AN INVESTIGATION ON SOCIO-ECONOMIC AND CULTURAL DETERMINANTS ON FEMALE EDUCATION IN A MUSLIM FAMILY, AN ECONOMETRIC ANALYSIS

Singh Neelam Kumar[1] and Singh Jitendra[2], Kumar Shailendra[3]

1. *Associate Professor, Department of Agricultural Statistics, BNPG College, Rath, Hamirpur, Uttar Pradesh, India.*
2. *Assistant Professor, Department of Agricultural Economics, BNPG College, Rath, Hamirpur, Uttar Pradesh, India.*
3. *Assistant Professor, Department of Agricultural Engineering, BNPG College, Rath, Hamirpur, Uttar Pradesh, India.*

Email: neelamkumar099@gmail.com

Abstract

An attempt has been made to find out the various important decisions and confirmations emerging from the results presented in the paper. Family background can have important impact on educational investment decisions. The findings highlight the role of parental education as an important determination of girl's education. The study further highlights that education of father is relatively more important than that of the mother. The cultural attitude and universities are also one of the obstacles in girl's education. It may also reflect that the allocation of the limited resource in family goes against the female education because of other pressing priorities. It may be suggested that the education requires positive discrimination in favour of education in Muslim families to break the generational vicious circle of low education. The results also suggest that there is a need to change the culture attitude towards socio-economic environment of institute of learning by community participation. It may also be suggested that public policy should compensate for the asymmetry in parental incentives to educate girls and boys by giving extra subsidies for girl's schooling. The implication of the study become more important in the light of educational attainment of millennium development goals and verifiable indicators of India's running five year plan. The paper investigates the socio-economic determinants of girl's education in Muslim family. The study examines the impact of socio-economic variables on girl's education. The paper presents broad picture of Muslim literacy in India, based on primary data calculated through stratified random sampling. The paper is basically based on specifying and estimating the correlation function, linear regression and the legit model.

The study suggests that government's active role and community's positive participation are important to bring about a structural change in Muslim female education.

Keyword: Econometrics, Family background, Muslim female education, Random sampling, Socio-cultural

Introduction

Indian society is multi-cultural and multi-religious where Muslim Minority Constitutes 19.8 per cent population of the entire population of the country. This section of society in the country is educationally and economically backward, which has been established by a number of reports and surveys [(Gopal Singh report 1983), Reports of 43rd round of National sample Survey (1987-88) and 55th Round of the National Sample Survey (1999-2000)]. The recently released Sachar Committee Report also points towards educational and economic backwardness of Muslim community. Sachar Committee Report (2006) reveals that 3.4

per cent of the Muslim population has completed graduation whereas the corresponding figure for non-OBC, non-SC/ST Hindus is 15.3 per cent. Only 59.1 per cent of the community has literacy while the National average 64.8 Per cent. The literacy level for Non – SC/ST Hindus is 65.1 per cent The recent survey conducted by education consultants India limited and the social and rural research institute (2006) found that the dropout rate among Muslims is highest compared to National average. This survey revealed that dropout rate among Muslim is 9.97 per cent compared to 6.94 per cent of National average in 6-13 age groups. It is higher even compared to socially, educationally, and economically declared backward groups such as OBCs, SCs and STs. The dropout rate in these groups is 6.9 per cent, 8.17 per cent and 9.54 per cent respectively. Similar picture seems to emerge both in rural and urban India. This is the one cause of Indian's educational backwardness. Educational and economical backwardness reinforce each other, which causes social backwardness as well. Educational backwardness of present generation will be transmitted to next generation making intergenerational mobility difficult.

The existing studies indicated that the share of Muslims in spheres of economic activity and education is for below the national average. For instance, Kazi (1999) argued that the literacy levels of Muslims men and women are skewed toward the bottoms and women's poor literacy rates completely precludes the possibility of their entering institutions of higher education. Due to this reason the Aligarh Muslim University (Minority institutions) and the *Jamia Millia Islamia* (a central University) with the specific aim of furthering education among Muslims (Male and Female) in India are unable to have a majority of Muslim students in their professional courses. Ahmad (1993) argued that the educational status of Muslims is to be examined in the context of their place in the economy, particularly the nature of their engagement in the labour force which determines their response to the impulses of social and economic changes. Krishna Kumar (2004) Shows that the level of education for every 1000 persons in every age group is lower for Muslims when compared to Hindus both in the rural and urban areas, Particularly among women. The socio-economic conditions of a majority of Muslims are worse than those of Hindus: Some 59 per cent of Muslim women have not attended school; 60 per cent were married by the age of 17 and hardly 14 per cent registered work participation.

