30-42	42+			
Under 16 .....	29	22	19	15	85	28	14
16-18 .....	48	44	18	14	124	25	12
18-20 .....	45	37	11	13	106	25	11
20-22 .....	28	15	3	3	49	21	10
22+ .....	11	7	3	1	22	22	10
Total .....	161	125	54	46	386	25	12
Per Cent .....	42%	32%	14%	12%	100%	...	...

TABLE 3  
DISTRIBUTION OF INTERVAL IN MONTHS BETWEEN EFFECTIVE MARRIAGE AND FIRST LIVE BIRTH BY AGE AT MARRIAGE FOR SOCIAL CLASS III

AGE AT MARRIAGE	INTERVAL IN MONTHS				TOTAL	MEAN	STANDARD DEVIATION
	10-18	18-30	30-42	42+			
Under 16 .....	55	53	40	35	183	30	11
16-18 .....	24	13	9	3	49	23	11
18+ .....	14	13	7	2	36	24	11
Total .....	93	79	56	40	268	27	11
Per Cent .....	35%	29%	21%	15%	100%	...	...

mean interval and standard deviation as obtained for the wives of different age groups within social classes I and II are very close, while wives of class III did differ from their counterparts in the former two classes.

The number of wives having their first pregnancy terminations within 30 months from the time of effective marriage accounted for 78% of class I, 74% of class II and 64% of class III. Irrespective of social classes, the large majority of the given reproductively mature women did have their first births within 2.5 years after effective marriage. Most revealing is the fact that the couples of the highest social class of the city experienced the observed specific interval (30 months) relatively in maximum strength. Moreover, when 35% of the wives of class III showed the interval to be only 18 months against a little more than 40% of the wives of class I or II, it appears that differential socioeconomic status might have played a significant role.

Again, regarding the several groups classified by age at effective marriage, it is observed that the average interval declines steadily with increasing age at marriage in all social classes. Attention is drawn to the fact that in social class III the wives belonging to the marriage-age group of below 16 years mark the highest mean interval (30 months). Further, it is in the class of manual laborers we find the maximum difference between two mean intervals (7 months), and this difference is observed to occur between the first two successive marriage-age groups. In the other two higher socioeconomic groups, the difference between any two successive marriage-age groups does not exceed 4 months.

Variability in the interval also declines with increasing age at marriage in all three social classes in question. However, the rate of decline is maximum for social class I and

minimum for social class III, social class II being in the intermediate position. This fact of differential rate of decline in variability strengthens the usefulness of the classification of the urban couples under examination by socioeconomic class.

We note that the variation in fertility patterns of the couples, as indicated by the overall mean interval between social classes, indicates that the social norm in India which encourages an early first pregnancy and founding of a family persists among the couples examined, irrespective of their urban way of living and social standing. Accepting more or less the same inherent fecundity of the couples originating in different socioeconomic strata, we observe that the desire for the first birth after commencement of cohabitation in marriage has actually been translated into fruition within 30 months in a little less than three-fourths of the couples concerned.

Under the circumstances, one query becomes pressing. What might be the effective contribution of contraceptive practices, if adopted at all, to induce the interval of 30 months among the large majority of the urban couples under examination? To answer this question, we point out for the present that (1) the single majority (40%) among all wives of all social classes experienced the interval of 18 months only and (2) irrespective of social standing and economic level the average number of months between effective marriage and first birth does not fluctuate beyond a low of 24 months and a high of 27 months in general.

The above averages do not, in fact, reveal certain other data generated by each social class independently. We observe that in social class I the wives who had the first birth within 1.5 years after effective marriage were married in 47% of the cases below the age of 20. In contrast, in social class II, 48% of the wives having the first birth within the same 1.5 years were mar-

ried below the age of 18. But for social class III, it is significant that as high as 59% of the wives who had the first birth within this 1.5 years were married below the age of 16. Nevertheless, the most frequently reported interval (the mode) is only 12 months for each one of the social classes in question.

With respect to the longest interval (42 and more months), it is observed that the proportion of wives registering such a time gap between effective marriage and first birth increases steadily from higher to lower social class. It increases from 8% (class I) to 15% (class III) with 12% found for class II. Those wives who had their first births after 3.5 years were married by the age of 18 in 50% of the cases within class I, 63% of the cases within class II, and 95% of the cases within class III.

