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# Demographic and Socio-economic Determinants of Age at First Marriage of Women in Bangladesh: An Analysis

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## To cite this article:

Omar Faroque, Ruhul Amin. Demographic and Socio-economic Determinants of Age at First Marriage of Women in Bangladesh: An Analysis. *Psychology and Behavioral Sciences*. Vol. 5, No. 6, 2016, pp. 156-161. doi: 10.11648/j.pbs.20160506.15

**Received:** September 10, 2016; **Accepted:** September 23, 2016; **Published:** January 11, 2017

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**Abstract:** Bangladesh is one of the Lower Middle Income Countries (LMIC) where about half of the total population is women who are getting involved in all spheres of life as educational, professional, political arena and contributing to the economy. But lower age at first marriage of women is a serious impediment to this contribution. This paper dissects various demographic and socio-economic factors that affect the age at first marriage of women in Bangladesh. The population of the study is comprised of individual level married women of different areas in Bangladesh. A sample of 350 married women has been constructed through purposive sampling technique and surveyed through structured questionnaire. Research data have been analyzed by using descriptive and inferential statistics as one-way ANOVA, zero order correlation. In the study, mean age at first marriage of women is 16.25 years in rural and 18.46 years in urban and the overall mean is 17.01 years. The findings of this study also reveal that mean age at first marriage of women is changing with the change and promotion of women's education, occupation, place of residence, husband's education, husband's occupation, consent to marry, parents' education, biological maturity, economic condition, age and religion. In zero order correlation, it is found that most of the factors selected have significant impacts on age at first marriage of women. The results of analyses have also identified a few crucial issues that may be taken into consideration for further studies and policy formulation by the concerned ones.

**Keywords:** Age, Marriage, Women, One-Way ANOVA, Inferential Statistics, Bangladesh

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## 1. Introduction

Age at first marriage of women is related to some terms like family, marriage and so on. Family means there are two or more persons who are related by blood, marriage or cohabitation, and living in the same residence [1]. Marriage is a medium of making family in Bangladesh. In most societies, marriage is the most significant of life events for both men and women, signaling the emergence to adulthood [2]. Moreover, it is a primary indicator of exposure of women to the risk of pregnancy and is therefore important for understanding fertility patterns [3]. In Bangladesh, marriage is nearly universal and conceptions are considered as legal only after marriage and hence there has a direct effect of marriage to increase the fertility.

The timing of the first marriage or union is an important dimension of women's reproductive behavior with far

reaching consequences, particularly for the reproductive health and social status [4]. Society where contraception is not practiced well and where births do not occur outside marriage, age at first marriage has an important effect on the rate of population growth [5]. The population with lower age at first marriage of a country may experience early child bearing and high fertility [6-7]. Moreover, girls who marry before the age of 18 are likely to have lower educational attainment, greater chances of experiencing unwanted pregnancies and are at greater risk of sexual and reproductive health morbidities and maternal mortality [8]; may be at greater risk to both maternal mortality and child mortality [9]. Education and mass media can improve these scenarios [27]. The legal age of marriage in Bangladesh is 18 for girls and 21 for boys [10] and in ancient Rome, it

was 14 for males and 12 for females [11]. The average age at first marriage for female in Bangladesh is 18.7 years [12] and 25.8 for women and 28.3 for men in United States. Premarital cohabitation contributed to the delay in first marriage for both women and men [25]. Although the average age at first marriage has gradually increased during the last two decades in Bangladesh, adolescent marriages are still prevalent in rural areas in Bangladesh [13]. Women's education, husband's education, childhood place of residence, sex of household head, religion, wealth and place of region are important determinants of adolescent motherhood in Bangladesh [26]. Every year 13.5 million girls marry before their eighteenth birthday [14]. In South Asia, nearly 1 in every 3 adolescent girls aged 15-19 is married, compared to 1 in 14 in Central and Eastern Europe and the Commonwealth of Independent States [15]. Bangladesh is the fourth-highest country of child marriage in the world. From 2005 to 2013, 29% of girls married before the age of 15 and 65% of girls married before the age of 18 [16]; whereas in Nepal, 7% girls are married by age 10 and 40% by age 15 [17].