Educational and Economic Status of Muslim Women:

The literacy levels of Muslim women are skewed toward the bottom of the society. There is a marginal difference between figures for Hindu and Muslim women's primary education for rural India, which subsequently widens across middle, Secondary and graduate levels. A similar trend is observed for women's education in urban India. Furthermore, 59.5 per cent of Muslim women are illiterate in urban India, as compared to 42.2 per cent of Hindu women and 22.7 per cent of Christian women who come under this category. There is some semblance of parity between urban Hindu (17.2 per cent) and Muslim (18.5 per cent) women with reference to primary education which widens considerable for corresponding figures for middles school 25.3 per cent for urban Hindu women and 16.8per cent for Muslim women, the difference being much greater when compared to Christian women (3.4 per cent).Only 4.3 per cent of urban Muslim women have secondary education, compared to 10.7 per cent of Hindu women and 20.8 per cent of Christian women. The number of urban Muslim women graduates is Negligible (0.8 per cent), against 4.2 per cent of Hindu women and 5.5 per cent of Christian women cited by Kazi, 1999.

Looking at the literacy rate among Muslim women as per NSSO- 55th Round, there is not much difference between figures for Hindu and Muslim women's primary education for rural India. However, there is discernible gap between Christian and Muslim women. For the distribution for rural female of age 15 years and above by general education level for main religious groups in India, there are only 0.5 and 1 per cent of Muslim women who received education up to higher secondary, against 1.2 and 1.9 per cent of Hindu women and 4 and 4.9 per cent of Christian women during 1993-94 and 1999-2000 respectively. In case of higher education, only 0.2 and 0.4 per cent got education against 0.5 and 0.9 per cent of Hindu women and 1.8 and 3.3 per cent of Christian women in 1993-94 and 1999-2000 respectively. The gap between education of Christian and Muslim women in rural areas has widened at faster rate. A rural similar pattern is observed in other educational categories (i.e., secondary and middle).

Similar trend is observed for women's education in urban India. As per the NSS report, 55th round, 52.6 per cent in 1993-94 and 44.4 per cent in 1999-2000 of Muslim women are illiterate in urban India as compared to 34.7 per cent in 1993-94 and 30.6 per cent in 1999-2000 of Hindu women and 14.2 per cent in 1993-94 and 12.2 per cent in 1999-2000 of Christian women who

come under this category. There is some similarity between urban Hindu (21.3 and 18.8 per cent) and Muslim (23.9 and 24.5 per cent) women with reference to primary education in 1993-94 and 1999-2000 respectively; the corresponding figure for middle school are 14.6 and 16 per cent for Muslim women. The difference between much greater when compared to Christian women (19.5 and 20 per cent) in 1993-94 and 1999-2000 respectively. Only 7.3 and 9 per cent of urban Muslim women have secondary education, compared to 3 and 14.5 per cent of Hindu women and 12.7 and 22.2 per cent of Christian women in 1993-94 and 1999-2000 respectively. Only 7.3 and 9 per cent of urban Muslim women have secondary education, compared to 13 and 14.5 per cent of Hindu women and 12.7 and 22.2 per cent of Christian women in 1993-94 and 1999-2000 respectively. The number of urban Muslim women graduates is Negligible (1.9 and 3.3 per cent, against 8.9 and 10.9 per cent of Hindu women and 11.2 and 15 per cent of Christian women).

Muslim women have the lowest work participation rate (WPR). Sixty per cent of Muslim women are self-employed, the highest percentage among all three religious categories. Figures for Muslim women's employment as regular workers in urban areas, 15.7 per cent as compared to 27.7 per cent for Hindu women and 51.5 per cent for Christian women) highlight their marginal presence in salaried jobs. Figures for rural areas however, dismal as they are,. also indicate a more or less similar employment status for Hindu (3.6 per cent) and Muslim (3.0 per cent) women. The high self-employed rates and the corresponding low participation of Muslim women as salaried workers indicate their marginal presence as workers in the formal economy. This does not imply the absence of Muslim women as workers; ratter it indicates their 'invisibility' as informal workers. In the absence of existing research and analysis in the area of Muslim worker's employment, it is difficult to pinpoint specific cause behind this, their poor employment status, although their educational status must presumably exert a significant influence on the form and levels of Muslim women's employment in both urban and rural areas (Kazi, 1999).