Further, the average length of the first birth interval is maximum among the wives of class III. In fact, this is the highest value for the average interval shown in the given tables, and the length of the first birth interval is clearly related to the socio-economic status of the couples concerned. However, one fact should be stressed here: *the higher the status, the shorter is the average interval, even though the variability and the mode are more or less the same over the given three social classes.*

The above characteristics indicate, no doubt, a clear social class variation in family-building motives and procreative actions of the couples under study. How much are such class differences linked up with couples' disposition towards contraceptive methods in the early years of married life? The answer to this query is available from an excellent study (Poti, Malaker, and Chakraborti, 1960) which shows that the reduction in the number of pregnancies as a result of adoption of birth control practices is largest in social class

I and least in class III. This differential might be ascribed to the more effective and extensive practice of contraception by the couples of the higher strata. Nonetheless, we would like to emphasize that couples of higher social strata (I and II) have a higher proportion producing a first birth within 18 months of effective marriage and the most frequently reported interval is found to be only 12 months for all social classes.

When the above trend of early childbearing is found to exist among the given couples in general, irrespective of social class we may reasonably assume that given the background of the prevailing Indian norm of early marriage and early first pregnancy the higher status and better-educated couples of Calcutta do not behave significantly differently from their counterparts living in lower social strata. The validity of this assumption may be accepted on the merit of all the essential findings available from the statistical tables.

While examining the distribution of the interval between age at marriage and first birth, we have classified the females in question by different groups of months of interval and the resulting figures are presented in Table 4. To minimize biases in the reporting and to arrive at a smooth

TABLE 4  
PER CENT DISTRIBUTION OF FEMALES BY INTERVAL  
IN MONTHS BETWEEN EFFECTIVE MARRIAGE AND  
FIRST LIVE BIRTH BY SOCIAL CLASS

INTERVAL IN MONTHS	% OF FEMALES HAVING THEIR FIRST LIVE BIRTH WITHIN DIFFERENT INTERVALS		
	Social Class I	Social Class II	Social Class III
10-16 . . . . .	42	39	33
16-23 . . . . .	18	17	15
23-28 . . . . .	17	19	15
28-35 . . . . .	8	7	11
35-43 . . . . .	8	7	10
43-52 . . . . .	5	7	10
52-60 . . . . .	2	4	6

series of values unequal grouping has been adopted. A graphical representation of the figures given in Table 4 shows an interesting feature common to all the distributions (Figure 1).

The skewed distributions as explained above agree very well with that shown by Whelpton, Campbell, and Patterson (1966) with respect to all white wives (18-39 years) in the United States.

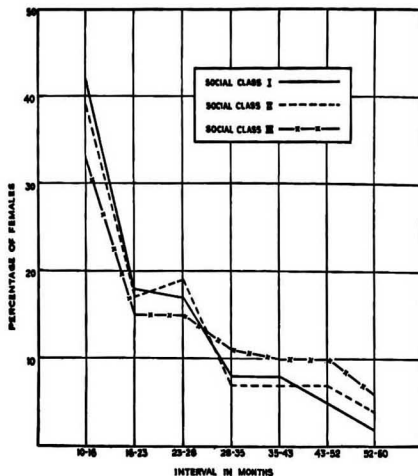


FIG. 1.—Per cent distribution by groups of months between effective marriage and first live birth, Calcutta women, India, 1956-1957.

The three distributions in question are markedly asymmetrical, more or less to the same extent. It is noted that for social class I the percentage starts from as high as 42% and comes steeply down to as low as 2%. For social class III, the figure starts from a high value of 33% (but not so high compared to class I) and comes down to a low value of 6% (this being higher than that found for class I). Here also we find more or less the same rate of decline as observed for social class I. On the other hand, social class II maintains a typical intermediate position in the true

#### OBSERVATIONS ON COMPARABLE STUDIES

In the United States, the average number of months in the first birth interval is 24 for all white wives 18-39 years old. However, two-thirds of the wives with a first birth had it *before* they had been married 24 months. In fact, 50% had a first birth within 15 months after marriage (this is the median value for the first birth interval). The most frequently reported interval (i.e., the mode) is even lower—10 months (Whelpton, Campbell, and Patterson, 1966). The first birth interval (average) as observed for the United States white

wives tallies exactly with what we have obtained for the urban wives of only social class I, though the mode of interval definitely differs.

