INTERNATIONAL JOURNAL OF RESEARCH –
GRANTHAALAYAH
A knowledge Repository

Management

THE SOCIO ECONOMIC FACTORS AFFECTING GIRLS' ACADEMIC ACHIEVEMENT AND GENDER BASED VIOLENCE IN HIGHER INSTITUTION: CASE STUDY IN UNIVERSITIES IN AMHARA REGIONAL STATE

Mr.Zelalem Gebeyehu [1], Dr.A.Kathiresan [2]
[1] Lecturer in Economics, College of Business & Economics, Wollo University, Ethiopia, East Africa
[2] Assistant Professor in Economics, College of Business & Economics, Wollo University, Ethiopia, East Africa

Abstract

At the beginning of human history, the environment favored and promoted equality of males and females. However, as the exposure of males to the natural environment differed, various activities and dangers increased, both sexes started to differ in the nature and depth of experience. Since then, the gender disparity that began in this way was widened by religious, political, economic, cultural and other factors. Currently, gender differentiations are reflected in the accesses to the three precious things of the world, political power, economic privileges and social or cultural prestige. In the 21st century, knowledge plays the leading role and education is the central element that nations can use to maintain equality among society specially to insure gender equality. Thus this paper would attempt to identify the socio-economic factors affecting girl's academic achievement and gender based violence in higher institutions in case of Amhara regional state by selecting two university from first, one from second and two from third generation universities including Wollo five universities will be included out of the total seven universities found in the region. The respondents are selected randomly from each university. The respondents included in this study are female students, gender office, instructors, student deans and registrar workers. The data would be collected using Focus group discussion, interview and questionnaires. To analyze the data logistic regression and two limit Tobit model would be used. Even if there is some progressive trend, the girl's academic achievement is low and their attrition rate is high. That is their mean achievement below the national average. From econometrics result it has been found that entrance exam result, parents income, personal related factors, peer pressure the major factors that substantially determines level of girl's academic achievement. Similarly, though there are positive changes regarding gender based violence still significant portion of girls were vulnerable. That is 20 percent out of the total surveyed girls were violated and 22.59 percent still exploited by the transaction sex in the nearby cities. Besides, the logistic regression analysis showed that gender based violence highly depend on the

personality those girls with strong personality and self-esteemed girls have less chance of being harassed or abused verbally, physically and psychologically.

Keywords: Girls; Academic Achievement; Gender Based Violence.

1. Introduction

1.1. Background

At the beginning of human history, the environment favored and promoted equality of males and females. However, as the exposure of males to the natural environment differed, various activities and dangers increased, both sexes started to differ in the nature and depth of experience. Since then, the gender disparity that began in this way was widened by religious, political, economic, cultural and other factors. Currently, gender differentiations are reflected in the accesses to the three precious things of the world, political power, economic privileges and social or cultural prestige (Yeshimebrat et al., 2009).

Accordingly, this study will investigate the factors that affect gender based violence against women and girls. At the same time, the study will examine those factors affecting academic achievement of girls in higher institutions. In line with this consideration of determinant factors of girls education performance and gender violence is vital because it provides information that will enable to undertake effective measure with the aim of improving girls academic achievement and minimizing gender based violence and thus will helps concerned bodies such as Universities, Minister of Education, NGO's and Policy makers to have a knowledge as to where and how to channel efforts to improve girls education performance and minimize gender violence.Therefore, this study would be conducted in higher institutions particularly universities which found in Amhara Regional State to analyze the socio economic factors affecting girls' academic achievement and gender violence.

1.2. Statement of the Problem

Education is the single most important instrument for social and economic transformation. A well-educated population, adequately equipped with knowledge and skill is not only essential to support economic growth, but is also a precondition for growth to be inclusive, since it is only the educated and skilled person who can stand to benefit most from the employment opportunities which growth will provide. Improvements in education are not only expected to enhance the efficiency but also augment the overall quality of life. Education is an instrument of social change and eliminates gender disparities and ensures equal opportunities (Considine and Zappala, 2002).