The recent data reveal that the labour force participation (LFP) rates according to usual status (principal and subsidiary taken together) among major religious and sex in India (1993-94 and 1999-2000) is lowest among Muslim women compared to other co-patriots. In rural India, in the year 1993-94, labour participation rate was just 16.5 per cent of Muslim women compared to 34.9 and 37.6 per cent of Hindu and Christian women respectively. The LFP rate was only 16.4 per cent of Muslim women compared to 31.7 and 34.2 per cent of Hindu and Christian women respectively in 1999-2000. The similar picture is visible from the figures for the urban India. The data reveals that the LFP rate was only 12.7 per cent of Muslim women compared to 17.1 and 24.7 per cent of Hindu and Christian women respectively in 1993-94.During 1999-2000, the LFP rate was 10.4 per cent among Muslim women compared to 15.4 and 25.2 per cent of Hindu and Christian women respectively (Employment and unemployment situation among religious groups in India NSS Report No. 468, 55th round, July 1999- June 2000). In view of the above discussion there is a need for analyzing cause of Muslim female educational attainment. To the best of our knowledge no in-depth statistical analysis exists for the Muslims. Reasons may be the lack of secondary data on Muslim community in India. Census information includes a broad count by religion but does not present socio-economic information according to religion, the variables of crucial significance. The available secondary data does not provide any information about the parental attitude on education of girl child and the constraints parents fell in the existing educational set up. Similarly no available secondary statistics provide information about parental preference between early marriage and higher education. As observed, early marriage preference is one of the obstacles in the girl's higher education. This type of information is not available even in NFHS statistics. Further, available educational statistics often under report the status of girl child in the household. Therefore, only primary data can provide information on both structural factors and can provide information on both structural factors and attitudinal variables encompassing social and cultural variables.

Research Methodology

Data and technique of Investigation

To test the hypothesis about the socio-economic determinants of girl's education, a primary survey was conducted. The sample of 274 households was taken from the Muslim majority areas in Kanpur in the month of

Sept – October 2018. The sample is based on stratified random sampling. The information was collected on socio-economic variables such as years of schooling of children in the family, income of the family, family size, education of the parents, other information based on the opinion of the head of the family regarding family's attitude towards early marriage, cultural attitude towards institutional environment etc.

A wide range of descriptive statistics for all quantitative variables such as the average year of girls' education (AYGE), income of the family (INCOME), Mother's Education (ME, Father's Education (FE) and Family size (FS) are shown in table 1. AYGE, ME and FE are measured in terms of years of education/schooling while FS is measured in terms of Number of children in the family. INCOME is measured in terms of monthly income in rupees. Girl's Educational attainment is on an average 10.51 years of education.

In particular, mothers have lower education (6.3). Than fathers (9.6).The data also suggest that girl's attained more education than their parents. The sample moments indicate that the empirical distribution of variables is all skewed when compared with normal distribution. This is reinforced by the highly significant Jarque-Bera statistics. The aim of this paper is to explore determinants of female education among Muslim from the perspective of the household, where key decision regarding the education of children is taken. The study tries to explore the effect of parent's educational background an Measures of economic and social backwardness (i.e., per capita income attitude towards modern education) on average female education in the family.

Table 1: Descriptive statistics of quantitative variables

	Average Girl's Education	Income	Mother's Education	Father's Education	Family size
Mean	10.51	9123.71	6.346	9.6	6.80
Mediam	12.00	8000.00	5.00	10.00	6.00
Maximum	18.00	33000.00	19.00	20.00	16.00
Minimum	0.00	900.00	0.00	0.00	3.00
Std. Dev.	5.36	6998.16	6.17	6.24	2.12
Skewness	-0.68	1.47	0.34	-0.39	1.10
Kurtosis	2.25	5.08	1.66	1.87	4.95
Jarque- Bera	15.61	84.72	14.62	12.41	56.65
Probability	0.00004	0.0000	0.0006	0.0020	0.0000

The methodology for the present study consists of specifying and estimating the bivariate correlation functions, partial correlation, linear regression and the Logit model.

Results and Discussions

Empirical Analysis

The analysis has been conducted for the sample of 274 households. The vicariate correlation coefficient is calculated to find the association between the variables. The results are presented in table 2. The study reveals that the correlation among AYGE and INCOME, AYGE and ME, and AYGE and FE are positive and significant at one per cent level. The coefficient of correlation between the pair of AYGE and INCOME, AYGE and ME and AYGE and FE is 0.44, 0.577, and 0.595 respectively.

