

Article

# School attendance of child labor: A pilot survey in Gaibandha district of Bangladesh

Mazharul Islam<sup>1</sup>, Nazrul Islam<sup>2\*</sup>, Mondal, Ayub Ali<sup>1</sup> and Mahfuzar Rahman<sup>2</sup>

<sup>1</sup>Department of Statistics University of Rajshahi, Rajshahi-6205, Bangladesh.

<sup>2</sup>Department of Population Science and Human Resource Development, University of Rajshahi, Rajshahi-6205, Bangladesh.

Accepted 24 January 2009

The purpose of this study is to examine the impact of some selected determinants on school attendance of child laborers in Bangladesh. For this, the data were collected from 1157 child laborers of Gaibandha district, using purposive sampling technique based on the scheduled questionnaire. To analyze the collected data, univariate analysis,  $\chi^2$ -test statistic and logistic regression technique are used respectively. The results have been revealed that 63.80% child laborers have completed their primary level education and 70.80% child laborers have left school at age (5 - 17) years. Also, it is found that 80.80% child aged from 5 to 17 years were not going to school but 79.80% child laborers have interest to go to school. The effect of respondents' age, working hour per day and working place on school attendance was found to be negative while educational qualification of father and father alive has positive significant effect on school attendance. The interesting point is that mother's education has strong impact than father's education. Poverty was found to be the major cause of child labor to leave their school. Long-time work of the child labor revealed fewer attendants to the school. It is evident from the study that children of large families are more vulnerable to less schooling. Finally, this paper provides some suggestive policy measures which may be very effective to increase school attendance of the child laborers.

**Key words:** Child labor, school attendance,  $\chi^2$ -test, logistic regression.

## INTRODUCTION

Child labor refers to any type of intensity of work that hampers children's access to education, damages their physical or psychological health, hinders their development within their families or deprives them of their childhood or self-respect. Child labor is most concentrated in Asia and Africa. There are at least 250 million working children worldwide under the age of 15 years. One half of the working children are in Asia, while in Africa, the working children are one third and in the Latin America, they are one fifth. Asia is led by India, which has 44 million child laborers giving the largest child workforce in the world. Nearly 70.00% of these children work in hazardous condition in mines, with chemicals and

pesticides in agriculture or with dangerous machinery (Sikder, 2003). Bangladesh, with a population of over 149 million (PRB, 2007), is one of the densely populated and low-income countries in Asia and is characterized by extreme income inequality, rapid population growth, frequent occurring natural disasters and a poverty stricken rural based economy inhabited by 74.40% of total population (World Bank, 2006). A report reveals that in Bangladesh, there are 7.00% child labor of both sexes of total population in the age group of 5 - 14 years and the boys and girls are 10.00% and 4.00% respectively (UNICEF, 2007). According to National Child Labor Survey (NCLS) (2003), there are 14.20% child laborers of the total 35.06 million children in the age group of 5 - 14 years in Bangladesh. The total working child population between 5 and 17 years old is estimated at 7.90 million where the boys and girls are 73.50 and 26.50% respectively. This report

\*Corresponding author. E-mail: [nazrul\\_ru@yahoo.com](mailto:nazrul_ru@yahoo.com).

also reveals that the child labor aged 5 - 17 years in rural and urban areas are 6.40 and 1.50 million respectively (BBS, 2003). The prevalence of child labor may lead to a large proportion of illiterate population of the country and which is the major barricade of development. Khanam (2008) showed that the education of parents significantly increases the probability that a school-age child will specialize in study. Mamun et al. (2008) found the impact of some key factors on health condition of the child laborers during working. The significant and positive gender coefficient suggests that girls are more likely than boys to combine schooling with work. Khanam (2006) showed that work has a substantial negative effect on child's school attendance and schooling progress. She also found that parental education has much significant effect on schooling progress than current school enrollment. Gunnarsson et al. (2004) argued that an employed child may be enrolled at the same time and even could attend school by sacrificing his/her leisure. But still child work has considered the potential to harm child's school outcomes by limiting time spent on study or leaving the child too tired to make efficient use of time in school.

Though different study has been done on child labor in Bangladesh, the factors of low school attendance have not been actively investigated and properly analyzed. So, the aim and objective of this article is to identify the risk factors and impact of these risk factors on the school attendance of child laborers as well as to provide some recommendations. Undoubtedly, the findings of this study will help to identify the risk factors of low school attendance among child laborers that will also be very helpful to policy makers to take necessary steps in this regard and for which it is believed that the overall school enrollment rate will increase.

