Effect of the Working Status of Bangladeshi Women on Age at Marriage and Fertility

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Abstract: The effect of working status of Bangladeshi women on the decision of age at marriage and fertility in Bangladesh using national representative data from Bangladesh Demographic and Health Survey (BDHS), 2003-2004, allowing for the existence of observed characteristics that affect both age at marriage and fertility. It is well known that working status of women is an important socio-economic variable and that has drawn considerable attention from researchers engaged in the study of fertility differentials and determinants. This study reveals that employed women in such activity contribute in raising age at marriage and thereby affect fertility to reduce. This also, indicated that the singluate mean age at marriage increased about 14 and 23% for male and female, respectively.

Key words: Effect working status, Bangladeshi women, marriage and fertility, age

INTRODUCTION

Fertility in Bangladesh has long been a topic of interest to researchers because of its apparent relationship with mortality and indirectly with the acceptance of modern contraception. Studies in fertility differentials in Bangladesh are useful for proper planning and policy formation regarding population. Numerous prominent studies have been conducted in Bangladesh over the years in the past emphasizing on identification of fertility determinants. The rapid decline of fertility from over 6.5 births per women to 3.2 births, in the last 2 decades in Bangladesh is indeed, a historical record in demographic transition. However, recent statistics suggest that despite a continuing increase in contraceptive use, the fertility decline in Bangladesh has stalled. The possibility of fertility decline in Bangladesh with special attention to the role that might be played by further improvements in women's education, working status of women, mass media and family planning services. In particular, we began a brief review of the programmatic development, policy evolution and social and economic transformation in Bangladesh to that might have influenced couples family building strategies. Then the medium variant scenario of the united nations projection indicates that Bangladesh will achieve replacement level of fertility (United Nations, 1985).

The working status of women has valuable effect on age at marriage and fertility. It is well known that socio-economic and demographic factors play important role in sapping marriage in a society (Dixon, 1971). The socio-economic factors, women working status have been widely recognized to have an effect marital postponement. It is hypothesized that working status delays marriage. Again women's status is widely acknowledged as one of the main determinants of fertility in developed countries (Mac Donalad, 2000). But its potential contribution to reduce fertility and other aspects of reproductive health in developing countries has also been universally acknowledged (ICPD and UNFPA, 1994). If the purpose of working status of women is the development of carrier opportunities, time spent in the labour market, which may lead to further increase in age at marriage. The relationship between working status of women and fertility may be studied by two approaches: that which considers female labour force participation to be determinants of family size and that which perceives has consistently shown an inverse relationship between the number of children ever born and labour force participation or experience (Balakrishran et al., 1979).

A negative relationship between women's labour force participation and fertility can be expected on both sociological and economic grounds. From a sociological perspective, women's participation in the labour market is

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Table 1: Singluate mean age at marriage in Bangladesh, 1975-1998

| Years | Singluate mean age at marriage | |
	Male	Female
1975	24.0	16.3
1981	23.9	16.6
1989	25.5	18.0
1991	25.0	18.1
1993-94	25.6	18.2
1996	27.6	20.0
1998	27.6	20.2

Source: BFS, 1975 and 1989; CENSUS, 1981 and 1991; BDHS, 1993-94, VRS, 1996 and 1998

Fig. 1: Singluate mean age at marriage in Bangladesh 1975-1998

seen as inconsistent with their traditional role as mothers and homemakers. This "role-incompatibility hypothesis" envisages a negative relationship between women employment and fertility. The intensity of the relationship will depend on the degree of incompatibility (UN, 1985). Increased labour force participation of women has been proposed repeatedly in both the demographic literature and population policy statements as a means of promoting development and reducing fertility in developing country (Miah and Mizan, 1991; UN, 1985). In this study working status of women has been classified into two categories: these are Earn cash for work: women are defined in this study as those who worki outside the home for money indicated by 'Yes' and Do not earn cash for work: women are those who have never been employed outside the home for money indicated by 'No'.

In Bangladesh, there is ample evidnce to suggest that the trend towards marriage is less dramatic: age at marriage in that countries, a geographical area that lags far behind others in Asia (Islam and Ahmed, 1998). It is a common belief that age at marriage is inversely related to fertility, particularly in countries with no popular effectives use of contraceptives. This means that delayed marriage increase the interval between generations and hence puts an independent barrier to long range population growth by reducing the population of marriage in the reproductive ages relative to total population growth. The singulate mean age at marriage (SMAM) calculated from the proportion single from various sources is presented in Table 1.

