Factors Associated with Child Labor and Students' Educational Participation: A Case Study of Public Elementary Schools of Wolaita Zone, Ethiopia

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Authors' contributions

This work was carried out in collaboration among all authors. Author MLS chose the topic and designed the study. Author MT supervised every aspect of the study. Author MLS collected the data, and managed data coding and entry in SPSS software. Authors MT and SKM were involved in data transformation and analysis for this study. All authors read and approved the final manuscript.

Original Research Article

ABSTRACT

Aim: The study assessed factors associated with child labor and students' education participation in public elementary schools of Wolaita Zone.
Design: The study employed a descriptive survey research design.
Place and Duration of Study: The study was conducted in four divisions and one administrative town in Wolaita zone from November 2018 to April 2019.
Methodology: Data were obtained from 150 household heads purposively selected to respond to a household survey. Additionally, eight focus group discussions were held with 84, 3rd and 4th grade teachers. Data were analyzed using both descriptive statistics, Pearson correlation and Multiple linear regression using SPSS software version 20.0.
Results: Findings revealed that child-labor is still common in Wolaita Zone. Results indicated that over three quarters of the sampled households engage their children in paid or unpaid work. The correlation analysis revealed that younger household heads and those with better education,

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higher income and formal employment were less likely to let their children engage in child labor. The regression analysis found that education participation of 3rd and 4th graders increased with the number of children attending school per household, and on the perception of the household head regarding household needs. The decision to send a child to school or not were also based on; households' economic standing, health care needs, employment opportunities, and being an orphan or having divorced/separated parents.

Conclusion: The study concluded that policies that protect children's rights and those that increase participation in school should be enforced within the study area. As a policy recommendation, community involvement in protection of children welfare is required to support the long-run investment in human capital development.

Keywords: Child labor; education participation; elementary schools; linear regression; Ethiopia.

1. INTRODUCTION

Education is recognized as a powerful tool in transforming lives, nations, societies as well as the world we live in. Education provides children an opportunity to develop their full potential to be productive members of the society in their adult life. However, child labor has become a serious global problem, depriving school-aged children adequate participation in their education. The International Labor Organization (ILO) [1] indicates that about 152 million of children are engaged in child labor where roughly 72.5 million (5-17 years old) are in hazardous work; putting their safety and health at stake. Although the ILO report indicates a decline in child labor in Asia, the Pacific, Latin America, and the Caribbean from 2012-2016, the same cannot be implied in the case of Africa. According to ILO, Africa ranks first in child-labor (19.6%). Besides, the number of children engaging in child labor has been rising in Africa within the same period as compared to other regions. Understanding this complex phenomenon is critical for educators and other players intervening to end or reduce child labor.

By definition, child labor is any work which is considered hazardous to children's health, their safety, and moral development [1]. The term 'child labor' according to ILO could also be defined as any work which deprive children of their childhood, their potential and dignity, and any work which is harmful to their physical and mental development [2]. Child work affect children schooling by denying them an opportunity to attend school regularly leading to absenteeism or dropping out altogether [2,3]. Based on research, child labor indicates lack of investment in social and human capital which further hinders development of skills and abilities to significantly make contribution to the society [4].

Based on ILO, child labor could take two forms; paid or unpaid work [1]. However, studies show that most forms of child labor take place within the family unit as non-remunerated work [2,3,5]. As observed by the researchers, the agricultural sector accounts for the largest share of paid and unpaid labor, especially in farming and herding livestock [1,5]. However, in domestic work children take care of their younger siblings, fetch water, wash, collect firewood and cook family meals. Research has shown that work has a negative effect for school going children as they work with the command from their parents [4].

Data on child labor has been scanty in case of Ethiopia. However, studies conducted in the country show that the society is continuously using children as family laborers both socially and economically. A report by People in Need Ethiopia [6] indicated that a large proportion of Ethiopian children join the labor force below the age of 15 with little or no formal education [7,8]. Statistics from Ethiopia depict child labor to be prevalent among children aged 5-14. However, Ethiopia as a member of the United Nations, African Union, ILO and other international agencies signed the ILO convention including the required minimum age for labor work (No.138) in 1999 [8]. As a member, Ethiopia has since made provisions in its constitution on basic rights and privileges of children. According to the labor proclamation of Ethiopia (No. 42/93), the article stipulates that children below 18 years are not allowed to work.