The past empirical studies that were conducted on the factors contributing to girls' academic achievement and gender violence in different regions are not similar and the issues that were identified as problems in the previous studies may not issue today. This is because changes are in a continuous process that is bringing new challenges and socio economic variables are dynamic in nature. In addition to these, factors affecting girls' academic achievement and gender violence are not yet studied in the study area relating with Economic issues using appropriate econometric models since root cause is economy. Therefore, this study initiated with the main objective of analyzing determinants of girls' academic achievement and gender violence in universities in Amhara National Regional State.

Research Questions

This particular study will attempt to address at least the following questions:
- What are the most important factors affecting girls' academic achievement and gender violence in the study area?
- What is the level of girls' academic achievement across universities in the region?
- Why girls do expose to sex market nearby cities in the region?
- Do girls receive adequate support from teachers and friends?
- Are girls victims of sexual harassment and verbal abuse?
- Does girls' residence affect their academic performance?

1.3.Objectives of the Study

The general objective of this study is to investigate the socio economic factors affecting girls' academic achievement and gender violence in higher institution in Amhara regional State.
The specific objectives are:
1) To identify socio-economic and institutional factors affecting girls' academic achievement and gender violence in higher institution
2) To determine the extent of girls' academic achievement and gender violence in higher institution offered to in the study area.
3) To compare Violence and non-violence Girls in terms of different explanatory variables.
4) To compare the degree of girls' academic achievement and gender violence across universities.

1.4.Significance of the Study

The study on socio-economic and institutional factors affecting girls' academic achievement and gender violence is vital as it will enables governmental and non-governmental higher institutions, policy makers as well as community to know as to where and how to channel efforts in order to enhance girls academic achievement and to end up gender based violence as well as girls sex market. The identification of factors encumbering girls' academic achievement and gender violence will also help to formulate successful educational policies and intervention programs. In addition to these, the study will provide bench mark information for those who would like to conduct detailed and comprehensive studies on socio-economic and institutional factors affecting girls' academic achievement and gender violence.

1.5.Scope of the Study and Limitations

The study would aims at identifying socio-economic factors affecting girls' academic achievement and gender violence in universities in Amhara National Regional State using cross sectional data via intensive survey. Even though girls problems are multifaceted in this study attempts would be made to examine on campus and off campus problems that cause low academic performance of female students and growing of students sex market nearby cities. The issues of gender mainstreaming and the nature of curriculum were not be dealt in this study.

2. Review of Literature

History of education in Ethiopia dates back to the time of introduction of Christianity in 330 AD, but towards the end of 19th century, the need for modern education emerged and it was initiated in 1908 with the opening of Menelik II School in Addis Ababa (Asmaru, 2010).

Asmaru (2010) further explains that the next proclamation by Empress Zewditu was another landmark in the history of female's education in Ethiopia, which forced parents to send their children to school, and failure to do so was to result in penalizing parents for violation of the law. Later, in 1944, a Memorandum of Education was adopted to create access to mass education, address gender equity, and promote literacy.

Nicola et al., (2008) indicated that some of the critical factors affecting female education include early pregnancy, psychological cost of pregnancy, direct cost of schooling, societal perceptions, the labor market, opportunity costs, family poverty, irrelevant curriculum, insecurity, structural attributes and classroom culture.

Odaga and Heneveld (1995) showed that both girls and boys have low expectations of female achievements in school and of career prospects. Diaw (2010) also opined that cultural barriers exert strong and adverse influence on girls' education by early marriage, teenage pregnancies, traditional values of patriarchal society, and gender based violence.

3. Research Methodology

3.1.Description of the Area

The Federal Democratic Republic of Ethiopia (FDRE) is administratively divided into nine national regional states and two administrative councils. The Amhara National Regional State is one of the nine National Regional States. The study would be conducted in 7 universities in Amhara National Regional State namely Wollo University, Woldiya University, Debrtabor University, Debrebrhan University, Debremarkos university, Gondar university and Bahirdar university. Amhara National Regional State is located at 9° and 13° 45' north latitude and 36° and 13° 45' east longitude. The land area covers about 170,752 Km^2. It is bordered with Afar in the east, Benishangul Gumuz in the south western, Oromia in the south and South western, Tigray in the north and with the Sudan in the west.