The correlation coefficient among the bivariate pair of INCOME and ME and INCOME and FE is positive and significant. The correlation between parent's education i.e., FE and ME are significant and positive. The study has shown that the correlation coefficient between FS and ME is negative and significant. Similarly, the coefficient of correlation between FE and FS is negative and significant.

The correlation coefficient shows that there is a positive association between average girl's education in the family and monthly income of the family and education of the parents, i.e.; education of the mother and father but interpretation of simple correlation in more than two variables becomes difficult.

To avoid this problem, we estimated partial correlation coefficient. It gives the coefficient of correlation between AYGE and INCOME, AYGE and ME, AYGE and FE, and AYGE and FS one by one keeping all other variables constant. The partial correlation functions (PCF) is shown in table 3. It is observed that partial correlation between AYGE and INCOME (0.2273) AYGE and ME (0.296), AYGE and FE (0.3001) are positive and significant which imply that the average girl's education in the family is positively associated with individual variable such as INCOME, FE and ME.

Table-2. Correlations

		AYGE	INCOME	ME	FE	FS
AYGE	Pearson Correlation sig. (2. taled)	1.000	440**	0.577**	0.595**	-0.115
INCOME	Pearson correlation sig. (2- taled)	0.440* 0.000	1.000	0.374** 0.000	0.426** 0.000	0.114 0.157
ME	Pearson correlation sig. (2 taled)	0.577** 0.000	0.374** 0.000	1.000	0.634** 0.000	-0.198* 0.113
FS	Pearson correlation sig. (2 – tabled)	-0.115 0.153	0.114 0.157	-0.198* 0.013	-0.233** 0.003	1.000

Table-3. Partial correlation coefficients

Variables	Average Girl's Education
INCOME	0.2273*
ME	0.296**
FE	0.3001**
FS	-0.0034

Notes: ** Significant at 0.01 per cent.

     * Significant at 0.05 per cent.

To find out the casual relation between girl's education in the family and socio-economic variables such as family income, family size, parent's education (Mother and Father's education), age of marriage and cultural outlook multivariate regression analysis has been applied. The regression coefficients are presented in table -4. The results show that there is a significant casual relation between the girl's education and family income parent's education, age of marriage and cultural attitude except family size. The coefficient of determination reveals that the present model explains approximately 50 per cent variation in dependent variable. The one unit change in income leads to 0.000135 units change in the average years of girls schooling. The one unit change in education of mother brings 0.2204 units change in education of father brings 0.2752 units change in girl's education.

It seems that cross sex effect in stronger i.e., father's education has greater impact for girl's education than of mothers. It may be the impact of the most educated parent that dominates. In the sample used, fathers have more education than mothers. It also reflects the nature of Indian society. Muslim households also reflect all features of male dominance of Indian society.

Table-4. Regression coefficient dependent variable: Average years of girl's education

Variable	Coefficient	t-Statistic
Intercept	7.385654	5.113128
EM	1.565226**	-2.460776
FE	0.275207**	4.024705
INCOME	0.000135**	2.623567
FS	-0.7308	-0.550335
ME	0.220423**	3.250685
CA	-2.297925**	-3.166627
R- Squared	0.508123	
F- Statistic	25.65355	
Prop (F - Statistic)	0.000000	

Note: ** Significant at 1 per cent.

ME –   Education of the mother;

FE –   Education of the father;

EM –   Early marriage;

CA –   Social cultural environment of institute of learning as per religion;

FS –   Family size.

The coefficient of family size is negative showing inverse relationship between girl's education and family size; however the coefficient of the family size is insignificant. The coefficient of early marriage (EM) (dummy variable) is negative and significant implying that the mean education is less in the families who profess early marriage of girls. The coefficient of socio-cultural environment (CA) (dummy variable) is negative and significant implying that the mean education are less in the families who believe that the social and cultural environment in schools, college and universities is not conforming to their perceived culture and therefore spoils the girls.

Table-5. Elasticity of education at mean level

	Elasticity
Income elasticity of education	0.121534
Father's Education elasticity of education	0.251381
Moher's Education elasticity of education	0.133091
Family size elasticity of education	-05648

Note * Insignificant at 5 per cent level of significance.