There has been change in marriage pattern in Bangladesh. From the Fig. 1 we observed that singluate mean age at marriage increased about 14% for male and 23% for female during this period. Singluate mean age at marriage demonstrates that there has been a long standing trend towards later marriage in Bangladesh and it is still continuing. The age at marriage has increased by 4.3 years from 15.9 years in 1974 to 20.2 years in 1998, implying an annual increase at only 0.18 years.

The aim of this study is to investigate the effect of working status of women on age at marriage and fertility.
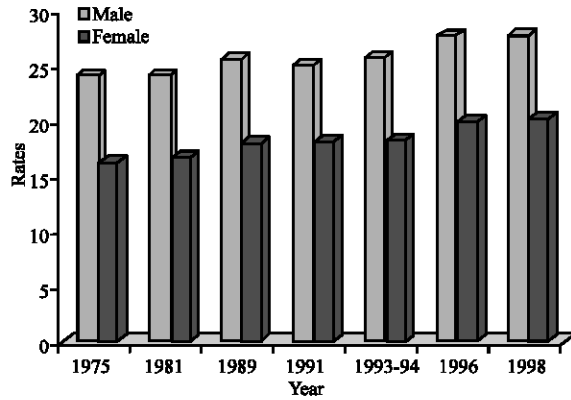
MATERIALS AND METHODS

Data source: The data for the present study have been taken from Bangladesh Demographic and Health Survey (BDHS), 2003-2004 is a nationally representative, two stage sample that was selected from the master sample maintained by the Bangladesh Bureau of Statistics (BBS) for the implementation of the surveys before the next census (2001). It was selected form the Integrated Multipurpose Master Sample (IMPS). The 2003-2004 is a survey of 11440 ever married women aged 10-49 and 3000 currently married men aged 15-59, which has designed to provide information on levels and trends of fertility, family planning knowledge and use of contraception, infant and child mortality, maternal and child health and nutrition. The BDHS data entry and editing program were written in Integrated System for Survey Analysis (ISSA) and data processing commenced in mid December 2003 and was completed by end of April 2000.

Multiple Classification Analysis (MCA) requires one dependent variable and 2 or more independent variables. The dependent variable can be either a continuous or a categorical variable but all the independent variables must be categorical variables. MCA can equally handle the nominal and ordinal variables and can also deal with linear and non-linear relationships of predictor variables with dependent variables (Andrew *et al.*, 1973).

Mathematically, the model can be expressed by the following equation:

$$Y_{ijk} = \bar{y} + a_i + b_j + c_k + \text{---------} + e_{ijk}$$

where,

Y_{ijk} : The value or score of an individual who falls in the i category of the of the factor A, J th category of the factor B and k th category of the factor.

$\overline{y}$: The grand mean of Y.

a_i : The effect due to the ith category of the factor A, which is equal to the difference between y and the mean of its category of factor A.

b_j : The effect due to jth category of the factor B, which is equal to the difference between y and the mean of its category of the factor B.

c_k : The effect due to the kth category of the factor C, which is equal to the difference between y and the of its category of factor C.

e_{ijk} : The error related with Y_{ijk} score of the individuals.

In order to asses the intensity of working status of women on their age at marriage and children ever born per ever-married women multiple classification analysis (MCA) is adopted. The coefficient η^2 and β^2 obtained from MCA respectively provide the unadjusted and adjusted coefficients. While η^2 shows how well a single predictor explains variation in age at marriage and β^2 shows the proportion of variation explained by a predictor taking into account the proportion explained by the other predictors.

RESULTS AND DISCUSSION

The government of Bangladesh in 1984 established the legal age at marriage as 18 years for females and 21 years for males, the law is hardly observed in rural areas. As a result, the age at marriage remains appreciably law in such places. Table 2 show that mean age at marriage by current age and working status of women in all the divisions of Bangladesh. The salient features of the table are: The lower age cohorts that mean 10-14 age groups have shown lower age at marriage and 20-29 age groups have shown higher age at marriage of working status of women under consideration. This reveals that an increasing trend of age at marriage from time to time. We also observed that women who had earn cash for work are higher age at marriage than who do not earn cash for work. Hence, working status of women is associated with increase age at marriage.

Several studies have shown that age at first marriage is inversely related to fertility (Amin and Faruqee, 1980; Ahmed, 1982). Early marriage of women is conductive to high fertility while late marriage has been argued to have fertility reducing effect (Coale, 1975). Table 3 reveals that the average age at marriage both unadjusted and adjusted by working status of women with the values of η^2 and β^2 produced from MCA. We observed that the women who did not earn cash for work seems to have the higher fertility for who earns cash for work. The lowest net mean difference in age at marriage for women who did not earn cash for work is 0.02 years in Barisal division and highest is 0.41 years in Sylhet division. The contribution of working status of women on age at marriage given by η^2 and β^2 are also depicted in the Table 3. The proportion of variation in age at marriage explained by working status of women is $\eta^2 = 0.001$ and $\beta^2 = 0.001$ is the lowest in Khulna division and $\eta^2 = 0.041$ and $\beta^2 = 0.041$ is the highest in Sylhet division. In... ingly, both η^2 and β^2 for 'yes' and 'no' group are same but it differs significantly for overall Bangladesh ($\eta^2 = 0.016$ and $\beta^2 = 0.02$).

