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Age at effective marriage and fertility: An analysis of data for North Kanara

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Introduction

From time to time, Indian demographers have advocated that the age at marriage of girls be raised so as to reduce the reproductive span of women, and thereby, bring down the birth rate. Some researchers [1-3] have estimated a 10-20 percent reduction in the birth rate if the age at marriage of girls is increased to 18-20 years while others [4-6] estimate it to be less than 10 percent. Despite variations in estimates, and depending on the assumptions made by the researchers, it may be concluded that delaying the marriage of girls would lead to some reduction in the birth rate.

A recent review of the literature [7] shows that scant attention has been paid by researchers to the question of whether an increase in the age at marriage of girls does in fact result in controlling fertility or whether it is merely one aspect of social change which, in addition, involves changes in the roles of women and economic structures and fertility reduction. Further, the review suggests that late marriage may not automatically lead to lower fertility.

Srinivas [8] and others [9-12] belong to the school of thought which considers increased age at marriage as one aspect of social change and plays no more than a supporting and secondary role in controlling fertility. This view is further strengthened by the findings of several other researchers [13-16]. According to Zachariah and Talwar, [15] only about 30 percent of the overall fertility decline in Kerala between 1965 and 1980 can be attributed to an increase in the age at which women married. Coale [16] attributes the decline in marital fertility in late-marrying populations to not only the longstanding social conditions that accounted for the tradition of late marriage in Western Europe, but the favourable attitude for early adoption of contraceptives.

A study conducted by Yang [17] in rural China revealed that women who married earlier had longer intervals between marriage and first birth, but after five years of marriage, most women achieved about the same mean number of children regardless of age at marriage. Thus, there may be some 'catching-up' effect soon after marriage for those marrying late. However, when completed

fertility was examined, there was a difference of about one child between those who married at 16-18 years of age (5.61) and those who married at 20-24 years of age (4.51).

This paper seeks to examine the effect of age at effective marriage (cohabitation) on fertility in a project area under the India Population Project III in Karnataka. Controlling for contraception, it analyses the influence of age at effective marriage on the number of children ever born and number of living children of women who had never used family planning and of those who had accepted sterilisation. In the case of the latter, assuming that all the women wanted the same family size, it was hypothesised that the number of living children would be the same for early and late-marrying cohorts.

The Data

The data for the study were taken from the Endline Survey conducted in 1992 by the Population Centre, Bangalore, under the India Population Project III. The survey covered rural areas of all the six project districts, namely, Belgaum, Bijapur, Dharwad, Bidar, Gulbarga and Raichur located in the northern part of Karnataka state. A sample of 2,000 households from each district was taken irrespective of the size of the population of the district. Data relating to current age, age at effective marriage, children ever born (live births), number of living children, mortality, family planning practice and so on from the selected households were collected from currently married women, 15 to 49 years of age, in these households by the personal interview method.

A distribution of the women by district and the use of spacing or a terminal method is presented in [Table 1](#).

Table 1 : Distribution of women by district and contraceptive use FP

District	Never users of contraception	Ever users of spacing methods	Users of terminal methods	Total
Belgaum	933	38	814	1,785
Bijapur	1,169	31	777	1,977
Dharwad	797	6	614	1,417
Bidar	1,107	37	649	1,793
Gulbarga	1,081	25	358	1,464
Raichur	1,277	38	666	1,981
Project area	6,364 (61.1)	175 (1.7)	3,878 (37.2)	10,417 (100.0)

The figures in brackets denote percentages.

Table 1 indicates that as many as 61 percent of the 10,417 women interviewed had never used contraception while 37 percent had accepted a terminal method (sterilisation) and less than two percent had ever used a spacing method. In view of their small numbers, ever users of spacing methods were excluded from the study. The categories of age (years) at effective marriage considered for the analysis were ≤ 15 years, 16-17 years, 18-19 years and 20-28 years.

Findings

Table 2 presents a distribution of the women by the mean number of live births (Panel A) and mean number of living children of (Panel B) of never users of contraception by their current age and age at effective marriage. The findings in Panel A indicate a consistent decline in fertility as the age at effective marriage increases. This pattern was observed for almost all the age groups.

