Age at Marriage in Pakistan

by

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THE PROBLEMS

The fertility of a population is the consequence of a number of different but interrelated, demographic, social and economic causes. In a country, such as Pakistan, where total fertility is high [16] and the population young [8], age at marriage of women is one of the major determinants of future fertility. In a non-industrial society marriage is often the most important factor which regulates the production of off-spring [9]. The pattern of marriage varies greatly from one country to another under the influence of social factors, and the gross expectation of marital life below the age of 50 years (a rough estimate of the end of the fecund period) for a girl at the beginning of fecund period varies from about two decades in European countries to about three decades in Tropical Africa [9][1]. Because the upper age limit of the fecund period is biologically determined, age at marriage is the major factor which regulates the potential reproductive span of women. Coale and Tye, using the stable population technique, have demonstrated that in general fertility declines with an increased age at marriage, which in fact means the shortening of the average marital life span [2]. In the Mysore population study it was estimated that if no woman married before reaching 18 years of age, then the overall fertility would decline by about 15 per cent [13]. Agarwala, in 1965, estimated that in India an increase in average age at marriage from existing 15.6 years to 19-20 years, would result in an annual crude birth rate 30 years latter of 33.9 births per 1000 population instead of 47.8, a decline of 29 per cent [1]. Sadiq [11] has observed that in

[1]The marital reproductive period is, however, also a function of both male and female life expectancy. This factor is becoming much less important with the rapidly rising life expectancy in developing countries.

Pakistan, the advancement of minimum age at marriage by about 5 years will result in an immediate reduction in birth rate as well as a permanent decline. In Population Growth Estimation (PGE) experiment [10], it has been observed that any reduction of births to the females under 35 years old would have a noticeable effect on crude birth rate as more than 50 per cent of women have three or more babies before they reach the age group 20-24 years. The severity of its effect can be seen by the fact that 98 per cent of the total females in Pakistan get married before they reach the age of 25 years (Table I).

STUDIES OF AGE AT MARRIAGE IN PAKISTAN

Despite the importance of age at marriage in preparing fertility models and projections, no question on age at marriage was included in the enumeration schedule used in 1961 Census of Pakistan or in any other Pakistani survey of national scope. However, from the available data on marital status by age, estimates of age at marriage can be made by using the method suggested by Hajnal [3]. Briefly, this method estimates mean age at marriage by transforming the data on marital status by age into an estimate of the number of years lived by a cohort of males or females before first marriage. Age at marriage is then the average number of years lived single by that cohort[2].

Sadiq [12], using Hajnal's technique and information on marital status by five-year age groups contained in the 1921-1961 decennial censuses of India and Pakistan, estimated the mean age at marriage for East and West Pakistan. In using quinquennial age groups, one must assume that the average age of marriage of persons in any five-year age group is at the midpoint of each group. If a large proportion of the persons in the younger quinquennial age groups marry either in the early or later part of the quinquennial group, Hajnal's method may, respectively, overestimate or underestimate the mean age at marriage. This limitation can be overcome if a single-year age distribution by marital status is available. Recently data on marital status by single years of age for Pakistan became available from the PGE experiment. This paper presents the mean age at marriage estimated from PGE data on marital status and sex by single year of age for the year 1964.

PGE DATA AS A SOURCE

The PGE results used in this paper are based on the data obtained from the Cross-Sectional Survey (CS), a field survey carried out by the Central Statistical Office (CSO) on behalf of PGE. The data were collected by the CSO staff who visited the sample areas each quarter during the four years (1962-65) of the project. During the CS surveys, details of family composition and changes were recorded by enumerators. The enumerator, on the first visit in the twelve-

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[2]By necessity the method is used for synthetic cohorts and, therefore, the rising age at marriage may underestimate the current mean age at marriage.