Table 4 indicates that the mean number of children ever born per ever married women by working status of women shows that who had no earn cash for works is higher fertility than who had earn cash for work. This table also shows that Dhaka division is the lowest fertility than others division. Thus, the increase of working status of women is associated with decline in fertility.

Table 5 suggests that the mean number of children ever born per ever married women both unadjusted and adjusted by working status of women with the values of η^2 and β^2 produced from MCA. We observed that the women who did not earn cash for work are the highest fertility than who earn cash foe work. The lowest net mean difference in children ever born for women who did not earn cash for work is 0.06 years in Chittagong and highest is 0.13 years in Khulna division. Thus, the working status of women has come out to be stronger determinants in lowering the number of children ever born of Bangladeshi women.

Table 2: Mean age at marriage by current age and working status of women in all divisions of Bangladesh (2003-04)

Age group	Barisal		Chittagong		Dhaka		Khulna		Rajshahi		Sylhet		Bangladesh	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
10-14	-	12.7	13.7	12.9	13.0	12.9	14.0	12.8	13.3	12.9		13.0	13.5	12.9
15-19	14.8	14.5	14.3	14.9	14.5	14.5	14.0	14.1	13.8	14.2	14.6	14.5	14.2	14.4
20-24	15.0	15.6	15.4	16.1	14.9	15.6	13.9	15.2	14.5	14.7	15.1	16.0	14.7	15.5
25-29	15.4	15.5	15.6	16.2	15.5	16.1	14.9	15.4	14.4	15.0	16.6	16.2	15.2	15.8
30-34	15.3	14.8	16.1	15.7	15.1	15.7	14.7	14.4	15.0	14.6	17.1	16.5	15.3	15.4
35-39	14.3	14.8	15.7	15.6	15.1	14.8	15.1	14.3	14.0	14.3	16.1	15.8	14.9	14.9
40-44	14.5	14.3	15.6	14.7	14.4	14.4	13.8	13.7	13.6	14.0	15.8	15.4	14.4	14.4
45-49	14.2	14.4	15.7	14.5	14.8	13.8	13.9	13.2	14.0	13.6	16.2	15.0	14.9	14.1

Sources: BDHS, 2003-04

Table 3: Results of MCA of age at marriage by working status of women in all divisions of Bangladesh

Working status of women	Barisal				Chittagong				Dhaka			
	Unadjusted mean	Adjusted mean	Coefficients		Unadjusted mean	Adjusted mean	Coefficients		Unadjusted mean	Adjusted mean	Coefficients	
			η^2	β^2			η^2	β^2			η^2	β^2
Yes	15.15	15.15	0.020	0.021	15.53	15.53	0.006	0.006	14.87	14.87	0.030	0.032
No	15.00	15.00			15.48	15.48			15.07	15.07		

Working status of women	Khulna				Rajshahi				Sylhet				Bangladesh			
	Unadjusted mean	Adjusted mean	Coefficients		Unadjusted mean	Adjusted mean	Coefficients		Unadjusted mean	Adjusted mean	Coefficients		Unadjusted mean	Adjusted mean	Coefficients	
			η^2	β^2			η^2	β^2			η^2	β^2			η^2	β^2
Yes	14.79	14.79	0.030	0.031	14.44	14.44	0.013	0.013	15.04	15.04	0.109	0.109	14.86	14.86	0.028	0.028
No	14.60	14.60			14.51	14.51			15.91	15.91			15.05	15.05		

Sources: BDHS, 2003-2004

Table 4: Mean number of children ever born per ever-married women by age and working status of women in all divisions of Bangladesh (2003-04)