However, the effectiveness of legislative age at first marriage depends largely on prevailing social customs, religion, literacy rate, economic conditions, and employment opportunities as well as enforcement machinery [18]. Labor market equality can also increase the female age at first marriage [19-20]. The constitution of Bangladesh guarantees equal rights for both men and women in all spheres of state and public life to increase the female age at first marriage. Bangladesh Government has been continuously taking preemptive policies, legislations, strategies and national affirmative action plans and program for accelerating the implementation process in achieving the goal of holistic empowerment of women that will increase the age at first marriage for women. There is huge research gap in this field. Very few researchers conduct such kind of study. Therefore, the objective of this study is to find out the socio economic and demographic factors of age at first marriage for the women in Bangladesh and also measure the intensity of these factors on female age at first marriage. The limitations of study may be helpful to the other researchers for further development. This paper would be benefitted to the academicians, researchers, government, NGOs, policy makers and other stakeholders of this arena.

## 2. Data and Methodology

Data required to prepare this report were collected over 350 married women of different areas in Bangladesh from March-August, 2015 by purposive sampling technique method. Among them, 230 from rural areas and 120 from urban areas were personally interviewed. To collect data, Likert- five-point scale was used. Likert -five-point scale includes 1, 2, 3, 4 and 5 standing for strongly agree, agree, neutral, disagree and strongly disagree respectively. In this study, female age at first marriage is considered as dependent

variable and the independent variables are respondent's education, occupation, place of residence, husband's education, occupation, consent to marry, parents' education, biological maturity, economic condition, age and religion. These data have been coded into SPSS 15.0 software where descriptive statistics, one-way ANOVA analysis through univariate General Linear Model (GLM) and zero order correlation have been used to measure the significance and degree of association of these demographic and socio-economic factors on the female age at first marriage.

Mathematically, univariate GLM model can be presented as:

$$Y = \beta_0 + \beta_j X_j + \beta_1 X_1 + \dots + \beta_p X_p + \varepsilon \quad (1)$$

Where,

$Y$  represents dependent variable that is mean age at first marriage of women.

$\beta_j, \beta_1, \dots, \beta_p$  represents the weighted linear combination of regression coefficients.

$X_j, X_1, \dots, X_p$  represent explanatory variables, where  $j = 1, 2, \dots, p$ , and

$\varepsilon$  represents a disturbance or error term, responsible for variation in  $Y$ . The study has also used eta square ( $\eta^2$ ) and  $R$  squared ( $R^2$ ) adjusted to measure the degree of effect of the selected independent variables on the female age at first marriage and take decision about which one is stronger than others according to their effect. Mathematically, the  $\eta^2$  can be calculated as:

$$\eta^2 = \text{SSB} \div \text{SST} \quad (2)$$

Where,

SSB represents between-groups sum of squares and SST represents the total sum of squares.

## 3. Results and Discussion

Female age at first marriage may be influenced by various types of socio-economic, demographic and biographical factors. To examine the differential patterns of mean value of age at first marriage of female, one-way ANOVA analysis through well-known statistical tool univariate GLM has been performed and the results have been presented in Table 1. From Table 1, it is observed that women's education has been found to be the first strongest influential factor on the variation of their age at first marriage among all other selected variables. The proportion of variance of age at first marriage explained by the women's education is the highest (unadjusted value of  $\eta^2$  is 0.175 and adjusted value of  $R^2$  is 0.168). The adjusted mean values of age at first marriage of women having no education, primary, S.S.C. and H.S.C. and more education, are 15.629, 16.280, 16.734 and 19.953 years respectively which indicate that female age at first marriage is increasing with the promotion of their education level in Bangladesh.