TABLE I

RATIO OF NEVER-MARRIED TO TOTAL POPULATION, BY AGE AND SEX FOR PAKISTAN AND ITS PROVINCES: 1964

(Sample estimates subject to sampling variability, for other limitations, *see* text)

Age in completed years	Males			Females		
	Pakistan	East Pakistan	West Pakistan	Pakistan	East Pakistan	West Pakistan
10	0.997	0.999	0.995	0.984	0.975	0.999
11	0.998	0.997	1.000	0.959	0.929	0.996
12	0.996	0.997	0.996	0.930	0.886	0.992
13	0.993	0.988	0.999	0.859	0.731	0.994
14	0.995	0.994	0.996	0.737	0.560	0.978
15	0.980	0.967	0.999	0.556	0.276	0.918
16	0.970	0.960	0.983	0.417	0.173	0.770
17	0.953	0.931	0.973	0.347	0.077	0.696
18	0.892	0.885	0.899	0.244	0.066	0.460
19	0.798	0.759	0.830	0.176	0.053	0.351
20	0.733	0.725	0.741	0.084	0.015	0.193
21	0.644	0.562	0.727	0.073	0.014	0.198
22	0.543	0.485	0.596	0.080	0.022	0.134
23	0.427	0.317	0.541	0.052	0.007	0.114
24	0.376	0.300	0.472	0.043	0.010	0.077
25	0.292	0.223	0.350	0.022	0.003	0.041
26	0.191	0.111	0.291	0.011	0.002	0.030
27	0.131	0.087	0.186	0.015	0.016	0.014
28	0.131	0.087	0.185	0.016	0.003	0.030
29	0.049	0.021	0.110	0.007	0.009	0.000
30	0.098	0.046	0.150	0.009	0.004	0.016
31	0.058	0.037	0.168	0.000	0.000	0.000
32	0.064	0.027	0.116	0.001	0.000	0.003
33	0.043	0.013	0.106	0.004	0.000	0.011
34	0.049	0.027	0.141	0.000	0.000	0.000
35	0.041	0.021	0.059	0.004	0.005	0.002
36	0.019	0.005	0.054	0.002	0.000	0.005
37	0.015	0.010	0.031	0.000	0.000	0.000
38	0.086	0.113	0.032	0.009	0.004	0.017
39	0.009	0.000	0.049	0.000	0.000	0.000
40	0.020	0.010	0.029	0.003	0.002	0.003
41	0.020	0.025	0.000	0.000	0.000	0.000
42	0.012	0.008	0.018	0.008	0.005	0.013
43	0.009	0.000	0.056	0.013	0.018	0.000
44	0.000	0.000	0.000	0.000	0.000	0.000
45	0.022	0.007	0.036	0.004	0.000	0.008
46	0.011	0.007	0.024	0.008	0.000	0.030
47	0.025	0.020	0.037	0.009	0.000	0.034
48	0.015	0.010	0.025	0.004	0.007	0.000
49	0.019	0.023	0.000	0.000	0.000	0.000
50	0.011	0.001	0.020	0.003	0.002	0.005
51	0.008	0.000	0.057	0.000	0.000	0.000
52	0.007	0.006	0.009	0.007	0.011	0.000

Source: Unpublished estimates from PGE sample data.

month period, enumerated the whole household on the "Household Composition Form" (CSI) and on subsequent visits recorded the changes in the household composition.

The PGE estimates of marital status by age are based on a national probability sample of 20 areas, 10 in each province. The PGE sample excluded Chittagong Hill Tracts in East Pakistan and Frontier Regions and Quetta and Kalat Divisions in West Pakistan. Each sample area contained approximately 5,000 persons, hence the entire sample is of approximately 100,000 persons. The estimates used for computing Table I refer only to the *de facto* mid-year (July) population for the year 1964.

The data on age and marital status used in this paper are subject to both sampling and non-sampling errors, the size and the direction of which remain unknown. The PGE data are based on sample estimates and as such are subject to sampling variability. In particular, the number of males and females remaining single in the PGE sample beyond the age of 25 years in females and 40 years in males is quite small. Thus, the proportions never married, shown in Table I, at higher ages are often subject to very large sampling errors. The age distributions of the population obtained in both the Censuses of Pakistan and the PGE-CS enumerations appear to have some irregularities which may arise from factors such as mis-statement of age due to digital preference, and age and sex selective under- or overenumeration. If the ages reported are lower than the true ages of the respondents then the mean age at marriage, estimated by the Hajnal technique, will be too low. Similarly, if they are higher the estimate will be too high.

The extent of underenumeration of unmarried women is also not known. If it is assumed to be substantial between the age 10-19 years then estimates of age at marriage for females, presented in Table II, would be too low. An additional factor affecting mean age at marriage is the accuracy of the reports on marital status for women actually enumerated. Even with these limitations, the PGE data on age, sex and marital status are still the best estimates available.