Age group	Working status of women													
	Barisal		Chittagong		Dhaka		Khulna		Rajshahi		Sylhet		Bangladesh	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
15-19	-	1.00	0.78	1.00	0.74	-	0.88	1.00	0.86	1.00	0.83		0.80	0.87
20-24	1.75	1.75	1.61	1.83	1.43	2.66	1.83	2.17	1.54	1.86	1.14	2.00	1.57	1.85
25-29	2.50	2.33	2.82	3.75	2.17	3.00	2.24	3.50	2.49	3.04	2.30	2.50	2.39	2.82
30-34	2.94	3.00	3.68	4.25	2.83	4.12	3.08	2.71	3.25	3.33	2.96	4.00	3.16	3.37
35-39	4.08	3.00	3.88	5.80	3.64	3.89	2.94	3.50	4.00	3.35	4.00	4.33	3.53	3.67
40-44	5.10	5.14	4.25	3.86	4.48	5.62	4.44	4.60	4.67	4.33	4.50	5.60	4.57	4.97
45-49	5.44	5.50	5.13	5.75	5.14	3.50	5.59	6.00	5.03	4.00	4.73	5.75	5.14	4.45

Sources: BDHS, 2003-04

Table 5: Results of MCA of mean number of children ever born per ever married women and working status of women in all divisions of Bangladesh

Working status of women	Barisal				Chittagong				Dhaka			
	Unadjusted mean	Adjusted mean	Coefficients		Unadjusted mean	Adjusted mean	Coefficients		Unadjusted mean	Adjusted mean	Coefficients	
			η^2	β^2			η^2	β^2			η^2	β^2
Yes	3.06	3.06	0.004	0.004	3.60	3.60	0.071	0.073	3.08	3.08	0.058	0.059
No	3.09	3.09			3.15	3.15			2.99	2.99		

Working status of women	Khulna				Rajshahi				Sylhet				Bangladesh			
	Unadjusted mean	Adjusted mean	Coefficients		Unadjusted mean	Adjusted mean	Coefficients		Unadjusted mean	Adjusted mean	Coefficients		Unadjusted mean	Adjusted mean	Coefficients	
			η^2	β^2			η^2	β^2			η^2	β^2			η^2	β^2
Yes	2.64	2.64	0.020	0.025	2.91	2.91	0.056	0.051	3.61	3.61	0.040	0.041	3.08	3.08	0.033	0.036
No	2.55	2.55			2.67	2.67			3.35	3.35			2.90	2.90		

Sources: BDHS, 2003-2004

Women working outside home may have influence on fertility. They are always sincere and aware of contracetive methods, can have better communication with their husbands and can participle in family decision making and family formation. Table 6 reveals that working status of women has negative effect on place of residence except Barisal division, access to mass-media except Sylhet division, duration of breast-feeding and ideal number of children in all division of Bangladesh. Working status of women also shows positive relation on children ever born except Dhaka division and contraceptive use method in all division of Bangladesh. Female education is used as a measure of working status of women, almost are effectively as using a large number of other variables. The high negative significant correlation between female education and working status of women is -0.166 and the second negative significant correlation between husbands approves family planning and working status of women is -0.084.

Table 6: Correlation Between Working Status of Women and others Socio-Economic and Demographic Variables in all the Divisions of Bangladesh (2003-04)

Divisions	Place of residence	Female education	Children ever born	Access to mass-media	Age at marriage	Duration of brest-feeding	Husbands approve family planning	Current contraceptive methods	Ideal number of children
Barisal	0.007	-0.126**	0.0	-0.107	-0.003	-0.089	0.084	0.050	-0.033
Chittagong	-0.23	-0.040	0.10	-0.063*	0.012	-0.068*	-0.004	0.016	-0.047*
Dhaka	-0.082**	-0.076**	-0.012	-0.065**	-0.019	-0.049	0.003	0.013	-0.059**
Khulna	-0.030	-0.093*	0.025	-0.039**	-0.001	-0.073*	0.045	0.030	-0.025
Rajshahi	0.068*	-0.166*	0.019	-0.157**	-0.023	-0.021	-0.016*	0.027	-0.049*
Sylhet	-0.077**	0.022	0.011	0.041	0.041	-0.082*	-0.004	-0.024	-0.019
Bangladesh	-0.018	-0.090*	0.009	-0.087*	-0.016	-0.002	0.002	0.020	-0.054**

Sources: BDHS, 2003-04

CONCLUSION

The evidence presented above leaves no doubt regarding the important role played by working status of women. Working status of women has come out to be stronger determinant in raising age at marriage of Bangladeshi women. This indicates that the women who earn cash for work has a depressing affect on fertility. It is also observed that fertility decrease with increase female literacy rate and female economically activity rate. Women participation on employment should be increased and inspired. Hence, increase the working status of Bangladeshi women and age at marriage to reduce fertility. The rise in age at marriage in Bangladesh has been remarkably slow during the last 24 years. The above discussion leads to the conclusion that working status of women is one of the most viable means for enhancing the status of women vis-à-vis raising the age at marriage and to reduce fertility in Bangladesh.

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