## DATA AND METHODS

The data of size 1157 child laborers through purposive sampling technique by a structured questionnaire were collected from the Gaibandha district of Bangladesh. In order to show the association among the selected variables, the chi-square test has been performed. An interesting method that does not require any distributional assumptions concerning explanatory variables is Cox's linear logistic regression model (1970). Logistic regression model can be used not only to identify risk factors but also to predict the probability of success, which considered as a dichotomous dependent variable *Y*. It takes the value 1 when the child laborers still going to school and when the child laborers are not going to schools. In this model, the following explanatory variables are being used.

**Demographic variables:** Age of the respondents, father and mother alive, and family size.

**Socio-economic variables:** Salary of the respondents, working hour per day, place of work, occupation of household head, educational attainment of fathers and mothers, and working since (years).

## RESULTS AND DISCUSSION

### Univariate analysis

From Table 1, it is seen that out of total child workers, 81.80% are males and 18.20% are females. The study proclaims greatest shares (90.90%) of Muslim and only 9.10% are non-Muslims child laborers. Age is measured by the number of completed years at last birthday. In the same Table, it is seen that the vulnerable age structure of child labor with 30.50% between 5 and 11 years, 54.70% between 12 - 14 years and the rest of them between 15 - 17 years. Among the respondents 80.00% were enrolled in school. But they have been asked about current attendance at schools, only 19.20% reported that they were still going to school and 80.80% have already dropped out. Among the respondents who have left school, 81.50% reported 'poverty' as the main cause behind leaving school. In this collected sample, 63.80% have obtained primary education. While only 11.80% have completed class VI or more. Though the working children have very little time to go to school, 79.80% expressed their willingness to go to school. It is observed that most of child labor enforced by poverty (64.00%) and one fourth (25.10%) of the respondents mentioned 'family pressure' as the main cause for becoming a child labor. Working children are the objects of extreme exploitation in terms of toiling for long hours with minimal pay. The results show that about 36.00% of the respondents work 10 - 14 h per day, which is obviously hazardous to them. It is a matter of regrets that 8.00% of the respondents work 15 or more hours per day. Though they have to work for a long time without any rest, they get a very small payment. Some of them work only for food. More than one fourth (27.70%) of the respondents get no salary for their work. While 40.20% reported their salary within 1000 Tk. per month. As the earning of child labor is very little, they can hardly save any money. More than four fifth (83.10%) child labor reported that they can not save any money. Drug addiction is one of the serious social problems in Bangladesh. It is also seen in the study area. If a child becomes drug addicted, he can't continue his normal life and must be out of work. The study found a considerable number (35.00%) of respondents' addiction in cigarette. Recreation is an important thing for the physical and mental development of a child. But the working children get very little opportunity for this. The study depicts that 97.40% of the respondents get the opportunity to play regularly. About three fourth (73.90%) of the respondents reported television as the main media of entertainment. It is found very low awareness level among the child labor and the results reveal that one fourth (23.80%) of the respondents do not know that government provides free primary education in our country. About 43.90% do not know about the allowance provided by government for girls at high school level education. About 80% of the respondent have no idea about

**Table 1.** Percentage Distribution of Child Laborers According to Some Selected Socio-economic, Demographic and Schooling Characteristics.

Background characteristics	No. of respondents	Percentage	Background characteristics	No. of respondents	Percentage
<b>Educational qualification</b>			<b>Kind of addiction</b>		
No education	283	24.40	Cigarette	405	35.0
Primary	738	63.80	Ganja	15	1.3
Secondary+	136	11.80	Injecting drug	1	0.1
<b>Causes of child labor</b>			<b>None</b>	<b>736</b>	<b>63.6</b>
Willingly	113	9.80	<b>Ownership of work place</b>		
For family	290	25.10	Family	139	12.0
Poverty	741	64.0	Others	1018	88.0
Step mother/father	8	0.70	<b>Known about free primary school</b>		
<b>Place of work</b>			Yes	882	76.2
Shop	207	17.90	No	275	23.8
Home	97	8.40	<b>Known about prohibited child labor</b>		
Workshop	94	8.10	Yes	232	20.1
Hotel	163	14.10	No	925	79.9
Agriculture	124	10.70	<b>Causes behind leaving school</b>		
Chatal	26	2.20	Poverty	769	81.5
Mill/Factory	403	34.80	Lack of time	29	3.1
Others	43	3.8	Lack of interest	43	4.6
<b>Religion</b>			Parent's lack of interest	87	9.2
Muslim	1052	90.9	Others	15	1.6
Non-Muslim	105	9.10	<b>Educational attainment of mothers</b>		
<b>Sex</b>			No education	965	83.4
Male	947	81.80	Primary	167	14.4
Female	210	18.20	Secondary+	25	2.2
<b>Age</b>			<b>Occupation of household head</b>		
5-11 years	353	30.50	Agriculture	242	20.9
12-14 years	633	54.70	Business	185	16.0
15-17 years	171	14.80	Day labor	521	45.0
<b>Working since (years)</b>			Others	209	18.1
≤ 1	496	42.90	<b>Salary of respondents (TK.)</b>		
2-4	559	48.30	No salary	321	27.7
5-7	83	7.20	1-1000	465	40.2
8+	19	1.60	1001-2000	286	24.8
<b>Enjoy the work</b>			2001-3000	78	6.7
Yes	110	9.50	3001+	7	0.6
No	1047	90.50	<b>Play of regularity</b>		
<b>Mother alive</b>			Yes	30	2.6
Yes	1118	96.60	No	1127	97.4
No	39	3.40	<b>Willingness to go to school</b>		
<b>Household head</b>			Yes	923	79.8
Father	1035	89.5	No	234	20.2
Mother	89	7.7	<b>Types of family</b>		
Brother	26	2.2	Single	1053	91.0
Others	7	0.6			