Encouraging efforts have been made to improve the plight of children in Ethiopia [9], especially vulnerability in extreme forms of child labor. The government has achieved a great increase in enrollment of school aged children in the last two decades. However, a large number of school aged children have failed to enroll or have dropped out due to engagement in many hours of work either at home or in the farms [2].

Table 1. Children enrollment, dropout and repetition in Wolaita Zone

Enrollment plan		Children enrolled		Dropout rate		Repetition rate	
2018	2019	2018	2019	2018	2019	2018	2019
508,486	517,223	484,986	495,232	26,554	30,122	25,654	28,122

Source: Wolaita Zone Education Department Report [13, 14]

Child labor is broadly practiced throughout the Southern Region of Ethiopia especially in Wolaita, Gamo-Gofa and Gurage [10,11]. In rural Ethiopia, girls fetch fire wood and water, which at times require them to walk long distances with heavy loads besides carrying out other household tasks. Among the lowland pastoralists, boys especially the first born are often withheld from school to herd cattle from eight year upwards. Worth of note is that children herding livestock may suffer injuries like being pushed, speared or trampled by animals [10].

Similarly, in Wolaita zone, low participation in education in primary school is widely known due to child labor. Particularly, children get to school late, low participation in school activities, class repetition, dropout, absenteeism and low performance in academic. Children are also under tension due to many activities in both rural and urban areas which are assigned forcefully by parents rather than encouraging them to attend school. Records from Wolaita Zone Education Department [12] for 2014 – 2016 period show that children from age 7-15 years who dropped out and/or repeated classes due to child labor and other related factors accounted for; 10.5%, 16.6%, and 15.4% for drop-outs, and 5.5%, 5.1 %, and 5.8% for repetition, respectively [12].

Data obtained from Wolaita Zone Education Department (WZED) on enrolment plan, dropout rates and repetition rates for the 2018 and 2019 period are presented in Table 1 [13,14]. From the data, it's evident that a considerable number of children who were expected to enroll in school failed to do so; that is, 23,500 (4.6%) and 21,991 (4.3%) in 2018 and 2019, respectively.

The WZED report also shows that 26,554 of the students in 2018, and 30,122 in 2019 dropped out of school; totally 5.5% and 6.1%, respectively [14]. Besides, data from Table 1 further show that a number of children who had reached school age did not enroll in primary education. It's also evident from the data that students leave school before they reach grade eight. This could be attributed to a number of factors including child-labor.

A study conducted in 2017 by Wolaita zone labor and social affairs department [15] on the features and causes of child labor in six woredas (divisions) focused on the general characteristics and origin of child labor. Several explanations for the problem of drop-out in primary schools in Wolaita zone have been offered, including, child labor, death of parent(s), non-attendance, and pregnancy (in case of the girls). Reasons for leaving school could also be attributed to engagement in child labor. Despite the fact that a law prohibiting child labor and child migration was enacted and communicated to the general public, child labor still remains a serious social problem in wolaita zone.

To get a better understanding regarding child labor issues, and students 'engagement in education in elementary schools this study focused on two objectives; to identify factors associated with child labor, and to determine factors that affect education participation in elementary public schools in Wolaita zone.

2. THEORETICAL FRAMEWORK

Research conducted on child labor (e.g., 10, 11] cite poverty and socio-cultural perspective of the society as the root of the problem. In theory, researchers [16,17] argue that rarely do children choose to engage in child labor, but decisions to work are mostly made by their parents. According to [16], the researcher noted that in cases where a child runs away from home, such incidences could be linked to parental actions that make life unbearable for the survival of the child. Studies (e.g., 17) identify three attributes of child labor supply, including; the child (age, gender and birth order), household (parent's preference, and cultural issues), and community (access to schools, quality of educational institutions, and employment opportunities).

Research on children work indicate that it interferes with human capital development. For example, [18] pointed out that child labor affects the learning process in the short run making it ineffective; consequently, it forces the child to drop out of school. The researchers further argue that engagement in work drops the child's future earnings in the long run. Its thus a vicious cycle where households' low socio-economic status lead to cases where children are kept out of school; hence, children engagement in child

labor perpetuates their poverty into the next generation.

