

## **SOCIO-ECONOMIC FACTORS INFLUENCING THE EDUCATION OF THE GIRL CHILD IN ZOMBA, MALAWI**

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### **Abstract**

Dealing with poverty and economic hardships in developing countries has been a primary theme for many international organisations. There have been calls to apply greater attention towards girl child education to ensure that future generations do not experience the traditional gender disparities in which males have been regarded as better than females in almost all aspects of life. In developing countries such as Malawi, indications are that girls still lag behind boys, despite the implementation of several interventions to reverse this trend. This study examined the socio-economic factors that influence the participation of the girl child in educational activities in Zomba, Malawi. The focus was mainly on household and school-related factors such as distance to school and the availability of resources at school level. The study used descriptive analyses, cross tabulations and binary logistic regression to examine the gender disparities that exist between girls and boys in education. The results showed that a higher percentage of girls, unlike boys, were out of school and that there was a higher percentage of girls that dropped out of school. In the regression results, distance to school as well as water points, and a host of other household characteristics including household income emerged as significant determinants of girls' education participation.

**Key Words:** household poverty, girl education, participation, success, inequalities

**JEL Classification:** I2 I25

## 1. INTRODUCTION

In most developing countries around the world, education of the girl child has progressively emerged as one of the most topical issues for consideration by various stakeholders (United Nations Educational, Scientific and Cultural Organization UNESCO, 2009; Winthrop & McGivney, 2014; Right to Education, 2015; United Nations Children Fund [UNICEF], 2015). The interest in the education of girls may be attributed to the view that in most developing countries, girls have historically and presently been behind boys in all aspects of education (Lewin, 2007; Jain & Singh, 2017; UNICEF, 2017). Despite this pattern, studies on the benefits of education indicate that there are more benefits to women than men (Schultz, 1989; Summers, 1992; Doyle & Weale, 1994; Ombati & Ombati, 2012; Mzuza, Yudong & Kapute, 2014). These benefits are mostly on the non-monetary side as opposed to the monetary side of life (United Nations International Children's Emergency Fund [UNICEF], 2010). Among the non-monetary benefits to education for women are higher immunisation rates, better sustenance for their children, reduced fertility and reduced child mortality, among others (United Nations Population Fund [UNFPA], 2005; World Bank, 2013). In this regard, it is arguably logical to conclude that a woman's education is economically and socially desirable for any society that intends to achieve sustainable development.

Notwithstanding the extensive efforts directed to the improvements in girl education in developing countries such as Malawi, girl participation in schools has remained one of the main problems in the educational sphere (Winthrop & McGivney, 2014). Sufficient evidence is available that shows the existence of some problems associated with the inability of girls to participate in educational activities at the same rate as boys. Some studies (e.g. Kadzamira & Rose, 2003; Mzuza *et al.*, 2014) have cited such conditions by grouping them into three categories, namely, socio-economic conditions as well as socio-cultural and class-related issues.

According to Hyde and Kadzamira (1994), as part of the reforms to improve problems related to girl education in Malawi, the government introduced free primary education in 1994. However, despite this development, girl education participation has remained one of the primary challenges the country has had to deal with, especially in the upper grades (Kadzamira & Rose, 2003). A report by

The World Bank (2012) shows that almost 84 percent of the population in Malawi lives in the rural areas where poverty levels are extremely high, which implies that most girls in Malawi are from economically disadvantaged societies. With the existence of poverty in Malawi, which was estimated at 69.9 percent in 2016 by the World Bank, girls from rural and poor households face numerous barriers in attending and remaining in school. Most of the girls either repeat classes, get pregnant and in more severe cases drop out before completing primary education (Kadzamira & Rose 2003; Mzuza *et al.*, 2014). As reported by the Malawi Ministry of Education (2012), although enrolment rates for both girls and boys were almost on a par in the first grade, the primary enrolment rate dropped drastically as girl students moved up the grades. In 2012, for example, the primary completion rate for girls was only 31 percent compared to 49 percent for boys (Ibid).

Given the glaring dropout rate of most girls and the ghastly effects of primary school dropout, it is necessary to establish the socio-economic factors that influence the probability of girls to drop out of school. However, the view that girls are dropping out of school because of socio-economic challenges is mainly based on anecdotal evidence such as media reports. Empirical evidence to substantiate these facts is limited. This study, therefore, addresses this gap by examining socio-economic factors that influence the participation of the girl child in educational activities in Zomba, Malawi.