Women's occupation has been found to be the second strongest influential factor for explaining the variation on

their age at first marriage. Here, the value of  $\eta^2$  for the women's occupation is greater than that of their place of residence. So, respondent's occupation has been considered as the second strongest influential factor and place of residence has been considered as the third strongest influential factor based on the unadjusted value of  $\eta^2$ . However, the proportion of variance explained for respondent's occupation are 0.096 (unadjusted value of  $\eta^2$ ) and 0.090 (adjusted value of  $R^2$ ) respectively. The adjusted mean values of age at first marriage for the women whose occupations are housewife, service and others, are 16.702, 20.947 and 19.667 years respectively. This implies that the age at first marriage of women doing service is more than that of housewife.

Respondent's place of residence has been found to be the third strongest influential factor for explaining the variation on their age at first marriage as well as the proportion of variance explained by place of residence are 0.094 (unadjusted value of  $\eta^2$ ) and 0.092 (adjusted value of  $R^2$ ) respectively. The adjusted mean values of age at first marriage of women living in rural and urban areas, are 16.252 and 18.458 years respectively. It indicates that the age at first marriage of women living in urban areas is higher than that of rural women.

Respondent's biological maturity has been found to be the fourth strongest influential factor on the variation of their age at first marriage. The proportion of variance of age at first marriage explained by women's biological maturity are 0.081 (unadjusted value of  $\eta^2$ ) and 0.079 (adjusted value of  $R^2$ ). The adjusted mean values of age at first marriage for the women having biological maturity and not having biological maturity respectively are 17.770 and 15.767 years respectively. If the guardians who get their daughters married consider about their daughters' biological maturity, the female age at first marriage will increase.

Husband's education has been found to be the fifth strongest influential factor on the variation of female age at first marriage. The proportion of variance of age at first marriage explained by women's husbands' education are 0.067 (unadjusted value of  $\eta^2$ ) and 0.059 (adjusted value of  $R^2$ ). Also, the adjusted mean values of age at first marriage for the women whose husbands have no education, primary, S.S.C. and H.S.C. and more education, are 15.468, 16.632, and 16.912 and 18.179 years respectively which indicate that female age at first marriage is increasing with the promotion of their husbands' levels of education.

Husband's occupation has been found to be the sixth strongest influential factor on the variation of female age at first marriage because the proportion of variance of age at first marriage explained by the women's husbands' occupation are 0.035 (unadjusted value of  $\eta^2$ ) and 0.030 (adjusted value of  $R^2$ ). The adjusted mean values of age at first marriage are 15.823, 16.911 and 17.627 years for the women whose husbands' occupations are agriculture,

service and others respectively. But the unadjusted mean values indicate that female age at first marriage will increase if the occupation of their husbands is service and others and decrease if the occupation of their husbands is agriculture.

Women's parents' education has been found to be the seventh strongest influential factor for explaining the variation on their age at first marriage as well as the proportion of variance explained by their parents education are 0.032 (unadjusted value of  $\eta^2$ ) and 0.030 (adjusted value of  $R^2$ ) respectively. The adjusted mean values of age at first marriage for the women whose parents are literate and illiterate respectively, are 17.802, 16.534 years respectively. This implies that the age at first marriage of women increases if their parents are literate and decreases if their parents are illiterate.

Respondent's age has been found to be the eighth strongest influential factor for explaining the variation on their age at first marriage as well as the proportion of variance explained for respondent's age are 0.029 (unadjusted value of  $\eta^2$ ) and 0.023 (adjusted value of  $R^2$ ) respectively. The adjusted mean values of age at first marriage of women whose age group is less than 20 years, 20 -30 years and more than 30 years respectively are 15.925, 17.622 and 16.852 years respectively. These adjusted mean values indicate that the age at first marriage for the women whose age ranges from 20-30 years is more than that of other age groups.