A study conducted on 'child labor exploitation and children's participation in primary schools at Debube Omo zone [10] found that although there was no labor market demand in the zone, children were expected to perform domestic activities (cook, fetch water and firewood, take care of siblings and wash cloths). Besides, they were expected to engage in productive activities (e.g., cultivating, planting, weeding, harvesting, and herding cattle and goats). The researchers further found that there was a widely held societal conception which perceives children as family economic assets. Therefore, children are expected to contribute to the family income where such work is often considered part of the socialization process and an entry point into adulthood in the study area.

Nyamubi conducted a study on the impact of child labor on children's access to basic education in Tanzania [19]. The researcher found that school children were forced to enter the labor market at an early age. Engagement in work was attributed to; a need to support the family, to meet their school expenses, or their basic needs like food and health care due to poverty or being orphaned. The study found that such activities made them to regularly miss school and class work, and in some cases, it led to drop out. Consequent, engagement in work at an early age denied them future educational opportunities.

A similar study was conducted on 'child labor and associated problems in Wolaita Zone, Ethiopia' [20] using a logistic regression model. The researcher found that large family size, and loss of parents increased engagement in child labor. The researcher also found that parents' occupation and their education level had a strong negative association with child labor.

On the same line, a study was conducted on 'perception and practice of child labor in South-Western Nigeria' [21]. The researchers found that the commonest causes of child labor were related with poverty, illiteracy and large family size. They also found that families with the least source of income gave out their children to work as hawkers or house-helps. The researchers also noted that children were used as a form of insurance against future uncertainties.

Another study was conducted on 'child labor and students' participation in primary school education in Wolaita zone, Ethiopia' [2]. The researchers found that children combined work and schooling, particularly in; domestic activities, ferrying materials in the town, agricultural activities, hotel work and selling lottery tickets. Reasons that lead to engagement in work were linked to poverty, helping the family, parents' low education, large family size and students' need for money. Consequences related with engagement in child labor were; dropping-out of school, low academic performance and low participation in the classroom. To some extent, the researchers found that child labor was related with absenteeism, getting to school late and repetition.

Additionally, Addisu conducted a study on 'child labor in the informal sector in Addis Ababa city, Ethiopia' [22]. The researcher found that child labor had a negative impact on the holistic personality of the child; that is, physical health, psychological and social impact, especially it influenced educational achievement of the child.

3. METHODOLOGY

3.1 Research Design and Data Collection

This study employed a descriptive survey research design. The design was adopted as it enabled the researchers to collect detailed description of the existing conditions, practices that prevail, and attitudes that are held by participants regarding the issue under study [23]. The study used both quantitative and qualitative research approaches in data collection and analysis (concurrently) to allow a comprehensive analysis of the research problem.

The study was conducted in Wolaita Zone based on the existence of intense problem of child labor activities. From 12 woredas (divisions) and four administrative towns in the zone, three divisions and one administrative town were included in this study, namely; Sodo Zuria, Humbo, Kindo Koisha divisions, and Sodo town. The divisions and towns were selected purposively due to high absenteeism and drop-out rates, students getting to school late, low participation in class activities, and high rate of repetition. From each division, a proportionate sample of household heads whose children were in the first cycle primary school (grade 3 or 4) were randomly selected.

Table 2. Variable description

Variables	Description	Measurement/ expected sign
Educpart (Dependent)	Participation in education	Continuous
Independent		
1. Childlabor	1 if engaged in paid/ unpaid labor, 0=otherwise	Dummy (-)
2. Gender	Sex of household head: 1= if male, 0 = if female	Dummy (±)
3. AgeHH	Age of household head in years	Continuous (-)
4. EconActive	Total number of economically active members in the household.	Continuous (₊)
5. OccupHH:	Occupation of household head: 1=If government/ private employee (formal), 0 = if farmer, merchant or other (informal),	Dummy (₊)
6. HHsize	Family members in the household	Continuous (-)
7. EducHH	Household head years of Education	Continuous (₊)
8. IncomeHH	Monthly total income of household head	Continuous (₊)
9. Schchild	Number of children attending school	Continuous (-)
10. Perception	Parents perception about factors that cause children to engage in child labor (5-point Likert scale measure)	Continuous (-)
11. ChildAttit	Child attitude towards both child labor and schooling (5-point Likert scale measure)	Continuous (₊)
12. ParInput	Parent support to their children to participate in education (5-point Likert scale measure)	Continuous (₊)
13. ParCapacity	The capability of parents to fulfill their children educational cost (5-point Likert scale measure)	Continuous (₊)

Data from primary schools indicated a total population of 240 pupils' households. The sample size determination was based on a criterion by [23] who stated that with a 95% confidence level and sampling error of 5%, a sample size of roughly 150 is adequate. The sample size determination also took into consideration the financial and time constraints of the researchers as well as the number of variables to be estimated in the econometric model. Besides, a total of 84 teachers from 12 schools served as qualitative data sources.