## **2. LITERATURE REVIEW**

### **2.1. Factors affecting girl education**

There are many factors affecting girl education that have been extensively documented over the years, yielding mixed arguments (Brock & Cammish 1997; Nekatibeb, 2002; Ombati & Ombati 2012; Arku, 2014). These factors range from supply-side constraints to negative social norms at household, school and country level. Johannes (2010:61) argued that most African countries are devoted to traditional cultural practices and beliefs of sex preferences, which have been inherited from the colonial forefathers. In typical African culture, boys are, in most cases, given more preference in all matters of life as they are the fathers to be, entrusted with the responsibility of fending for the house while women stay at home doing the household chores (Ibid).

A study by Brock and Cammish (1997) on factors affecting girl child education in seven developing countries found that a mixture of socio-economic and religious factors affected girl education participation. The same study further specified socio-cultural factors, gender bias in teaching materials, geographical location of schools, girls' early marriages and heavier domestic and subsistence workload on girls as some of the main contributing factors. Another related study was conducted by Hunt (2008) who affirmed that girl child education is affected by traditional and cultural practices, financial needs, poor quality of the environment and learning processes, inadequate healthcare, insecurity, civil unrest, un-enforced laws and policies protecting girls and women.

Besides these factors, girl education can also be affected by hostile school environments, teen pregnancy, and girl child labour. Tembon, Diallo, Barry and Barry (1997) identify school environment as one of the critical factors to be considered in most sub-Saharan countries. Kadzamira and Rose (2003) argued that Malawi faces the same problem since the introduction of free primary education in 1994. These authors mention that despite being beneficial to the poor in the country, the introduction of free education in Malawi brought in some challenges. They further pointed out that due to financial constraints, the government could no longer provide quality services to schools as before. This led to the deterioration of necessary facilities such as ablution facilities in schools, particularly those in rural areas, which then impacted negatively on students, especially girls. Odaga and Heneveld (1995) argued that the attitude of teachers towards students as well as their teaching practices might also affect girl child education. They gave an example of schools in sub-Saharan Africa where cultural beliefs are so profound that most teachers tend to look at women as inferior to men, which de-motivates girls in their academic pursuits. Within school environments, girls sometimes also face abuse committed by both teachers and male students. In a study conducted by Nekatibeb (2003) which focuses on some of the causes of low female participation in education in Ethiopia, cultural constraints emerged as the main factor hindering girl child education in the area. The same study cited cultures such as girl initiation ceremonies and girl circumcision practised in the area as customs that yield confusion and problems for girls. Usually, girls that go through such traditions do not consider education as relevant but rather prefer getting married because of what they are taught in these ceremonies. The study further noted that such traditions usually overlap

school calendars, leading to absenteeism and dropouts. Consistently, a study by Davison and Kanyuka (1990) referred to Malawi as another country with similar cultures practised in some districts, and so did Arku (2014) on Ghana.

A study conducted by De Silva-de-Alwis (2008) directs attention to the practices of traditional gender roles and marriage expectations of females as a significant limiting factor to education in most parts of sub-Saharan countries. The same study describes how parents benefit from girl child marriages as they receive what is called the bride price (lobola). Hence girl child marriages are widespread, especially in rural areas. In such circumstances, most girls end up getting married at a tender age while some get pregnant and others even lose their lives in childbearing. Ombati and Ombati (2012) identify other unacceptable cultural norms practised in most African countries which hinder girl's education. These include the belief that girl child marriages protect such people from becoming pregnant outside marriage and the belief that young girls are an economic burden at home, which makes their marriage a method of easing that load. Tuwor and Sossou (2008) refer to another culture common in Benin, Togo, Ghana and Nigeria where young girls are enslaved as young virgins and kept in temples as goddesses to atone for the sins and crimes committed by their relatives. This culture also deprives these young girls of education.

The above cases are just a few from several other barriers to the success of girls throughout sub-Saharan Africa. Education is therefore taken to be the least priority for girls because it is regarded as less important by many people in the society.