The interpretation of regression coefficient is cumbersome because the unit of measurement binds it. A unit free measure is required for comparability of the effects of various variables. Therefore elasticity of girl's education with respect to quantitative variables is estimated at mean level. The result shown in table-5 indicates that one per cent change in income leads to 90.12 per cent change in girl's education. The one per cent change in father's education and mother's education increase girl's education by 0.25 per cent and 0.13 per cent respectively. The elasticity of girls education with respect to parent's education also reveal the fact that the cross sex effect, (father's education had greater impact for girl's education had greater impact for girl's education than of mothers), is stronger.

As discussed in section II, the number of Muslim female graduates is negligible compared to others. A Logit model is applied to find out the probability of higher girl's education (greater than 12th standard). The results are presented in table-6. Looking at the wald statistics, the coefficient of INCOME, ME, FE, EM and CA are found to be significant. The interpretation of Logit coefficient is difficult to understand at face value. EXP (B) is estimated to simplify the interpretation. EXP (B) is estimated by taking the antilog of the value of regression coefficient. This is the value by which the odds of the event change when the ith independent variable increases by one unit. If the value is greater than 1, the odds are increased; if the value is less than 1, the odds

are decreased. A value of 1 leaves the odds unchanged. The coefficient of mother's and father's education shows the higher the parents education, higher the probability of higher girls education in the family. The adverse cultural attitude towards prevailing socio-cultural environment in the institute of higher learning and the preference of the family towards early marriage of the girls negatively affect the probability of higher education. Similarly, family size inversely affects the higher education.

Table-6. Coefficient of Logit Regression Dependent Variable: Probability of Higher Girls Education (0 or 1)

Independent Variables	Coefficient	Wald	Exp (B)
INTERCEPT	-.624	.357	0.53573
INCOME	0.000119	8.061	1.00012
ME	0.116	6.073	1.12277
FE	0.150	10.152	1.16177
FS	-0.209	2.620	0.81158
EM	-1.086	5.181	0.33762
CA	-1.152	5.083	0.31605
-2 Log likelihood	Cox s Snell R square	Negel Kerke R square	
124.023	0.445	0.5941	

Note: ME- Education of Mother; FE – Education of the Father; EM – Early marriage; CA – Social – cultural Environment of Institute of learning; FS – Family size.

The household size exerts a negative influence on female higher education implying that as the family size increases, the proportions of girls going to take higher education decreases. This finding is often explained using an argument of finite resources: Parents have limited time money and   patience to devote to the education of their children and those with fewer children can invest more per child. This could also be reflecting the fact that with larger members of family members, the elder daughters are required to stay home and carryout households chores look after younger siblings among other jobs at home. Probably, allocation of the limited resources in family goes against the girl's education and in favour of other priority areas (priority investment in sons among others).

Conclusion and Policy Implications:

Various important lessons and confirmations emerge from the results presented in this paper. Family background can have important impact on educational investment decisions. The findings highlights the role of parental education as an important determinants of girl's education. The study further highlights that education of father is relatively more important than that of the mother. But this result does not minimize the role of Mother's education. Thus lower standard of living has negative effect on girl's education. The cultural attitude towards socio-cultural environment in schools, colleges and universities is also one of the obstacles in girl's education. The parent's preference to early marriage of female has negative effect particularly on higher education of girls. The household size exerts a negative influence on female educational attainment, particularly on higher education, implying that as the number of children in the family increases, the proportions of girls attending schools/colleges/universities decreases. It may also reflect that the allocation of the limited resources in family goes against the female education because of other pressing priorities.

It may be suggested that the education requires positive discrimination infavour of education (of both girls and boys) in Muslim families to break the generation vicious circle of low education. The results also suggest that there is a need to change the cultural attitude towards socio-cultural environment of institutes of learning by community participation. There is a need of public awareness about the intrinsic and instrumental value of women's education. Such a policy step would aim to change conservative

attitudes towards girls schooling and higher education. It may also be suggested that public policy should compensate for the asymmetry in parental incentives to educate girls and boys by giving extra subsidies for girl's schooling.

This makes sense because many of the benefits of girl's education are public benefits, i.e.; they accrue not only to the educated individual and her family but also to society in general-for example, lower infant mortality and fertility rates. The question of overall educational development, Thus, should be taken in its entirely where in the Muslim community, the government and civil society have to work in close co-ordination in letter and spirit. The implication of the study becomes more important in the light of educational attainment of millennium Development Goals (MDGs) and verifiable indicators of India's 13th five year plan. It requires special attention towards deprived section, particularly Muslim Minority, of the society for achieving MDGs-2 (Achieve Universal Primary Education), MDGs-3 (Promote Gender Equality) and educational attainment as indicated in India's 13th five year plan.

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