Birth, marriage and death are the standard trio of key events in human lives. But only one marriage is a matter of choice. The right to exercise that choice was recognized as a principle of law. Yet many girls and a few boys enter marriage without any chance of exercising the right to choose [21]. So, this is a forced marriage. Forced marriage describes a marriage that takes place without the free or valid consent of one or both of the partners and involves either physical or emotional stain. Early marriage is related to forced marriage because minors are deemed incapable of giving informed consent [9]. In this study, women's consent to marry has been found to be the ninth strongest influential factor on the variation of age at first marriage. The proportion of variance of age at first marriage explained by women's consent to marry are 0.025 (unadjusted value of  $\eta^2$ ) and 0.023 (adjusted value of  $R^2$ ). The adjusted mean values of age at first marriage of the women who agree and disagree to marry are 17.225 and 15.646 years respectively indicating that female age at first marriage will increase if they agree and decrease if they disagree to marry. But, the median age at first marriage among women 20-24 years old in the lowest wealth quintile is 14.6; girls in the highest quintile marry at a median age of 18.3 [22] and 75% of rural girls marry before the age 16 years and only 5% marry after 18 years [23]; three-quarters of women aged 20-49 years were married before age 18 years [24].

**Table 1.** Mean values of age at first marriage of women by performing one-way ANOVA analysis, (N=350).

Explanatory variables	N (%)	Predicted mean		Ratio of covariance	
		Unadjusted	Adjusted	$\eta^2$	$R^2$ (adjusted)
<i>Age</i>				0.029	0.023
Less than 20 years	53 (15.1)	15.92	15.925		
20-30 years	135(38.6)	17.62	17.622		
More than 30 years	162 (46.3)	16.85	16.852		
<i>Respondent's education</i>				0.175	0.168
No education	35 (10.0)	15.63	15.629		
Primary	157 (44.9)	16.28	16.280		
S.S.C.	94 (26.9)	16.73	16.734		
H.S.C. and more	64 (18.3)	19.95	19.953		
<i>Religion</i>				0.002	-0.001
Muslim	343 (98.0)	16.99	16.985		
Non-Muslim	7 (2.0)	18.14	18.143		
<i>Place of residence</i>				0.094	0.092
Rural	230 (65.7)	16.25	16.252		
Urban	120 (34.3)	18.46	18.458		
<i>Husband's education</i>				0.067	0.059
No education	47 (13.4)	15.47	15.468		
Primary	117 (33.4)	16.63	16.632		
S.S.C.	80 (22.9)	16.91	16.912		
H.S.C. and more	106 (30.3)	18.18	18.179		
<i>Respondent's occupation</i>				0.096	0.090
Housewife	322 (92.0)	16.70	16.702		
Service	19 (5.4)	20.95	20.947		
Others	9 (2.6)	19.67	19.667		
<i>Husband's occupation</i>				0.035	0.030
Agriculture	62 (17.7)	15.82	15.823		
Service	146 (41.7)	16.91	16.911		
Others	142 (40.6)	17.63	17.627		
<i>Consent to marry</i>				0.025	0.023
Agree	302 (86.3)	17.23	17.225		
Disagree	48 (13.7)	15.65	15.646		
<i>Parent's education</i>				0.032	0.030
Literate	131 (37.4)	17.80	17.802		
Illiterate	219 (62.6)	16.53	16.534		
<i>Biological maturity</i>				0.081	0.079
Yes	217 (62.0)	17.77	17.770		
No	133 (38.0)	15.77	15.767		
<i>Economic condition</i>				0.019	0.016
Poor	106 (30.3)	16.30	16.302		
Moderate	244 (69.7)	17.32	17.316		

Note: S.S.C. and H.S.C. stands for Secondary School Certificate and Higher Secondary Certificate. Eta value of 0.01-0.06 (small effect), 0.06-0.14 (moderate effect) and above 0.14 (large effect) (Cohen, 1988).

In Bangladesh child marriage remains common in rural areas and urban slums, especially among the poor [24]. In this study, women's economic condition has been found to be the tenth strongest influential factor on the variation of their age at first marriage because the proportion of variance of age at first marriage explained by the women's economic condition is 0.019 (unadjusted value of  $\eta^2$ ) which is greater than the adjusted value of  $R^2$  (0.016). The adjusted mean values of age at first marriage of women having poor and moderate economic condition respectively, are 16.302 and 17.316 years respectively indicating that female age at first

marriage will increase if their economic condition is moderate and decrease if their economic condition is poor.