### **3. METHODOLOGY AND DATA COLLECTION**

The study employed primary data collected from 327 sampled rural and urban households in Zomba district in Southern Malawi between 2015 and 2016. The sample size was based on the suggestion by Gujarati (2004) that for statistical purposes, especially when applying the central limit theory, any sample of at least 30 cases is considered sufficient to perform basic statistical procedures. Other studies (Sekhampu, 2013; Dunga 2017) employed similar sample sizes of 180 and 300 respectively, and came up with valid results. A validated questionnaire was used to collect the data with questions relating to girl/boy education. A random selection of households was employed in which every fourth house was selected in the already designated Enumerator Areas (EAs) specified by National Statistics of Malawi.

Furthermore, only households that had school going children were included in the survey. The survey was conducted by experienced enumerators who were first trained on the issues of interest. The respondents included those households from both rural and urban areas, and information was collected from either household heads or spouses.

### 3.1. Model Specification

The primary objective of the study was to examine the relationship between household socio-economic characteristics and girl child education participation. Data were analysed using cross-tabulations and a binary logistic regression model. The cross tabulations were employed to assess which household characteristics impact girls' ability to participate in school. The regression model was applied to determine the household characteristics and socio-economic factors that are significant in determining the probability of a girl child to be in school.

The model uses attendance (participation) as a dependent variable whereby attendance is measured as a categorical variable with two categories, namely, in school, or out of school. The study further employed independent variables which are determined as the socio-economic characteristics that impact the ability of girls to participate in school; location of the household, age of the child, distances to primary school, distance to nearest water point and distance to secondary school. A binary logistic regression was specified as follows:

$$SA_t = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + \varepsilon_i \dots (1)$$

The regression, therefore, had all the variables of interest included as follows:

$$SA_t = \beta_0 + \beta_1(\text{location}) + \beta_2(\text{age\_child}) + \beta_3(\text{Dist\_primary}) + \beta_4(\text{Dist\_sec}) + \beta_5(\text{Dist\_WP}) + \beta_6(\text{Age\_hh}) + \beta_7(\text{income}) \dots \varepsilon_i \dots (2)$$

$\beta_1$ - $\beta_6$  are the coefficients for the corresponding variables,

Where **SA<sub>t</sub>** is the categorical dependent variable measuring the probability of a girl child to be in school or not and hence the dependent variable will be defined as follows:

1- girl child in school, 0- girl child not in school

$\beta_0$  is the constant

The other parameters are set as follows:

$\beta_1$  → is the intercept term of the regression

$\beta_{1,2,\dots,n}$

→ are the coefficients corresponding to independent variables  $X_{1,2,\dots,n}$

$\varepsilon_i$  → is the error term of the regression

#### 4. RESULTS AND INTERPRETATION

The first section provides the descriptive statistics of the independent variable and other important household characteristics. This section of the paper has two subsections: one presenting the descriptive statistics and the other presenting the regression results and the interpretation thereof.

##### 4.1. Descriptive statistics of the households in the sample

After summarising the data, a description of the frequencies for categorical variables and means for continuous variables in the data set was analysed, which are presented in Tables 4.1 and 4.2.

**Table 4.1: Frequencies for categorical variables**

FACTOR	CATEGORIES	FREQUENCY	PERCENT
<b>Gender of household head</b>	Male	252	77%
	Female	67	23%
<b>Location of household</b>	Urban	118	36%
	Rural	209	64%
<b>Marital status of household</b>	Married	248.5	76%
	Not married	78.4	24%
<b>Employment status of household head</b>	Informal activity	190	58%
	Employed	111	34%
	Not employed	26	8%
<b>Gender of pupil</b>	Male	65	20%
	female	262	80%

Source: survey data (2015)

Out of the 327 households that were interviewed, 77 percent were headed by males and 23 percent by females. From these households, 36 percent were from rural and 64 percent from urban areas. This is in line with the last census conducted in Malawi, which shows that Zomba district, in general, has more people living in rural as compared to urban areas and that there are more women than men (National Statistics Office Malawi, 2008). The results also show that a higher percentage of the population (58%) is informally unemployed as compared to 34 percent which is employed and eight percent which is unemployed.