Table 1. Continued....

<b>Fathers education</b>			Combine	104	9.0
No education	814	70.3	<b>Media of entertainment</b>		
Primary	276	23.9	TV	855	73.9
Secondary+	67	5.8	Radio	149	12.9
<b>Monthly saving (TK.)</b>			Cinema	118	10.2
No saving	961	83.1	Others	35	3.0
≤ 250	121	10.5	<b>Working hour per day</b>		
251-500	70	6.1	<5 hours	208	18.0
501-750	3	0.2	5-9 hours	439	37.9
<b>Household monthly income (TK.)</b>			10-14 hours	417	36.1
Up to 1000	91	7.9	15+ hours	93	8.00
1001-2000	494	42.7	<b>Enrolled in school</b>		
2001-3000	501	43.3	Yes	926	80.0
3001-4000	55	4.8	No	231	20.0
4001-5000	11	1.0	<b>Family size</b>		
5001-6000	3	0.2	1-4	239	20.7
6000+	2	0.1	5-7	767	66.3
<b>Left school since</b>			8-10	142	12.2
6 Months	74	10.3	10+	9	0.8
1 Year	136	18.9	<b>Fathers alive</b>		
More	509	70.8	<b>Still going to school</b>		
Yes	1036	89.5	Yes	222	19.2
No	121	10.5	No	935	80.8
<b>Total</b>	<b>1157</b>	<b>100.00</b>	<b>Total</b>	<b>1157</b>	<b>100.00</b>

the prohibited child labor. While working with child labor, it is very important to have sufficient information on household characteristics of working children. Table 1 also reveals that 89.50% of the child laborers reported their father as household head. The combined family system is decreasing and most of the respondents (91.00%) are from the single family as well as 66.30% child laborers come from large family size as 5 - 7. The occupation of the head of household is an important element to carry the family. Day labor seems to be dominant (45.00%) among the various occupational categories of the head household. About 43.30% of the child laborers reported that the per month income of their household head is between Tk. 2001 and 3000 and 42.70% reported between Tk. 1001 and 2000. At the same time, 7.90% reported that their head of household do not earn more than Tk. 1000 per month. In Table 1, it has also been discussed about some parental characteristics. The results indicate that 89.50% of the respondents were reported that their fathers are alive and in case of mothers, this number is 96.60%. Table 1 also represents some important figures about the educational attainment of parents, which is a remarkable determinant of child labor. About 70.40% of the respondents reported that their fathers are illiterate while 83.40% of the respondents reported that their

mothers are illiterate.

### Bivariate analysis

To see the association between school attendance of the child laborers and various selected background characteristics, a well-known statistical tool namely- Pearson chi-square test procedure is used and the results are presented in Table 2. The results reveal that there are significant variations in school attendance among the respondents with different socio-economic and demographic characteristics. Among the selected background characteristics – age of the respondents, working hour per day, family size, working place belongs to, salary of the respondents (TK.), occupation of household head, father alive, educational attainment of fathers, and mothers are significantly associated with the school attendance of the child laborers.

### Logistic regression analysis

Table 3 represents the results of logistic regression analysis in terms of regression coefficients, standard error of coefficients, significant level and odds ratio.