3.2.Sampling Technique and Sample Size

Multi-stage sampling method was used to obtain the necessary information from respondents such as girls, student deans, gender officers and instructor; first four universities in the region were selected using stratified sampling technique that is two from aged universities, one from lately established universities and two from recently established universities assuming that universities in each stratum have similar social, economic and Institutional characteristics. In the second stage Cluster sampling technique was used for each selected Universities. Finally list of respondents were recorded from each universities planning and registrar offices and a total of 301 girls, 4 student deans, 4 gender officers and 32 instructors from these 5 Universities would be selected using simple random sampling techniques.

3.3.Data Source and Collection Method

Both primary and secondary data would be used for the study. Primary data would be used to study the whole situation of girls' academic performance and gender based violence. The primary data was collected from girls, student deans, gender officers and instructors directly through interview, focus group discussion and questionnaires. The questionnaires were developed and pre-tested to evaluate for consistency, clarity and to avoid duplication and to estimate the time requirement during data collection. Appropriate trainings were given to the enumerators to develop their understanding regarding the objectives of the study, the content of the questionnaire, how to approach the respondents and conduct the interview. Secondary data was collected from MoE, Universities gender and planning offices, MoWA and other relevant institutions.

3.4.Method of Data Analysis

3.4.1. Descriptive Statistics

Descriptive statistics is one of the techniques which would be used to summarize information (data) collected from a sample. By applying descriptive statistics such as mean, standard deviation, frequency of appearance etc. one can compare and contrast different categories of sample units with respect to the desired characters so as to draw some important conclusions. In addition, t-test and Chi-square test statistics would be employed to compare Victims and non-victims as well as performers and non-performers group with respect to some explanatory variables.

3.4.2. Econometric Model

Both qualitative and quantitative techniques were used to analyse the data. Two limit Tobit analysis that best fit the data was used to analyze the socio-economic factors affecting girls' academic achievement while logistic regression analysis was used to identify the important factors that affect victims and non-victims of gender based violence.

3.4.2.1. Two limit Tobit Model

When information on the regressand is available for some observations, using ordinary list square (OLS) may result in a biased and inconsistent parameter estimates even asymptotically. The bias arises from the fact that if we consider only the observable observations (i.e., only observations for which the values of the dependent variable are observed) and omit the others, there is no guarantee that the expected value of the error terms, E(ui), will be necessarily zero. And without E(ui) =0 we cannot guarantee that the OLS estimates will be unbiased (Greene, 2000).

There are three types of regression models under the limited dependent variables models. These are censored or tobit regression, truncated regression and sample selected regression models. Inferring the characteristics of a population from a sample drawn from a restricted part of the population is known as truncation. A truncated distribution is the part of un truncated distribution that is above or below some specified value (Greene, 2000). Whereas a sample in which information on the regressand is available only for some observation is known as censored sample.

The use of tobit models to study censored and limited dependent variables has become increasingly common in applied social science research for the past two decades (Smith and Brame, 2003). Tobit is an extension of the probit model and it is one approach to dealing with the problem of censored data (Johnston and Dinardo, 1997).

In addition, binomial models, explain only the probability that an individual made a certain choice (i.e., achieved or has not achieved) and they fail to take into account the degree of academic achievement. The linear probability model (LPM), even though computationally and conceptually simpler and easier than the binary choice models, it depends on the use of OLS approach. Application of OLS to censored model however, inherently produces hetroscedastic disturbance term (εi) and as a result, the standard deviations of the estimates are biased. These inadequacies are minimized with the use of the tobit model (Tobin, 1958).

Censored regression models refer to a model in which we observe the dependent variable only if it lies above or below some cut off level. The tobit model is one of the censored regression models that arise when the dependent variable is limited (or censored) from above and/or below. It is a nonlinear model and is estimated using maximum likelihood estimation techniques. It was used to analyze factors that influence girls' academic performance. This method estimates the likelihood of failures and the extent (i.e., intensity) of failures.

In this study the value of the dependent variable is girls' academic achievement during their stay in university, which is a continuous variable, calculated from their weighted average GPA of that a girl's scored divided by maximum GPA. Thus, the value of the dependent variable ranges between 0 and 1 and a two-limit tobit model has been chosen as a more appropriate econometric model.