**Table 4.2: averages of continuous variables**

VARIABLE	MEAN
Age of household (years)	41years
Age of girl child (years)	12.5years
Distance to nearest primary school (km)	.600
Distance to nearest secondary school	1.2
Household size	6.2
Income (Malawi kwacha)	66366.11

Source survey data (2015)

#### **4.2. Descriptive statistics of girl education participation in the sample**

This section presents descriptive statistics on participation of school going age children in the sample. Table 4.3a shows that the sample had 610 girls of school going age, of which 76 percent were in school and 24 percent were not in school. However, just from that comparison, a conclusion that the participation of the girl child in school was high in this study cannot be drawn. Hence a further analysis was conducted by comparing girls to their counterparts (boys). The results are shown in Table 4.3b.

**Table 4.3a: Participation status of school-going age girls**

		Frequency	Percent	Valid Percent	Cumulative Percent
<b>Girls school attendance status</b>	Not in school	146	23.9	23.9	23.9
	in school	464	76.1	76.1	100
	Total	610	100	100	

Source: survey data 2015

A comparison between the percentages of girls and boys within the gender shows that 94.1 percent of the total boys within gender were in school while 76.1 percent of the total girls within gender were in school. For those not in school, 5.9 percent of the total of boys within gender were not in school while 23.9 percent of girls within the gender were not in school.

The data used in the frequency for Table 4.3a only included girls while that in Table 4.3b included both boys and girls. The results in Table 4.3b show that when boys are included, the total number of those not in school decreases and when a comparison is conducted between girls and boys who drop out of school within their genders, 23.9 percent of girls were not in school as compared to only 5 percent. This signifies that there exist gender disparities in education in the sampled population, where more girls are seen to have dropped out of school than boys.

**Table 4.3b Distribution of children in school and out of school by gender**

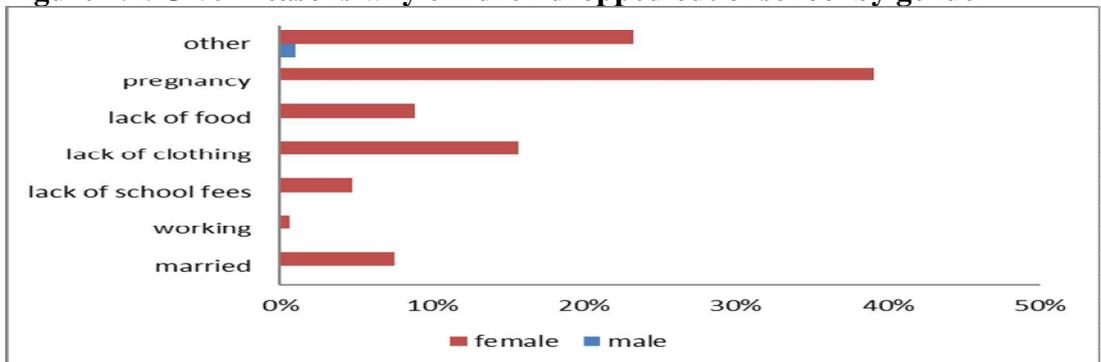
	Boys	Girls	Total	% within male	% within Female	% Total
<b>In school</b>	224	464	688	94.1%	76.1%	81.1%
<b>Not in school</b>	14	146	160	5.9%	23.9%	18.9%
<b>Total</b>	238	610	848	100.0%	100.0%	100.0%

Source: survey data 2015

Figure 4.1 presents cross tabulation results on some of the reasons given by parents as to why children of either gender dropped out of school. As shown, there were four main reasons why children dropped out of school. Girls had a higher

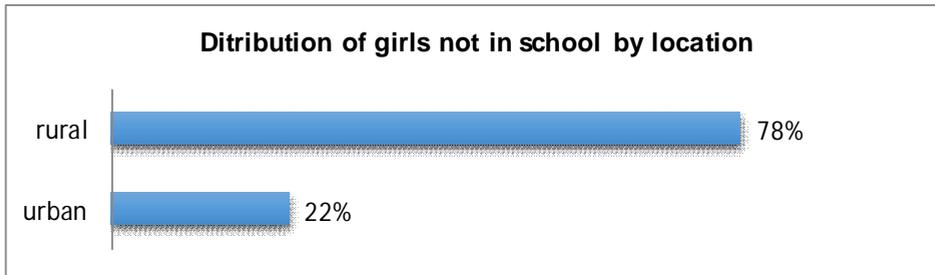
percentage in all the reasons given, the highest being 40 percent of the girls that indicated to have dropped out of school because of pregnancy. Close to 10 percent of respondents indicated that they dropped out of school because they got married. These results are consistent with the results of several previous studies (Mzuza *et al.*, 2014; Kadzamira & Rose 2003). This indicates that the problem of girl child school dropouts has not yet been resolved.