Data collection instruments included a questionnaire for household heads and focus group discussion with teachers. A total of 150 questionnaires were completed with household heads in four division of Wolaita zone. The researchers paid attention to include only parents with children participating in the 12 sample schools. The questionnaire was designed in English and translated into Amharic and Wolaitigna languages during the face-to-face interview for the survey. The questionnaire was not self-administered because some of the respondents could not read and write. The questionnaire comprised both open and closed ended questions in addition to the 5-point Likert scale questions with measures ranging from strongly disagree to strongly agree.

To get more details regarding the subjects, focus group discussions were conducted with the teachers (grade 3 and 4) in order to enrich information gathered through the questionnaire. Focus group discussions were conducted separately in eight sessions involving 84 teachers who taught in the 12 sampled schools. The focus group discussions allowed effective discussions by using a group of 10 to 11 teachers from each school.

The data collection instrument was verified by carrying out a pilot test to determine the validity and reliability of the research tool before the intended study was undertaken. Pilot testing allowed the researchers to improve the questionnaire that was used for data collection [24]. It also allowed the researchers to identify any weaknesses of the questionnaire and the survey techniques. In this study, a pilot test was conducted in Wolaita Sodo town with 35 household heads.

The draft questionnaire was checked and scrutinized for validity, and the clarity of language in the questions was also examined and

improved. Using SPSS software version 20, the reliability of Likert scale items in the questionnaire was checked using the Cronbach Alpha test [23]. The Cronbach alpha values for five components (perception of household head, parents' input, parents' capacity, attitude of the child, and education participation) ranged from .747 to .922.

Permission was sought from Wolaita Sodo University to conduct this study. The researchers also got permission from Wolaita zone education office before conducting the field work. With principals' permission the study objective was disclosed to the respondents. Participants were assured confidentiality for their responses and that the research was to be used only for academic purposes.

3.2 Model Specification

In this study, multiple linear regression (MLR) model was employed to determine factors that best predict students' participation in their education (dependent variable). The econometric model was considered appropriate considering that the dependent variable is continuous with the assumption that there is a linear relationship between the dependent and independent variables. To compute the MLR model certain conditions had to be met. In this study, different tests were computed to test whether the basic assumptions of the model are met or not. First, the regression model assumes a normal distribution of the error term as well as the dependent variable. The normality test was computed to check if the dependent variable is normally distributed or not using the Kolmogorov-Smirnov and Shapiro-Wilk test for normality. The graphical plot for normality of data using the standardized residues indicated relatively normal distribution as compared to other transformations.

In this study, the existence of multicollinearity was tested using Variance Inflating Factor (VIF) test for both dummy and continuous independent variables. The correlation matrix was also used to verify if multicollinearity existed. Using the rule of thumb, a variance inflating factor (VIF) greater than 10 is an indicator of serious problem. In this study, the mean VIF of all independent variables were less than 10.

Based on [25], the linear regression model has the ability to identify the independent effects of a set of variables on a dependent variable. Thus,

the multiple linear regression model is specified as:

$$Y = \beta_0 + \beta_1 X_1 + \ldots + \beta_k X_k + \varepsilon \qquad (1)$$

Where:

Y= is the dependent variable; (participation in education)
β = the parameter to be estimated;
ε = the error term.

The notation of the dependent and independent variables is specified as:

$$Y_i = \beta_0 + \beta_1(AgeHH) + \beta_2(GenderHH) + \beta_3(OccupHH) + \beta_4(EducHH.) + \beta_5(incomeHH) + \beta_6(HHsize) + \beta_7(EconActive) + \beta_8(Schchild) + \beta_9(Perception_) + \beta_{10}(ChildAtt_) + \beta_{11}(ParInput) + \beta_{12}(ParCapacity) + \beta_{13}(Childlabor) + \varepsilon$$

The dependent variable (participation in education) was measured using a 5-point Likert scale with eight items (i.e., 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, and 5 = strongly agree). Based on literature, thirteen explanatory variables were included in the model including; household size, active members, school going children, child attitude, child engagement in labor, household head related factors (age, gender, occupation, education, income, perception of child labor, parent's input and parent's capacity to support the child in school).