The two-limit tobit was originally presented by Rossett and Nelson (1975) and discussed in detail by Maddala (1992) and Long (1997). The model derives from an underlying classical normal linear regression and can be represented as:

$$Y^* = \beta X + \varepsilon_i \tag{1}$$

$\varepsilon \sim N[0,\sigma^2]$.

Denoting Yi as the observed dependent (censored) variable

$$Y_i = \begin{cases} L & \text{if } Y^* \leq L \\ Y^* = \beta X + \varepsilon_i & \text{if } L < Y^* < U \\ U & \text{if } Y^* \geq U \end{cases} \tag{2}$$

Where, Y_i= the observed dependent variable, in our case girls' academic achievement during their stay in university; Y_i^* = the latent variable (unobserved for values smaller than 0 and greater than 1); X_i= a vector of independent variables (factors affecting girls' academic achievement during their stay in university); β_i =Vector of unknown parameters; ε_i=Residuals that are independently and normally distributed with mean zero and a common variance σ^2 ,and i= 1,2,…n (n is the number of observations).

The log likelihood function for the general two-limit tobit model can be given as follow:

$$\begin{aligned} \log L = & -\frac{1}{2}\sum_{j\varepsilon c} w_j \left[\left(\frac{y_i - x\beta}{\sigma}\right)^2 + \log 2\pi\sigma^2 \right] \\ & + \sum_{j\varepsilon L} w_j \log \Phi\left(\frac{y_{Lj} - x\beta}{\sigma}\right) \\ & + \sum_{j\varepsilon R} w_j \log\left[1 - \Phi\left(\frac{y_{Rj} - x\beta}{\sigma}\right) \right] \\ & + \sum_{j\varepsilon I} w_j \log\left[\Phi\left(\frac{y_{2j} - x\beta}{\sigma}\right) - \Phi\left(\frac{y_{1j} - x\beta}{\sigma}\right) \right] \end{aligned} \tag{3}$$

Where C's are point observations, L's are left censored observations, R's are right-censored observations, and I's are intervals. And Φ is the standard cumulative normal distribution, and the w_j is the normalized weight of the jth observation.The tobit coefficients do not directly give the marginal effects of the associated independent variables on the dependent variable. But their signs show the direction of change in probability of being achievers and marginal intensity of academic success as the respective explanatory variable change (Amemiya, 1984; Goodwin, 1992; Maddala, 1992).

The tobit model has an advantage in that its coefficients can be farther disaggregated to determine the effect of a change in the ith variable on changes in the probability of being achievers (Mc Donaled and Moffit, 1980) as follows:

1. The change in the probability of girls' academic achievement as independent variable X_i changes is:

$$\frac{\partial \Phi(\delta)}{\partial Xi} = \phi(\delta)\frac{\beta_i}{\sigma} \qquad (4)$$

2. The change in intensity of academic success with respect to a change in an explanatory variable among average achiever is:

$$\frac{\partial E(Y_i/U > Y_i^* > L, X)}{\partial X_i} = \beta_i\left(1 + \frac{\delta_L\phi(\delta_L) - \delta_U\phi(\delta_U)}{\Phi(\delta_U) - \Phi(\delta_L)} - \left[\frac{\phi(\delta_L) - \phi(\delta_U)}{\Phi(\delta_U) - \Phi(\delta_L)}\right]^2\right) \qquad (5)$$

3. The marginal effect of an explanatory variable on the expected value of the dependent Variable is:

$$\frac{\partial E(Y/X_i)}{\partial X} = \beta i\left(\Phi(\delta_u) - \Phi(\delta_L)\right) \qquad (6)$$

Where, Xi= explanatory variables; $\Phi(\delta)$ = the cumulative normal distribution; $\delta = \frac{\beta_i X_i}{\sigma}$ = the z-score for the area under normal curve; β_i=a vector of tobit maximum likelihood estimates; σ=the standard error of the error term.

$$\delta_L = \frac{L - X_i\beta}{\sigma}$$

$$\delta_U = \frac{U - X_i\beta}{\sigma}$$

L and U are threshold values (L =0 and U =1)
ϕ and Φ are probability density and cumulative density functions of the standard normal distribution, respectively.