Religion has been found to be the eleventh strongest influential factor for explaining the variation on female age at first marriage as well as the proportion of variance explained for religion are 0.002 (unadjusted value of  $\eta^2$ ) and -0.001 (adjusted value of  $R^2$ ) respectively. The adjusted mean values of age at first marriage for the Muslim and Non-Muslim women are 16.985 and 18.143 years respectively. This implies that the Non-Muslim women's age at first marriage is higher than that of Muslim women.

**Table 2.** Zero order correlation coefficients of demographic and socio-economic factors of female age at first marriage in Bangladesh, (N=350).

	$X_1$	$X_2$	$X_3$	$X_4$	$X_5$	$X_6$	$X_7$	$X_8$	$X_9$	$X_{10}$	$X_{11}$	$Y$
$X_1$	1	-.425**	.061	-.169**	-.204**	-.074	-.238**	-.122*	.077	.089	-.176**	-.072
$X_2$		1	.045	.479**	.591**	.327**	.271**	.074	-.466**	-.196**	.389**	.325**
$X_3$			1	.026	.039	.067	.011	-.057	.068	-.070	.050	.048
$X_4$				1	.475**	.241**	.153**	-.025	-.399**	-.082	.280**	.307**
$X_5$					1	.177**	.298**	.023	-.377**	-.150**	.358**	.241**
$X_6$						1	.088	-.045	-.219**	-.109 *	.052	.269**
$X_7$							1	-.079	-.154**	.021	.181**	.186**
$X_8$								1	-.035	.235**	.010	-.159**
$X_9$									1	.022	-.278**	-.180**
$X_{10}$										1	-.086	-.285**
$X_{11}$											1	.137*
$Y$												1

\*\* Correlation is significant at the 0.01 level (2-tailed)

\* Correlation is significant at the 0.05 level (2-tailed)

$Y$ =Age at first marriage

$X_1$  = Age

$X_2$  = Respondent's education

$X_3$  = Religion

$X_4$  = Place of residence

$X_5$  = Husband's education

$X_6$  = Respondent's occupation

$X_7$  = Husband's occupation

$X_8$  = Consent to marry

$X_9$  = Parent's education

$X_{10}$  = Biological maturity

$X_{11}$  = Economic condition

Table 2 shows that nine variables out of eleven are statistically significant. Respondent's education, occupation, place of residence, husband's education, occupation, consent to marry, parent's education, biological maturity and economic condition have statistically significant impacts on female age at first marriage in Bangladesh. Among them, respondent's consent to marry, biological maturity and parents education have negative significant impacts on the female age at first marriage and the corresponding correlation coefficients (r) are -0.159, -0.180 and -0.285 respectively; while respondent's education, occupation, place of residence, economic condition, husband's education, occupation have positive significant impacts on the female age at first marriage and the corresponding correlation coefficients (r) are 0.325, 0.307, 0.241, 0.269, 0.186 and 0.137 respectively.

## 4. Conclusions

Marriage is a primary indicator of contact of women to the risk of pregnancy, social conjugal life and is therefore important for understanding fertility patterns. The survey data indicate that overall mean age at first marriage of women is 17.01 years in Bangladesh. According to the study, age at first marriage of women is increasing with the encouragement of their level of education and husband's education. Women living in rural areas are getting married at earlier age than those living in urban areas. Moreover, the Muslim women are also getting married at earlier age than the Non-Muslim women. The study implies that age at first marriage of women has both positive and negative impacts on the population and economy of a country. So, this study

helps other researchers to conduct research over the positive and negative effects of age at first marriage of women on the economy of a country. The study findings lead to the following policy implications to increase the female age at first marriage in Bangladesh: to increase the participation of female in both secondary and higher secondary level of education, to urbanize the rural areas as much as possible, to create equal employment opportunities for the women, not to get the women married without their consent, to let them become biologically and psychologically prepared to marry.

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