Data obtained based on the Likert scale measures were aggregated to give a score for each component. For ease of analysis, the aggregated score was weighted by the number of items per component. To ascertain the association between child labor and independent variables, a Pearson Correlation test was used to perform the analysis. Multiple linear regression model was computed to show factors that best predict participation in education. The study used SPSS (version 20) for the analysis. Data obtained from focus group discussions with teachers were used to supplement quantitative data in the analysis. Table 2 presents a summary on description of variables.

4. RESULTS AND DISCUSSION

This section presents results obtained from data analyzed from questionnaires as well as focus group discussions with teachers. In this study, a total of 150 questionnaires were filled by students' parents who were selected from 12 schools.

4.1 Background Information of Head Households

Personal and household characteristics are presented in Table 3. Results for item 1 on age of the participant indicate that the average age of the head of household was 45.2 years with a minimum of 18 and a maximum of 72 years. On education (item 2), some parents had no education while others had a maximum of 19 years (college level) with an average of nine years (grade 8 completed).

From Table 3 item 3, result indicate that the number of persons per household on average was five with a minimum of two persons and a maximum of 11 persons. In relation to the number of active members (item 4), there were three persons on average with a minimum of one and a maximum of 8 persons.

From Table 3 item 5, the average monthly income per household was about 2,287 birr ($75.5) with a minimum of 500 birr ($16.5) and maximum 10,000 birr ($333). In relation to the number of children attending school (item 6), the mean was approximately three children per household.

On sex of the household head (Table 3, item 7), number of male headed households were 103 (68.67%) while the remaining 47 (31.33%) were female headed households. In relation to the occupation (item 8) of household heads, 77 (51.3%) were either government employees or had formal jobs in the private sector. However, 73 (48.7%) were earning their income as farmers, merchants (small businesses) or had other informal jobs.

In relation to engagement in child labor (Table 3, item 9), about 124 (82.7%) of the household heads stated that their children engage in either paid or unpaid work. The remaining 26 (17.3%) household heads stated that their children do not engage in child labor.

4.2 Engagement in Child Labor

Results in Table 4 presents descriptive statistics of key variables included in the analysis; that is, parents' perception, child attitude, parent input, and parent capacity. Results from Table 4 show that the mean for parents' perception was 4.03 and standard deviation of .590 while that of child attitude in education as described by their parents is 3.10 and standard deviation of 1.165. Similarly, the mean for parents' input is 3.94 and standard deviation of .694 while that of parents' capacity to support the child was 3.83 and standard deviation of 1.03.

Table 3. Demographic characteristic of head households (N=150)

Variable	Description	Freq.	Percent	Mean	Std. Dev
1.AgeHH	Age of household head (HH) in yrs.	-	-	45.19	11.216
2.EducHH	Education level of HH	-	-	9.17	4.846
3.HHsize	Household family size	-	-	5.47	1.725
4.Econ Active	Number of active members in the household	-	-	2.67	1.197
5.IncomeHH	Income level of HH in birr (1 USD ≈ 29 birr)	-	-	2,287	1,664
6.Schchild	Number of children attending school	-	-	2.75	1.290
7.Gender	Female	47	31.3	-	-
	Male	103	68.7	-	-
8.OccupHH	Formal employment	77	51.3	-	-
	Informal employment	73	48.7	-	-
9.Childlabor	Engaged in Paid/unpaid labor	124	82.7	-	-
	Not engaged in child labor	26	17.3	-	-

Table 4. Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Perception	150	1.86	5.00	4.03	.590
Child attitude	150	1.00	5.00	3.10	1.165
Parent input	150	1.00	5.00	3.94	.694
Parent capacity	150	1.00	5.00	3.83	1.032

4.2.1 Pearson correlation analysis

Results in Table 5 show the Pearson Correlation analysis for factors that are associated with child labor. Twelve factors were included in the model; that is, sex, age, education, income, household size, occupation, active family members, number of children in school, perception, child attitude, parent input, and parent capacity. Out of the twelve factors, only four parental factors (age, education, income and occupation) were statistically significant at less than .05 significant level. The four factors also maintained the expected signs in relation to engagement in child labor.