Yusuf [15] has noted that overall quality of PGE single-year age data is poor and is subject to heaping on ages ending in zero and five. While Sadiq combined the age distributions of more than one census to reduce some of the irregularities observed in the age distributions [12], no smoothing was done to the PGE age distribution. For this reason and because of the other sources of error discussed above, care should be observed in interpreting small differences in the estimated mean age at marriage for different subgroups of the population. Such differences, especially if they are small, may arise solely because of the data and methodology used and may not reflect true differences.

THE HAJNAL TECHNIQUE

Hajnal's method of "singulate mean age at marriage" is the estimated mean number of years lived by a cohort of persons before first marriage. By taking the proportion of the population reported never married in successive age groups in a given age distribution, one can estimate the total number of years a synthetic cohort of persons remained single upto some maximum age. Assuming all members of the cohort are married by the maximum age, the average number of years of single life experienced by the cohort, which is identical with the average age at first marriage, can be calculated by dividing the total number of never-married years experienced by the initial size of the cohort. A slight adjustment is necessary and has been provided by Hajnal, if a portion of the population remains single even at the maximum age. The original formulae, as given by Hajnal [3], were for use on grouped data. The formula given below is somewhat simplified for use in estimating age at marriage from single-year age data.

$$\bar{X} = d + \frac{\sum\limits_{x=d}^{D} S_x - (D-d) S_D}{1 - S_D}$$

where

$\bar{X}$ = mean age at first marriage

S_x = ratio of never-married persons to total population at exact age x

d = 10 (assumed minimum age at marriage)

D = 50 (assumed maximum age at marriage)

$S_D = \dfrac{S_{48} + S_{49} + S_{50} + S_{51} + S_{52}}{5}$ = proportion single at exact age 50.

Hajnal's method originally designed for use with grouped data called for using the simple average of the proportion single in the age groups 45-49 and 50-54 to estimate S_D. In this paper the average of the proportion single at each exact age between 48 years and 52 years, inclusive, was used to get the estimates of the proportion single at age 50. This was done in order to make a more precise estimate of S_D. The actual proportion single at exact age 50 was not used because it was subject to the effects of digital preferences and sampling fluctuation.

THE FINDINGS

On the basis of the 1964 PGE single-year age distribution by sex and marital status the estimated mean age at marriage is 14.9 and 19.1 for females and 22.6 and 24.7 for males in East and West Pakistan, respectively (Table II). Sadiq, using the 1961 Census quinquennial age, sex and marital status distribution,

prepared comparable estimates of 13.9 and 17.6 for females and 22.9 and 23.5 for males in East and West Pakistan, respectively[3].

TABLE II

ESTIMATED MEAN AGE AT MARRIAGE BY SEX, FOR PAKISTAN AND FOR EACH PROVINCE*

Area	Nasim Sadiq (1961)		PGE (1964)	
	Male	Female	Male	Female
Pakistan	23.1	15.5	23.4	16.6
East Pakistan	22.9	13.9	22.6	14.9
West Pakistan	23.5	17.6	24.7	19.1

*For sources, methodology, and limitations, *see* text.

It is interesting to note that for East Pakistan both Sadiq's and PGE estimates show a lower mean age at marriage than the minimum limit fixed by the Muslim Family Law Ordinance (age 16), while in West Pakistan it is subs- tantially higher. Comparing the 1961 Sadiq's estimates with 1964 PGE figures, we observe that for East Pakistan males the age at marriage is nearly identical while for West Pakistan the estimates differ by nearly one year. In case of females our estimates of age at marriage for 1964 are about one year higher than Sadiq's for 1961 in both the provinces. Sadiq [12] has observed a rising trend in age at marriage during the last few decades. The PGE estimates, even after giving due allowance to their limitations, still show a positive trend in this direction, particularly in case of females. This, if true, is a very good sign and, if continued, will ultimately go a long way in declining the fertility rates. The differences between male and female ages at marriage in 1964 are 7.7 years and 5.6 years for East and West Pakistan respectively while in 1961 the difference was 9.0 and 5.9 years respectively.