**Table 2.** Results of association between school attendance and some selected attributes.

Background Characteristics	Still going to school		Values of $\chi^2$ , df and $\alpha$
	No (%)	Yes (%)	
<b>Age of the respondents</b>			$\chi^2 = 30.670$
5 – 11 years	71.4	28.6	df = 2
12 – 14 years	84.0	16.0	$\alpha = 0.000$
15 – 17 years	88.3	11.7	
<b>Working hour per day</b>			$\chi^2 = 500.307$
<5 h	27.4	72.6	df = 3
5 - 9 h	84.5	15.5	$\alpha = 0.000$
10 – 14 h	99.5	0.5	
15+ h	98.9	1.1	
<b>Family size</b>			$\chi^2 = 25.544$
1 – 4	70.7	29.3	df = 3
5 – 7	82.1	17.9	$\alpha = 0.000$
8 – 10	89.4	10.6	
10+	100	0.0	
<b>Working place belongs to</b>			$\chi^2 = 10.827$
Family	70.5	29.5	df = 1
Others	82.2	17.8	$\alpha = 0.001$
<b>Salary (Tk.)</b>			$\chi^2 = 54.035$
No salary	69.2	30.8	df = 4
1 – 1000	71.4	28.6	$\alpha = 0.000$
1001 – 2000	80.7	19.3	
2001 – 3000	84.6	15.4	
3001+	88.2	11.8	
<b>Working since (years)</b>			$\chi^2 = 3.438$
≤ 1	81.7	18.3	df = 3
2 – 4	79.1	20.9	$\alpha = 0.329$
5 – 7	85.5	14.5	
8+	89.5	10.5	
<b>Occupation of household Head</b>			$\chi^2 = 20.780$
Agriculture	87.2	12.8	df = 3
Business	75.1	24.9	$\alpha = 0.000$
Day labor	83.1	16.9	
Others	72.7	27.3	
<b>Fathers alive</b>			$\chi^2 = 21.980$
No	96.7	3.3	df = 1
Yes	79.0	21.0	$\alpha = 0.000$
<b>Mothers alive</b>			$\chi^2 = 1.055$
No	87.2	12.8	df = 1
Yes	80.6	19.4	$\alpha = 0.304$
<b>Educational attainment of fathers</b>			
No education	89.6	10.4	$\chi^2 = 137.57$
Primary	61.6	38.4	df = 2
Secondary+	53.7	46.3	$\alpha = 0.000$
<b>Educational attainment of Mothers</b>			$\chi^2 = 89.709$
No education	84.8	15.2	df = 2
Primary	67.1	32.9	$\alpha = 0.000$
Secondary+	20.0	80.0	

Note: df means degrees of freedom.

**Table 3.** Logistic regression estimates for the effect of some selected variables on school attendance of the child laborers

Variables	Coefficients ( $\beta$ )	S. E. of Coefficients	Significance	Odds ratio
<b>Age of the respondents</b>				
5 – 11years (r)	-	-	-	1.000
12 - 14 years	-0.804	0.260	0.002	0.448
15 - 17 years	-1.473	0.482	0.002	0.229
<b>Salary (Tk.)</b>				
No Salary (r)	-	-	-	1.000
1 - 1000	-0.560	0.413	0.176	0.571
1001 - 2000	-0.356	0.444	0.423	0.701
2001-3000	-0.535	0.572	0.349	0.586
3000+	-0.611	0.304	0.271	0.542
<b>Working hour per day</b>				
<5 h(r)	-	-	-	1.000
5 – 9 h	-3.182	0.291	0.000	0.041
10 - 14 h	-5.686	0.075	0.000	0.003
15+ h	-6.519	0.763	0.000	0.001
<b>Working since (years)</b>				
$\leq 1$ (r)	-	-	-	1.000
2 – 4	-0.100	0.146	0.154	0.904
5 – 7	-0.152	0.070	0.072	0.859
8+	-0.437	0.281	0.143	0.024
<b>Family size</b>				
1 - 4(r)	-	-	-	1.000
5 - 7	-0.699	0.449	0.120	0.497
8 – 10	-0.735	0.286	0.010	0.480
10+	-0.812	0.217	0.099	0.443
<b>Occupation of house Hold</b>				
Agriculture (r)	-	-	-	1.000
Business	0.336	0.418	0.421	1.400
Day Labors	-0.597	0.416	0.151	0.550
Others	0.408	0.420	0.331	1.504
<b>Working place belongs to</b>				
Family (r)	-	-	-	1.00
Others	-1.389	0.405	0.001	0.025
<b>Fathers alive</b>				
No(r)	-	-	-	1.000
Yes	0.889	0.119	0.002	2.433
<b>Mothers alive</b>				
No(r)	-	-	-	1.000
Yes	-0.499	0.756	0.509	0.607
<b>Educational attainment of fathers</b>				
No education(r)	-	-	-	1.000
Primary	0.802	0.474	0.091	2.229
Secondary+	0.898	0.323	0.005	2.456
<b>Educational attainment of mothers</b>				
No education (r)	-	-	-	1.000
Primary	0.538	0.379	0.124	1.791
Secondary+	1.259	0.741	0.089	3.523

Note: (r) represents reference category.