From Table 5, results show a weak and positive relationship between age of the head of household and child labor *(r=.162, P=05)*. The coefficient of determination (R-square) between age and child labor was .026; meaning, 2.6% of the variance on child labor can be explained by age of household head. The findings align with information obtained through FGDs held with teachers which revealed that children with aged parents were more likely to engage in paid work because their parents are not productive enough and need money to support the household.

For example, a FGD participant from school A, said this "*my child lives with the grandparents and he engages in both paid and unpaid work jointly with schooling.*" This finding aligns with a research conducted by [16] who argued that the demand for child labor plays a major role in child time-use decisions and that this demand varies substantially between households.

From Table 5, results show a weak and negative relationship between education of the head of household and child labor *(r= -.323, P= .00)*. The coefficient of determination (R-square) between education and child labor was .104; meaning, 10.4% of the variance on child labor can be explained by education of household head. The findings imply that the higher the education level of the parent, the less likely that a child will get involved in child labor. FGDs with teachers also confirmed that if the education of head of household is better, then there is a likelihood that the children will not be involved in child labor.

Results from Table 5 show a weak and negative relationship between income of the head of household and child labor *(r= -.274, P= .00)*. The coefficient of determination (R-square) between income and child labor was .075; meaning, 7.5% of the variance on child labor can be explained by income of the household head. In the FGDs, teachers stated that when income of the household head is better then there is a likelihood that children will not participate in child labor. The findings from this study support what [19] found on poverty as a major factor that drive children to work.

From Table 5, results show a weak and negative relationship between occupation of the head of household and child labor (r = -.*270, P= .00)*. The coefficient of determination (R-square) between occupation and child labor was .073; meaning, 7.3% of the variance on child labor can be explained by occupation of household head. Based on the FGDs with teachers, the participants stated that when parents of children are government employees or have private employment (formal employment), its less likely that their children will participate in child labor as compared with households that depend on farming or other occupation.

4.3 Factors that Predict Education Participation in Primary Schools

In a classical multiple linear regression estimation, it is inevitable to check whether the model is adequate or not. From Table 6, the ANOVA results indicate the model adequately fitted the data ($F_{(10, 139)}$ = 7.305, *P*= .00).

From Table 6, results show that the independent variables included in the model are adequate as predictors of participation in primary education. From the analysis, the R^2 = .344 indicates that the model explains 34.4% of the variation in education participation.

Table 6 present findings on the estimated coefficients for the model with the dependent variable (education participation of children). Factors which had a negative sign with children education participation included; age, sex, and occupation of household head, and child labor. Those with a positive sign include; active family members, education of household head, number of children going to school, perception of household head, parental capacity, and child attitude. From the findings, only two factors (number of children attending school per household, and perception of household head) whose coefficients had a positive and statistically significant association with education participation at 5% and 1% significant level, respectively. Based on literature, both factors maintained the expected signs.

Table 5. Pearson correlation analysis for child labor

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Child Labor	1												
2. Age HH	.162[*]	1											
3. SexHH	.089	.190[*]	1										
4. EducHH	-.323[**]	-.218[**]	.136	1									
5. IncomeHH	-.274[**]	.012	.187[*]	.661[**]	1								
6. HHsize	.155	.130	.108	-.080	-.004	1							
7. EconActive	.123	.417[**]	.278[**]	.070	.196[*]	.257[**]	1						
8. OccupHH	-.270[**]	-.198[*]	.130	.605[**]	.357[**]	-.126	-.082	1					
9. Schchild	.104	.123	.057	.057	.166[*]	.270[**]	.251[**]	-.031	1				
10. Perception	.044	.020	-.008	.120	.137	.021	-.015	.067	.080	1			
11. Childattit	.051	.030	.150	-.128	-.004	.022	.028	.065	-.100	.403[**]	1		
12. ParInput	-.092	.031	.071	-.011	.184[*]	.021	.104	.043	-.188[*]	.384[**]	.472[**]	1	
13. ParCapacity	.028	.204[*]	.155	-.210[*]	.014	-.011	.032	-.040	-.191[*]	.307[**]	.610[**]	.627[**]	1

** Correlation is significant at the 1% level (2-tailed)
* Correlation is significant at the 5% level (2-tailed)

Table 6. Regression analysis

Model Summary

Model	R	R Square	Adjusted R square	Std. error of the estimate
1	.587	.344	.297	.33662

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	8.277	10	.828	7.305	.000
1	Residual	15.751	139	.113		
	Total	24.028	149			