Table 2 : Mean number of live births and mean number of living children of never users of contraception by current age and age at effective marriage (in years)

Current age (years)	A. Mean number of live births					B. Mean number of living children				
	Age at effective marriage					Age of effective marriage				
	≤ 15	16-17	18-19	20-28	Total	≤ 15	16-17	18-19	20-28	Total
≤ 15	0.10 (29)	--	--	--	0.10 (29)	0.10	--	--	--	0.10
15-19	0.88 (627)	0.42 (272)	0.14 (56)	--	0.71 (955)	0.79	0.38	0.13	--	0.63
20-24	2.22 (916)	1.62 (512)	1.06 (313)	0.70 (89)	1.78 (1830)	1.98	1.48	0.97	0.66	1.60
25-29	3.45 (813)	3.00 (356)	2.40 (234)	1.51 (158)	2.99 (1561)	2.97	2.65	2.18	1.40	2.62
30-34	4.55 (488)	4.41 (190)	3.71 (102)	2.68 (59)	4.28 (839)	3.85	3.72	3.21	2.37	3.64
35-39	5.43 (338)	4.73 (128)	4.36 (69)	4.57 (30)	5.09 (565)	4.53	4.13	3.99	3.90	4.33
40-49	5.93 (373)	5.08 (110)	5.03 (63)	4.77 (31)	5.60 (577)	4.76	4.22	4.14	3.94	4.54
Total	3.25 (3584)	2.56 (1568)	2.27 (837)	2.03 (367)	2.88 (6356)	2.76	2.23	2.02	1.80	2.48

The figure in brackets denote the number of women.

The table excludes eight women for whom data on mean number of live births were not available.

Further, as expected, with an increase in current age, the mean number of live births as well as of living children increased. This was true for any given age at effective marriage. There was an overall difference of 1.2 live births (Table 2, Panel A) between early (≤ 15 years) and late-marrying (20-28 years) cohorts in the age group of 40-49 years in which the women were almost at the end of their childbearing period. This may be construed as the effect of age at (effective) marriage. As regards the mean number of living children too, there was a difference between early and late-marrying cohorts, but it was smaller - 0.8 in the 40-49 age group, possibly due to mortality differentials between these cohorts.

Table 3 provides information about the mean number of live births (Panel A) and mean number of living children (Panel B) of women who had accepted sterilisation by their current age and age at effective marriage.

Table 3 : Mean number of live births and mean number of living children of sterilisation acceptors by current age and age at effective marriage (in years)

Current age (years)	A. Mean number of live births					B. Mean number of living children				
	Age at effective marriage					Age at effective marriage				
	≤ 15	16-17	18-19	20-28	Total	≤ 15	16-17	18-19	20-28	Total
≤ 15	--	--	--	--	--	≤ 15	--	--	--	--
15-19	2.45 (22)	--	--	--	2.45 (22)	2.18	0.00	0.00	--	2.18
20-24	3.12 (228)	2.68 (66)	2.65 (17)	1.50 (2)	2.99 (313)	2.93	2.48	2.53	1.50	2.80
25-29	3.77 (648)	3.44 (229)	2.91 (101)	3.00 (29)	3.59 (1007)	3.48	3.18	2.75	2.76	3.32
30-34	4.34 (598)	3.96 (221)	4.03 (122)	3.51 (49)	4.17 (990)	3.88	3.58	3.71	3.45	3.77
35-39	4.90 (514)	4.78 (190)	3.91 (97)	3.65 (54)	4.68 (855)	4.22	4.26	3.67	3.35	4.11
40-49	5.52 (423)	4.92 (155)	4.43 (79)	4.83 (30)	5.22 (687)	4.56	4.25	4.06	4.40	4.42
Total	4.38 (2433)	4.08 (861)	3.75 (416)	3.70 (164)	4.22 (3874)	3.86	3.66	3.48	3.46	3.76

The figures in brackets denote the number of women.

The table excludes eight women for whom data on mean number of live births were not available.

As seen from Panel A of the table, fertility declined with an increase in the age at effective marriage for most age groups. However, the differences in fertility

between the early and the late-marrying cohorts were, in general, narrower than in the case of never users of contraception. For instance, in terms of living children, the early and late-marrying cohorts in the age groups 25-29, 30-34, 35-39 and 40-49 differed, on average, by 1.13 in the case of never users of contraception (Table 2, Panel A) and only by 0.55 in the case of sterilisation acceptors (Table 3, Panel A). This strengthens the hypothesis that, as family size norms for different groups converge and as contraception becomes widely prevalent, differentials by age at marriage, especially with regard to living children, become insignificant.

It was interesting to note that the fertility of sterilisation acceptors varied considerably by age; older women were observed to have higher fertility, in general. That younger women who had accepted sterilisation had fewer children as compared to older women suggests that desired family size had declined over time. This is a welcome change from the programme point of view.