**Figure 4.1. Given reasons why children dropped out of school by gender**



Source: survey data (2015)

It was discussed in the literature based on previous studies (World Bank, 2012; Mzuza *et al.*, 2014), that most of the girls who drop out of school resided in rural areas where poverty and other socio-economic constraints are seemingly high. The descriptive results on cross-tabulations between girl dropouts by location depicted in Figure 4.2 show that 78 percent of girls who dropped out of school were from the rural areas as compared to only 22 percent from urban areas. This also indicates that the girl child school dropout problem is still prevalent in both rural and urban areas, which attracts the need for further interventions to achieve 100 percent girl child education attainment.

**Figure 4.2 Distribution of girls not in school by location**

Source: Survey Data, 2015

### 4.3. Results and interpretation of the binary logistic regression model

Table 4.4 presents the binary logistic regression results determining which household socioeconomic factors significantly affect the probability of girls to either remain in school or drop out. The regression analysis used data for girls only. The dependent variable is a categorical variable defined as 1 for being in school and 0 for those out of school and location of the household, age of the child, distances to primary school, distance to nearest water point and distance to secondary school as the independent variable. After running all tests for assumptions, the model was found to be of a good fit. The results provide information about the contribution or importance of each of the predictor variables, such as coefficients, their standard errors, the Wald test, statistic with associated degrees of freedom and p-values, and the odds ratio as follows.

The first independent variable is location. In this case, location is a categorical variable coded as 0 for urban, and 1 for rural, and results indicate that location is a significant factor at 1 percent determining the probability of a girl child to drop out of school. With a Beta value of -0.71 and an odds ratio of 0.49,1 for rural, the result demonstrates that girls based in the rural areas have a higher probability of dropping out of school and that the odds of them dropping out is .0491 higher compared to their counterparts. This could be perhaps attributed to the accessibility of urban schools as compared to schools in rural areas.

Age of child was also a significant factor at 1 percent, which depicts that age contributes significantly to the probability of a child to be in school or not. With a

Beta value of -0.298 and an odds ratio of 0.748, the results demonstrate that the older a girl gets when still in primary, the higher the probability of her dropping out of school and that the odds of her being in school decreases by 0.748 each additional year. This result could perhaps be attributed to late entry in school or higher repetition rates amongst girls and that if a girl is over age but still attending primary school, she may easily get discouraged. Also, a majority of such girls either end up getting pregnant or stay out of school because of being shy. The same results also apply to the sixth independent variable in the age of the household head, which has a p-value of 0.151. Even though the p-value shows the variable as insignificantly contributing to the model, the Beta value of -0.014 and odds ratio of 0.986 concur with the results pertaining to the age of the child. The negative Beta value implies that the older the parents, the higher the likelihood that the girl child will drop out of school, and also that the odds of that child being in school decreases by 0.986 with any additional year to the head of household. The result is consistent with the suggestion by Guijarro, Naranjo, Padilla, Gutiérrez, Lammers and Blum (1999) that girls require a lot more parental support than their male counterparts. Hence, if the parents are too old, they may not be able to give the required support to the girl child. The other reason could be that because older parents may not be able to perform house chores, they end up relying on the girl child to assist around the home. In so doing most girls may not be able to cope with school work, which forces them to drop out of school.

Distances to primary and secondary schools as well as the nearest water points were also found to have a significant relationship with the dependent variable at 5 percent, 10 percent and 10 percent respectively. The odds that a girl will drop out of school increases with an increase in where she goes to school or where she fetches water for the household. In the study, the Beta values of such distances are -0.762, -0.152 and -0.644 respectively and the odds ratio of 0.467, 0.859 and 0.525. These results illustrate that the probability of a girl to drop out of school increases as the distance to either the school or water point increases. For example, with regard to the distance to the water point, most poor households in Zomba district, especially those in rural areas, do not have water inside their homes, and they have to fetch it from the nearest water point, which is mostly done by girls. If that closest water point is far away, it may take a longer time to walk to and from it, such that they are exhausted by the time they get home. Thus,

education may come second, and the chances of such girls dropping out of school are very high.

