



Primary School Attendance and Completion Among Lower Secondary School Age Children in Uganda

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At the World Education Forum in Dakar in 2000, governments pledged to achieve education for all by 2015. However, if current enrollment trends continue, the number of out-of-school children could increase from current levels. Greater focus is needed on lower secondary school age (13 – 16 years) children. These children are not included in estimates of the number of out-of-school children. It will be difficult to reduce the number of out-of-school children if we continue to overlook children of lower secondary school age. Therefore, using 2006 Uganda Demographic and Health Survey data this study examined school attendance and Grade 5 completion of lower secondary school age children in Uganda. The study found that poverty, low education among heads of households, and disability continue to limit continued access to and progress through school.

Keywords: Sub-Saharan Africa; Uganda; school attendance; school completion

School enrollment in Sub-Saharan Africa has slowed in recent years (UNESCO, 2011). The *2011 EFA Global Monitoring Report* warns, “If current trends continue, there could be as many as 72 million children out of school in 2015 – an increase over current levels.” (p. 40). In 2008, there were an estimated 67 million children out of school; however, these estimates do not include all out-of-school children (UNESCO, 2011). The number of out-of-school children reported and used to monitor progress towards universal education includes only children of primary school age (6 – 12 years). If we expand our definition of “out-of-school children” to include children of lower secondary school age¹ (13 – 16 years), the number of out of school children is significantly higher. The *2010 EFA Global Monitoring Report* acknowledges, “there are some 71 million children of lower secondary school age currently out of school.

Many have not completed a full primary cycle and face the prospect of social and economic marginalization.” (p. 55). Many lower secondary school age children (13 – 16 years) have either dropped out of school or are not progressing smoothly through the education system.

It is important to focus attention on lower secondary school age children for three reasons. First, the number of out-of school lower secondary age children is very large; about 77% of lower secondary age children in sub-Saharan Africa are either out of school or still in primary school (Bruneforth & Wallet, 2010). Many are still in primary school because they delayed school entry and/or repeated grade(s). Delayed school entry and grade repetition are still prevalent in sub-Saharan Africa (Glewwe & Jacoby, 1995; Lloyd & Blanc, 1996; Fentiman, Hall, & Bundy, 1999; Bommier & Lambert, 2000; Wils, 2004; Ainsworth, Beegle, & Koda, 2005;

¹The official lower secondary school ages in Uganda are 13 to 16 (ISCED, 1997).
<http://www.uis.unesco.org/Education/ISCEDMappings/Pages/default.aspx>

Brophy, 2006; Ndaruhutse, 2008; Grogan, 2009; Hungi, 2010; Moyo, 2010, 2011).

Second, the pressure to drop out of school is much higher among older children because of the higher cost of secondary school, the additional household responsibilities, and the increased risk of pregnancy (Lloyd & Blanc, 1996; Colclough, Rose, & Tembon, 2000; Vespoor, 2008). Finally, out-of-school children will grow into functionally illiterate adults (UNESCO, 2010). These adults are unlikely to secure employment; this will lead to another generation of out-of-school children because household access to resources is crucial to the schooling of children (Colclough & Lewin, 1993; Lloyd & Blanc, 1996). UNESCO (2010) argues that one of the reasons technical and vocational education has not reached more people is that few children reach secondary school.

Since countries face different challenges in providing education, it is important to understand the school participation patterns of lower secondary school age children in different national contexts if we are to design effective policy interventions. Policy makers, researchers, and other stakeholders need to identify vulnerable children and monitor their progress. This paper uses the 2006 Uganda Demographic and Health Survey (UDHS) to examine school attendance and Grade 5 completion of lower secondary school age (13 – 16 years) children in Uganda. The paper seeks to extend our knowledge of the school attendance and primary school completion patterns of lower secondary school age children in Uganda.

Schooling in Uganda

After independence from Britain in 1962, Uganda experienced a period of peace and stability; however, a 1971 coup by Idi Amin ushered in a period of political instability, economic decline and social disintegration. The Amin years and the subsequent civil wars significantly reduced government spending on education. The World Bank (1993) found that, “by 1985 government expenditure on education and health, in real terms, amounted to about 27 percent and 9 percent respectively of the 1970s levels.” (p. 3).

In 1986, Yoweri Museveni came to power and brought some stability to Uganda. In 1987, the government established the Education Policy Review Commission (EPRC) to examine the state of education and recommend measures to improve the sector. The EPRC recommended the government provide free universal primary education by 2000 (Ministry of Education and Sports, 1999). However, the free universal primary education policy was implemented in 1997.