In a previous study on Bengali women (Hindu) of Calcutta (1947-49), the "upper class" cohorts were shown to have the shortest average interval between first cohabitation and first termination of pregnancy (2.3 years to 3.4 yrs) (Chandrasekaran and George, 1962). We find that the socioeconomic status of this "upper class" cohort conforms very well with that of the couples of our social class I, and consequently the feature of shortest average interval is confirmed for the couples of social class I in our study of Calcutta women (1956-57). However, it should be pointed out again that the average number of months between effective marriage and first birth was definitely shortened by the couples of social class I as well as class II in Calcutta by the mid-1950's.

The phenomenon of declining average interval noticed among the urban couples of Calcutta can also be attested for urban India as a whole. With respect to Hindu couples (married after 1930), it has been shown that the average interval was as high as 53.4 months in urban India (1952), and there was hardly any disparity between the intervals for the rural and the urban sectors of the country (Das Gupta et al., 1955). A study on couple fertility in India (1961-62) has recently shown that the average interval to first birth was 32.38 months only for couples married after 1941 in the urban sectors (National Sample Survey, 1967).

In addition to the above, further interesting data on first birth interval from several zonal populations of India are available. In urban districts of Kolaba and Nasik in western India, the Fertility Survey (1952-54) revealed that the average intervals between marriage and first delivery varied

between a high of 5.5 years and a low of 2.5 years in Kolaba and again, between 4.8 years and 3.1 years in Nasik (Sovani and Dandekar, 1955). For Calcutta (1956-57) in eastern India we find, in contrast, that the average intervals between effective marriage and first birth varied between a high of 2.6 years and a low of 1.9 years among the ever-married women aged between 16 years or less and 22 years or more at marriage. Registering relatively more months on the average between marriage and first delivery, the urban couples of western India in the 1950's are noticeably distinct from their counterparts in eastern India in family-building motives and actions.

On the other hand, another study on fertility and age at marriage (Sinha, 1951) in Lucknow and Kanpur, cities of Uttar Pradesh, showed that for urban wives the average interval fluctuated between 5.0 years and 1.7 years, the interval diminishing with increasing age at consummation of marriage (Lorimer, 1954). The trend in the first birth interval varied among urban couples of Uttar Pradesh (1951) in such a way that it resembled more closely the trend observed for couples in urban Kolaba (Maharashtra) than that found in the present study for urban wives of Calcutta, West Bengal.

#### CONCLUSIONS

The above differentials in first birth intervals show the variation in the desire for early childbearing and early founding of the *family of procreation* (Gillin and Gillin, 1945) within the existing complex socio-cultural setting of India. The differential fertility pattern that still prevails in modern Indian families (Kapadia, 1955; Rele, 1963; Pakrasi, 1966) emanates fundamentally from differential ages at marriage and initial intervals to first birth. Further investigations over wider areas—urban and rural, and within many more cultural

groups of India—are required to pinpoint social class trends and differentials in age at marriage and the first birth interval. The differences in interval to first birth by social class revealed in this study present an interesting issue which needs close sociological examination to spell out the interactions of various sociocultural factors which might have caused such differences in the population.

## SUMMARY

The average interval between age at effective marriage and first birth varied within a very short range: 24–25 months (social class I/II) to 27 months (social class III) among Calcutta couples in 1956–57. The standard deviation of mean interval varied, on the other hand, between 10 months (class I) and 12 months (class II). The mode of interval was 12 months only for all the three social classes under exam-

ination. The average interval declined steadily with increasing age at marriage in all social classes. The average length of the first birth interval was maximum within social class III, although, variability in the average interval was observed to decline with increasing age at marriage in all three social classes.

An examination of the first birth interval by social class shows clearly that the higher the status of the couples of Calcutta the shorter is the average interval. In general, the higher status and better educated couples of Calcutta evinced a pattern of family building behavior just after consummation of marriage which hardly differed significantly from that of their counterparts living in relatively lower social strata.

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