The last independent variable is income of the household head, which is also a crucial aspect in terms of socio-economic characteristics affecting girl education, as revealed in the literature (Björkman-Nyqvist, 2013; Melguizo, Sanchez & Velasco, 2016). Despite the introduction of free primary education in Malawi, the rate of girls dropping out of school is still high. One of the contributing factors is the expenditures parents incur apart from school fees. For instance, parents still have to buy textbooks, school uniforms and meet other school-related needs. In this case, income is significantly related to the dependent variable at 1 percent thereby qualifying the variable as being significant to our regression model. The results also show a positive Beta value of 0.108 and an odds ratio of 1.114, which suggests that with an increase in income the higher the probability of girls to be in school. Also, the odds of the girl child to be in school increases by 1.114 with any unit increase in income.

The regression results so far are in line with the results of previous studies conducted on girl education (Ombati & Ombati, 2012; Mzuza *et al.*, 2014). A study by Jain, Agarwal, Billaiya, & Devi, (2017) which was conducted in India found that among several hindrances limiting girls from participating in school, 62 percent of the sample indicated that they could not attend school because of financial problems, long distances to school and early marriages. Ages of children were also found to be a significant hindering factor for girls to participate in education, which is a consistent pattern in most developing countries. This indicates that the problem of girl education participation is not only prevalent in Malawi but also in other developing countries.

**Table 4.4 Regression results**

Variable	B	Std. Error	wald	df	Sig.	Exp(B)
Constant	7.492	0.809	85.703	1	0	1794
Location rural	-0.71	0.263	7.307	1	0.007	0.491
Age of child	-0.298	0.036	67.891	1	0.000	0.742
Distance to primary	-0.762	0.339	5.046	1	0.025	0.467
Distance to secondary	-0.152	0.084	3.254	1	0.071	0.859
Nearest water point	-0.644	0.344	3.499	1	0.061	0.525
Age household head	-0.014	0.01	2.064	1	0.151	0.986
Income	0.108	0.03	13.059	1	0	1.114

Source survey data 2015

\*\*\*\*Dependent variable: school attendance (1 in school 0 not in school)

\*\*\*\*Independent variable Location Rural, Age of child, Distance to primary, distance to secondary, nearest water point, age household and Income.

## 5. CONCLUSIONS AND SUGGESTED INTERVENTIONS

The main aim of the study was to *examine the socio-economic factors that influence the participation of the girl child in educational activities in Zomba, Malawi*. To achieve this aim, the study employed cross-tabulation statistics as well as regression analysis. The cross-tabulation results on school dropout rate by gender indicated that more girls compared to boys were dropping out of school. Further analysis of school attendance by location that considered girls only results indicated that more girls from the rural areas dropped out of school compared to those in urban areas. These trends were attributed to factors such as teen pregnancy, lack of clothing, lack of food and early marriages. The study further presented the results of the binary logistic regression determining which household socioeconomic factors significantly affect the probability of girls to either attend school or to drop out. The results showed that girls who stayed in the rural areas, who were older, whose parents received less income, who stayed far

from school and did not have water closer to their homes had a higher probability of dropping out of school.

Several interventions may be implemented to promote the education of the girl child. At the national level such high prevalence of non-participation of girls in schools could hinder the country's economic growth and development. To reduce the rate of the girl child's non-participation in educational activities, it is necessary for the government to build more schools, especially in the rural areas and employ more female teachers to act as role models for girls. It is also essential to educate parents, especially those in the rural areas on the importance of girl education. Funding should be provided to support programmes that provide scholarships for poor girls, and harmful traditional practices that hinder education of the girl child should be discouraged. Since the factors mentioned in this study are only a handful of problems being faced by the school going girl child in Malawi, there is a need for more extensive research on such issues. It is necessary to explore how other countries have managed to combat these problems so that similar interventions can be applied to improve girl education participation in Malawi.

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