A comparison of Table 2 with Table 3 revealed that the fertility of sterilisation acceptors was generally higher than that of never users of contraception, especially in the younger age groups. A similar observation that sterilised couples are more fertile than non-contraceptors has been reported by Rele and Kanitkar. [18]

Summary and Policy Implications

The effect of age at effective marriage on fertility has been examined in this paper, using data drawn from currently married rural women (15-49 years) in an Endline Survey of the India Population Project III in the northern districts of Karnataka state during 1992. Never users of contraception and sterilisation acceptors were studied.

An inverse relationship was observed between age at effective marriage and fertility. Among women who had never used contraception, those who had married early (< 15 years) had 5.95 live births whereas those who had married late (20-28 years) had 4.77 live births by the time they had nearly completed their reproductive span (40-49 years). This means that the early-marrying cohorts had 1.2 more live births than the late-marrying cohorts. In the case of sterilisation acceptors, the difference in fertility between the early and the late-marrying cohorts were smaller than in the case of never users of contraception thereby strengthening the hypothesis that, as social and economic development occurs, and contraception becomes widely prevalent, the family size norms of the different groups become smaller and converge, and the age at which a woman marries makes little difference in terms of the number of living children.

The implication of this study is that age at marriage can still play an important role in the reduction of fertility in some states in India such as Uttar Pradesh, Bihar and Rajasthan, where only about 30 percent of the couples are effectively protected by various family planning methods. Therefore, efforts should be made to effectively implement the existing law relating to the age at marriage (if it is not practical to raise it further), so that girls do not marry before completing 18 years of age.

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References

1. Zachariah KC and Talwar PP: "The effect of increase in age at marriage on national birth rate", Demographic Training and Research Centre, Bombay, mimeo (1964).
2. Jain SP: "Certain statistics on fertility of Indian women showing the effect of age at marriage", Office of Registrar General of India, New Delhi (1964).
3. Agarwala SN: "Effect of a rise in female marriage age on birth rate in India". Proceedings of the World Population Conference, Belgrade, 30 August - 10 September 1965, Vol. II, New York, United Nations (1967).
4. Basavarajappa KC and Belvalgidad MI: "Changes in age at marriage of females and their effect on the birth rate in India", Eugenics Quarterly, 14:14-26 (1967).
5. Vekatacharya K: "Postponement of age at marriage, its short term impact on fertility", Journal of Institute of Economic Research, 4:33-38 (1969).
6. Talwar PP and Seal KC: "Measurement of effect on fertility of shifts in age at marriage: A case study of India", Demography India, 3(2):387-374 (1974).
7. Yadav SS: "Age at Marriage and Fertility - A Review of Literature", Population Centre, Bangalore, mimeo (1993).

8. Srinivas MN: "Just raising the age at marriage will not do", *Yojana*, 21(20):33 (1977).
9. McDonald PF, Ruzicka DT and Caldwell JC: "Interrelations between nuptiality and fertility: The evidence from the World Fertility Survey", *World Fertility Survey Conference, Vol. II, International Statistical Institute, London*, pp.77-126 (1981).
10. Freedman R : "Introduction" In Ruzicka, LT (ed), *Nuptiality and Fertility, Proceedings of a Seminar held in Belgium, 8-11 January, 1979, IUSSP, Ildaga, Ordina Editions* (1982).
11. Smith PC: "Contrasting marriage patterns and fertility in South East Asia: Indonesia and Philippine Compared". In Ruzicka (ed.), *Nuptiality and Fertility, Proceedings of Seminar held in Belgium, 8-11 January 1979, IUSSP, Liege: Ordina Editions* (1982).
12. Caldwell JC, Hill AC and Hull Valeriej: *Micro Approaches to Demographic Research, Paul Keagan International, London* (1988).
13. Ridley JC and Sheps MC: "An analytical simulation model of human reproduction with demographic and biological components", *Population Studies*, XIX: 297-?? (1966).
14. Grafts NFR and Ireland NJ: "A simulation of the impact of changes in age at marriage before and during the advent of industrialisation in England", *Population Studies*, XXX: 495-510 (1976).
15. Zachariah KC: *Anomaly of the Fertility Decline in Kerala, World Bank Report, No. 1 from RPO 671-70, The World Bank, Washington D.C.* (1983).
16. Coale AJ: "Age of entry into marriage and date of initiation of voluntary birth control", *Demography*, XXIX, 333-342 (1992).
17. Yang Q: "Age at first marriage and fertility in rural Anhui, China", *Journal of Biosocial Science*, XXII:143-157 (1990).
18. Rele JR and Kanitkar Tara: *Fertility and Family Planning in Greater Bombay, Popular Prakashan, Bombay* (1980).