The results obtained by Sadiq [12] for selected cities can be compared with estimates based on other sources for the same cities. Two additional sources are also available: direct questions on age at marriage obtained in household surveys or information on age at marriage from registration data

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[3]PGE estimates of mean age at marriage based on quinquennial age data are

	Male	Female
Pakistan	24.1	16.8
East Pakistan	23.2	15.0
West Pakistan	24.9	19.0

available with each union council office in accordance with the Muslim Family Law Ordinance. Data on age at marriage from these sources are presented in Table III. The demographic survey of East Pakistan was conducted by the Statistical Survey and Research Unit (SSRU) of Dacca University during 1961-62 to collect information about various demographic characteristics of East Pakistan. The interviews were conducted in selected urban and rural sample areas concentrated in Dacca Division. A sample demographic survey was conducted by Yusuf in the city of Lahore during 1963-64.

TABLE III

ESTIMATED MEAN AGE AT MARRIAGE BY SEX, FOR SELECTED URBAN AREAS IN PAKISTAN*

Area	Male	Female
Karachi		
1961 Sadiq [12]	25.5	18.2
1965 Hussain [4][1]	25.7	19.2
Lahore		
1961 Sadiq [12]	24.4	19.1
1963-64 Yusuf [14]	23.4	16.4
Dacca		
1961 Sadiq [12]	25.5	16.0
1961-62 SSRU [7]	23.7	13.5

*For sources, methodology and limitations, *see* text.

In this survey ever-married women living in selected households were enumerated by female interviewers in order to elicit information about their pregnancy history and certain demographic characteristics of the household in which the women were interviewed.

Yusuf and SSRU survey results are based on direct questions on age at marriage included in the schedule. Hussain analysed the registration data available with the 94 union councils of Karachi, while Sadiq's estimates are based on Hajnal's method. Consequently, Sadiq and Hussain's estimates are not comparable with those of Yusuf and SSRU, as the latter estimates represent the average age at marriage of all husbands and wives in their samples (no matter when the marriage took place) rather than the actual mean age at marriage (of present-day brides and grooms) as measured by Hussain or an estimate of the

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[1]Korson [6], while trying to determine the differentials, if any, existing in the marriage age registration, from the available Nikah-namas (marriage certificates - like Hussain), among the major socio-economic groups, has found the mean age at marriage for 1961-64 to be as 20.2 years for females and 26.8 years for males. As these findings do not reflect the socio-economic status of the total population of Karachi, hence are not comparable with Hussain's and others'.

mean age at marriage on the basis of the proportion never-married by age on the 1961 Census enumeration day.

In Karachi, the estimates of mean age at marriage are consistently higher than the provincial estimates (Table II) for males. This, in part, may reflect urban-rural differences in age at marriage. Only Hussain's estimate of mean female age at marriage is slightly higher than the PGE estimate, while Sadiq's is considerably lower. Yusuf's estimate of mean age at marriage is lower for both the female and male provincial estimates while our provincial estimates for West Pakistan are higher or as high as Sadiq's estimates for Lahore. The PGE-based estimate for East Pakistan seems more reasonable and consistent with other findings except for the SSRU estimate of female age of marriage, 13.5, in Dacca. This strikingly low figure may not necessarily refer to age at consummation of marriage.

SUMMARY AND CONCLUSIONS

In this paper, Hajnal's technique applied to PGE data has been used to estimate the average age at marriage for males and females in Pakistan and its provinces separately. The basic data presented are the estimated single-year age, sex and marital status distribution available in PGE for the year 1964. In general, the results are consistent with previous studies although the high mean age at marriage for females in West Pakistan, 19.1 year, is debateable. This figure may result from several factors: sampling errors, age mis-statement or misreporting at marital status.

Regardless of discrepancies noted, the general findings are consistent and indicate the following: *1)* Mean age at marriage of both females and males is much lower in East Pakistan than in West Pakistan, and this difference is reflected directly in the age schedule of fertility and overall fertility levels [5] in the two provinces. *2)* Mean age at marriage of females in Pakistan is less than 17 and mean age at marriage of males is greater than 23. *3)* Male-female differences in age at marriage are in access of six years. *4)* The estimates of mean age at marriage, based on the 1964 PGE single-year age distribution, are consistent with the secular rise in age at marriage for females which Sadiq found in the 1921-1961 period.

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