	Unstandardized coefficients		Standardized coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	2.774	.239		11.598**	.000
Age	-.003	.003	-.098	-1.202	.232
Sex	-.032	.064	-.037	-.496	.620
Active	.014	.027	.041	.498	.620
Education	.009	.008	.114	1.167	.245
Schoolchild	.056	.023	.179	2.425*	.017
Occupation	-.098	.072	-.123	-1.366	.174
Perception	.327	.054	.480	6.036**	.000
Parent capacity	.043	.036	.111	1.188	.237
Child attitude	.009	.032	.027	.287	.775
Child labor	-.056	.079	-.053	-.705	.482

*** Significant at the 1% level, and * Significant at the 5% level*

From Table 6, the β-coefficient for number of children going to school (Schchild**)** was positive and statistically significant at less than .05 significant level (P=.02). This implies that a unit increase on the number of children going to school in a household would increase the probability that a child in grade three or four will participate in education by .179 units.

From Table 6, the β-coefficient for perception was positive and statistically significant at 1% level (P=.00); this implies that a unit increase on parents' perception regarding the need for child labor would increase the effect on education participation of the child by .480 units.

FGDs with teachers identified a number of issues related with the causes that lead to child labor and consequently low participation in education, including:

4.3.1 Economic problem

Household's income was mentioned as a critical issue in children participation in education. Participants stated that children from low income households engage in child labor to help their parents; in-turn, it affects their schooling. Results align with [11] who argued that poverty is the root of the child labor problems.

4.3.2 Death of parent(s)

Participants stated that loss of a parent(s) or separation of parents lead to engagement in child labor which interferes with education of the children. Results are similar with the research by [21] who stated that orphans lack parental care and are therefore exposed to child labor, particularly the female.

4.3.3 Health/care

Presence of small babies, aged family members or members with health issues in the household affect children schooling especially the girl child to care for them. The findings relate to what was observed by [26] that rigid cultural or social roles in some community limit children engagement in education, and in-turn increase child labor.

4.3.4 Employment opportunities

Participants noted that availability of employment opportunities in the area that recruit child laborers lead to child labor, and consequently low participation in education. Results relate with what [17] found that availability of employment opportunity within the community or small enterprises owned by families may determine how parents allocate children's time.

4.3.5 Parental attitude

Participants stated that if parents have a positive attitude towards child labor there is a likelihood that they will allow their children to engage in work which in-turn affect their schooling. Besides, participants stated that parents rarely follow-up at school which give children an opportunity to miss school. Results are similar to a research by [10] who found that if society perceive children as economic assets children are expected to contribute to the family income.

4.3.6 Peer pressure

Participants stated that children peers may lead them to engage in work. The findings align with what was observed by [2] that peer pressure could lead to migration of children from rural to urban centers in search of paid work.

4.3.7 Policy issues

Participants noted that low implementation of policy measures to deter engagement in child labor has exacerbated the problem in the area. The findings support an argument by [27] that children's work varies based on the context under which they live. Policies that give social protection to children should therefore be enforced to reduce vulnerabilities.

5. CONCLUSIONS

This study assessed factors associated with child labor and as well identified determinants of children's participation in education in public elementary schools of Wolaita zone. From the results, roughly more than three quarters of the sampled households stated that their children engage in paid or unpaid work. This means that child labor is still high in the study area. Using a correlation analysis, the study found that head of households with better education, high income and formal employment (occupation) are less like to let their children engage in child labor. However, household heads who were advanced in age were more likely to let their children engage in paid or unpaid work. Further, the regression analysis found that households with

more children attending school were likely to allow those in elementary school to attend school regularly, but the same cannot be implied for those in middle school. Besides, the perception of the household head regarding household needs determine the decision to send the child to school or not. Such decisions as shown in the results include; households' economic standing, health care needs, employment opportunities, and lack of responsible adults in the household (orphaned, divorced/separated). Enforcement in the implementation of policies that protect children rights to reduce vulnerabilities was found to be lacking in this part of the zone. To break the vicious cycle of poverty in the study area, more research is needed on parental involvement in child labor, as well as strategies that could reduce children involvement in paid or unpaid work during school time.

CONSENT

Participant's written and informed consent were collected and preserved by the authors.

ETHICAL APPROVAL

The researchers ensured all ethics for conducting research were followed.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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