By using the logistic regression, it has been examined that age of the respondents has a significant and negative impact on the school attendance of the child labor. It is obvious from Table 3 that child labors in the age group 12 - 14 years are 55% less likely and in age group 15 - 17 years is 77% less likely to attending school than those child labors in the age group 5 - 11 years. School attendance of a working child is strongly dependent on how many hours a child works per day. The study results indicate that working hour per day has highly significant and negative influence on school attendance of working children. Those who work 5 - 9 h per day are about 96% less likely to attend school than those who work less than 5 h per day. Again those who work more than 10 h per day are about 99% less likely to attend school than the reference category. This is due to the fact that a child spending more time at work has very little time to go to school. Another significant determinant of school attendance of working children is the ownership of the farm/business institution in which they work. Children working in such workplaces, which do not belong to their families, are 75% less likely to attend school than those who work in family owned workplaces. Orphan hood is an important predictor of schooling of working children. Children with their father alive are 2.43 times more likely to attend school than those with their father dead (reference category). Family size plays a vital role to determine school attendance of working children. Children from the families having 5 - 7 members are about 50% less likely to attend school than those having less than 5 members in their families. Education of parents has shown a large positive effect on school attendance of working children. Fathers having secondary or more education are 2.45 times more likely to send their children to school than illiterate fathers. The greater impact of mother's education on school attendance of working children is to be found than the father's education. The results indicate that mother having secondary or more education are 3.52 times more likely to send their children to school than illiterate mothers.

## Conclusion

It is observed that the socio-demographic conditions of the child laborers and their families' lie at a very lower stage and most of them are very poor. The results of this study clearly indicate that poverty is the main reason for low schooling of working children in the study area. The contingency analysis ( $\chi^2$  test) shows that the factors age of the respondents, their salary, working hour per day, family size, place of work, belong to relatives, occupation of household head, father alive, educational attainment of father and mother are the most significant predictors of the school attendance. The logistic regression model indicates that out of all the selected variables that are included in the analysis age of the respondents, working hour per day, family size, working place, belong to

relatives, father alive and educational attainment of father appeared to be the most important and significant predictors in determining the likelihood of school attendance. It is suggested that with the increase of the working hour level of the respondents, the likelihood of school attendance decreases. Furthermore, the place of work of the child laborers is also closely related to their school attendance, which indicates that the children who are older face more problems to attend school.

## Policy recommendations

It is difficult to improve the schooling condition of working children. For achieving the educational goals, there is no alternative to make the children stay away from labor and let them to spend more time on other activities, especially, schooling. Surprising enough, there is no one simple policy measure to eradicate child labor. It's persistence through two centuries is testimony that there is no easy solution. Yet today, it is understand that much better the causes of child labor and have the opportunity to craft policy that can sharply reduce and ultimately eradicate it. So, the following policy should have taken.

- i.) Policy makers should target the older children who can't continue school for various reasons to influence them to go to school regularly.
- ii.) Long-term strategies that will mostly be related to the parents of the children are needed to alleviate poverty from the society.
- iii.) Children from large families are more vulnerable to less schooling; the FP programs, already in place in some parts of Bangladesh, should be extended and strengthened to doorsteps of the couples.
- iv.) The orphan children who are working many hours per day, food for education program should be extended for them.

## REFERENCES

- BBS (2003). The Second National Child Labor Survey (NCLS), Dhaka, Bangladesh.
- Cox DR (1970). The Analysis of Binary Data. London: Methuen, Chapman and Hall Ltd.
- Gunnarsson V, Orazem PF, Sacher M (2004). Child Labor and School Achievement in Latin America. Working Paper #03023, Iowa State University.
- Khanam R (2008). Child labour and school attendance: evidence from Bangladesh. *Inter. J. Soc. Econ* 35: 77-98.
- Khanam R (2006). Impact of Child Labor on school Attendance and School Attainment Evidence from Bangladesh. *Discipline of Economics, University of Sydney, N.S.W., Australia.*
- Population Reference Bureau (PRB) (2007). World Population Data Sheet, Washington, DC.
- Sikder MAI (2003). Extent, Causes and Elimination of Child Labour and its Consequences: A Test Case of Village Minardia. *Bangladesh Journal of Administration and Management, Volume: 09.*
- UNICEF (2007). The State of the World's Children 2007.
- World Bank (2006). Bangladesh: Country Profile Tables. World Bank