3.4.2.2. Logistic Regression Model

This study is intended to analyze which and how much the hypothesized regressors would be related to gender based violence including sex market. As already noted, the dependent variable is a dummy variable, which takes a value zero or one depending on whether or not girls victimed. However, the independent variables are of both types, that is, continuous or categorical.

In the analysis of studies involving qualitative choices, usually a choice has to be made between logit and probit models. According to Amemiya (1981), the statistical similarities between logit and probit models make the choice between them difficult.

Hosmer and Lemeshew (1989) pointed out that a logistic distribution (logit) has got advantage over the others in the analysis of dichotomous outcome variable in that it is extremely flexible and easily used model from mathematical point of view and results in a meaningful interpretation. Hence, the logistic model is selected for this study. Therefore, the cumulative logistic probability model is econometrically specified as follows:

$$P_i = F(Z_i) = F\left(\alpha + \sum \beta_i X_i\right) = \frac{1}{1 + e^{-Z_i}} \quad \dots \dots (1)$$

Where, P_i is the probability that an individual will make a certain choice (victim or does not victim) given X_i; e denotes the base of natural logarithms, which is approximately equal to 2.718; X_i represents the ith explanatory variables; and α and β_i are parameters to be estimated

Hosmer and Lemeshew (1989) pointed out that the logistic model could be written in terms of the odds and log of odds, which enables one to understand the interpretation of the coefficients. The odds ratio implies the ratio of the probability (P_i) that an individual would choose an alternative to the probability $(1-P_i)$ that he/she would not choose it.

$$(1 - P_i) = \frac{1}{1 + e^{Z_i}} \quad \dots \dots (2)$$

Therefore,

$$\left(\frac{P_i}{1 - P_i}\right) = \left(\frac{1 + e^{Z_i}}{1 + e^{-Z_i}}\right) = e^{Z_i} \quad \dots \dots (3)$$

or,

$$Z_i = Ln\left(\frac{P_i}{1 - P_i}\right) = \alpha + \beta_1 X_1 + \beta_2 X_2 + \ \dots \ + \beta_m X_m \quad \dots \dots (5)$$

Taking the natural logarithm of equation (4)

If the disturbance term (u_i) is taken into account, the logit model becomes

$$Z_i = \alpha \ + \sum_{i=1}^{m} \beta_i X_i \ + u_i \quad \dots \dots (6)$$

To test Multicollinearity Problem variance inflation factor (VIF) will be used. VIF greater or equal to 10 is an indicator for the existence of serious problem of multicollinearity. Contingency coefficients will be calculated to see the degree of association between the dummy variables. Contingency coefficient is a chi-square based measure of association. Value of 0.75 or more indicates a strong relationship. Heteroscedasticity will be detected by using Breusch- Pagen test.

4. Conclusions

In this study attempted has been made to assess socio economic factors affecting girls' academic achievement and gender based violence in higher institution: case study of universities in Amhara regional state Ethiopia. Even if there is some progressive trend the girls academic achievement is low and their attrition rate is high so in this study tries to investigate what are the

most critical factors responsible for low academic achievement in higher institutions. That is their mean achievement below the national average. From econometrics result it has been found that entrance exam result, parents income, personal related factors, peer pressure the major factors that substantially determines level of girl's academic achievement. Similarly, though there are positive changes regarding gender based violence still significant portion of girls were vulnerable. That is 20 percent out of the total surveyed girls were violated and 22.59 percent still exploited by the transaction sex in the nearby cities. Besides, the logistic regression analysis showed that gender based violence highly depend on the personality those girls with strong personality and self-esteemed girls have less chance of being harassed or abused verbally physically psychologically. Generally that both the qualitative and quantitative results verify that personality factor, economic factor and peer pressures are the top and most determining factors of both gender based violence and girls' academic achievement.

References

[1] Teshome N, 2002. Low Participation of Female Students in Primary Education: A Case of Dropouts from the Amhara and Oromia Regional States in Ethiopia. Addis Ababa: UNESCO International Institute for Capacity Building in Africa.

[2] Alemayehu Bogale, 2003. Girl's Participation and Performance in Secondary Schools of SNNPR. M.A Thesis Presented to the School of Graduate Studies of Addis AbabaUniversity.

[3] Asmaru Berihun, 2010. Overviews of Female Education in Ethiopia. Gender Management Process, Ministry of Education, The Federal Democratic Republic of Ethiopia, Addis Ababa.

[4] MoE (Ministry of Education), 1999. Improving Retention with a Special Focus on Girls.The Womens' Affairs Department, Ministry of Education, The Federal Democratic

[5] Republic of Ethiopia, Addis Ababa

[6] 2004a. A Study of Gender Gap in Enrolemnt, Retention and Performance in Primary Schools of Five Regions. Ministry of Education, The Federal Democratic Republic of Ethiopia, Addis Ababa

[7] 2005. Program Action Plan, Education Sector Development Program III (ESDP-III), The Federal Democratic Republic of Ethiopia, Addis Ababa.

[8] 2008. A Study on Violence against Girls in Primary Schools and its Impacts on Girls' Education in Ethiopia. The Federal Democratic Republic of Ethiopia,Addis Ababa

[9] FDRE (The Federal Democratic Republic of Ethiopia) 1995. The Constitution of the Federal Democratic Republic of Ethiopia. Federal Negarit Gazeta Vol.1 No. 1

[10] Nicola, Jones, Karen Moore, Eliana Villar-Marquez and Emma Broadbent, 2008. Painful Lessons: The Politics of Preventing Sexual Violence and Bullying at School. Overseas Development Institute. London, UK.

[11] Gujarati, Damodar N. 1988. Basic Econometrics. Second Edition. McGraw-Hill Book Company, New York. U.S.A.

[12] Maddala, G.S. 1983. Limited Dependent and Qualitative Variables in Econometrics. Cambridge University Press, New York.

[13] Kmenta, J. 1986. Elements of Econometrics. Second Edition. Macmillan Pub. Co. New York. U.S.A.

[14] Pindyck, Robert S. and Rubinfeld, Daniel L. 1981. Econometric Models and Economic Forecasts. Second Edition. McGraw-Hill Book company, New York.

[15] Hosmer, D.W. and Lemeshew, S. 1989. Applied Logistic Regression. A Wiley-Inter-science Publication, New York.

[16] Golden, S. A. R. (2016). RURAL STUDENTS' ATTITUDE TOWARDS ENGLISH AS MEDIUM OF INSTRUCTION IN HIGHER EDUCATION – AN ANALYSIS. International Journal of Research, 3(Special Issue - 16), 1-10.

[17] CSA (Central Statistical Agency), 2005. National Report on Demographic Data for Development Ethiopia. CSA, Addis Ababa, Ethiopia.

[18] Yeshimebrat Mersha, Alemayehu Bishaw, Dawit Asrat and Yismaw Nigussie, 2009. Policy intervention on factors affecting female students' academic achievement and causes of attrition in higher learning institutions of Ethiopia.

[19] Anil Duman, 2011. Female Education Inequality in Turkey: factors affecting girls' schooling. Central European University.

[20] USAID, 2009. Gender-based violence prevention and response activities. USA.

[21] Golden, S. A. R. (2011). Strategy For Success Of Human Beings:-Time Management.

[22] Alemayehu, 2012.Studies on Socio-economic affairs in Ethiopia. Addis Ababa, Ethiopia.

[23] Taneja,M.L and R.M.Myer, 2010. Economics of Development and planning. Jalandhar, Delhi.

[24] Considine, G. and G. Zappala , 2002 .Factors influencing the educational performance of students from disadvantaged backgrounds. University of New South Wales, Sydney.

[25] Berry.J., 2006. The effect of socio economic status on academic achievement, Wichita State Univeristy.

[26] Williams, N. Penelope, R.W. Connell and V.M. White, 1991. Research on poverty and education, 1979-1987., in R.W. Connell, V.M. White and K.M. Johnston, eds, .Running Twice as Hard: The Disadvantaged Schools Program in Australia, Deakin University Press, Geelong.

[27] Mukherjee, D. (1995) .The relationship between socio-economic background and participation in education. Darlinghurst.

[28] Regi, S. B., & Golden, S. A. R. (2014). A Study On Educational Loan Availed By Students In Trichy City. Journal Of International Academic Research For Multidisciplinary (Jiarm), 2 (1).