Under the free education policy the government paid teachers’ salaries, bought instructional materials, built basic physical facilities in schools, and paid tuition fees for four children per family (Ministry of Education

and Sports, 1999). The policy was amended in 2003 to benefit all children in a family. The elimination of tuition fees increased enrollment by 58% from 3,068,625 in 1996 to 5,303,564 in 1997 (Ministry of Education and Sports, 1999). The Ministry of Education and Sports (1999) reported that Gross Enrollment Rate (GER), “jumped from 77% in 1996 to 137% in 1997 and the figures for Net Enrollment Rate (NER) went up from 57% in 1996 to 85% in 1997.” (p. 11). The increase in the number of children attending school was especially evident in poor households (Deiningner, 2003).

Unfortunately, the growth student enrollment outpaced the growth in teachers and schools. In 1980, there were 305 children for every school, but this number increased to 722 children for every school in 1999 (Ministry of Education and Sports, 1999). The Ministry of Education and Sports (1999) further reported that, “pupil-teacher ratio changed from 37.62 in 1996 to 51.83 in 1997 and continued to decline to 63.63 in 1999.” (p. 12).

A Brief Review of the Obstacles to Schooling in sub-Saharan Africa

Sub-Saharan Africa lags behind the world in educational enrollment and attainment. UNESCO (2010a) describes the reasons children are out of school as, “the product of a mixture of inherited disadvantage, deeply ingrained social processes, unfair economic arrangements and bad policies.” (p. 10). Many children in the region are victims of extreme poverty, geographic isolation, discrimination (based on ethnicity, language and disability), HIV and AIDS, corruption and ineffective use of resources and conflict (Caillods, Phillips, Poisson, & Talbot, 2006; UNESCO, 2010a).

Household poverty is one of the biggest obstacles to school participation. Whether or not a child is sent to school depends on the direct and indirect costs to the household (Bommier & Lambert, 2000; Chernichovsky, 1985; Colclough & Lewin, 1993; Lloyd & Blanc, 1996; UNESCO, 2005). Children who live in the poorest households are more likely to be out of school than those in the richest households (Lloyd & Blanc, 1996; UNESCO, 2005, 2010a).

Why do the poor have limited access to school? First, poor households have fewer resources to invest in their children’s education. The school fees, textbooks and uniforms are some of direct costs that poor households cannot afford. Even with free education, some households cannot afford to let children attend school because they are needed at home to care for younger siblings or work to supplement household income. Older children are more likely to work because they are more physically developed, can obtain higher wages, and face higher schooling costs.

Second, schools may not be easily accessible for some poor households. For example, the *World Development Report 2004* found that, “In rural Nigeria,

children from the poorest fifth of the population need to travel more than five times farther than children in the richest fifth to reach the nearest primary school, and more than seven times farther to reach the nearest health facility.” (p. 21). Even if the schools are available, they are often of poor quality due to poor policies and/or corruption (World Bank, 2004; Caillods et al., 2006; Okech, Mutisya, Ngunwe, & Ezech, 2010; Bruns, Filmer, & Patrinos, 2011). Bruns et al. (2011), in a study of six African countries, found that, “more than 30 percent of education spending benefited the richest 20 percent, while only 8 to 16 percent benefited the poorest 20 percent.” (p. 7).

Besides household poverty, some children are out of school because they face discrimination based on gender, ethnicity, race or culture. Progress towards gender parity has been slow and uneven (UNESCO, 2009, 2003/4). With few exceptions, UNESCO (2003/4) reports that, “the lower a country’s primary enrolment ratio, the greater the proportionate inequality between male and female enrolments. In the great majority of cases, such inequality is to the disadvantage of girls.” (p. 117). In some countries girls are married off early and those who remain at home are expected to perform household chores to support the household. Gender discrimination in education is in part rooted in religious and cultural beliefs that determine different roles for girls and boys. For example, pastoralist groups rely on their girls for domestic chores and the boys for tending livestock. The Karamojong of Uganda, like many pastoralist groups, struggle to educate their children in a school system that is unresponsive to their nomadic lifestyle (Krätli, 2006).

Children living in urban slums, rural areas, and conflict regions are also disadvantaged. Slum dwellers are forced to attend poor quality public or private schools (Okech et al., 2010). Rural areas have to contend with poor quality schools, poor infrastructure, and greater concentrations of poverty that make it difficult for children to attend school (World Bank, 2004; UNESCO, 2010b; Bruns et al., 2011).

Conflict is a significant obstacle to schooling. Conflict diverts resources away from the education sector (World Bank, 2003). In sub-Saharan Africa, 10 of the 17 countries that experienced declines in education enrollment in 1990s were countries recovering from or still in conflict (Caillods et al., 2006). The impact of conflict falls disproportionately on the poor and girls (Kirk, 2003; UNDP, 2005). For example, about 2 million of the approximately 3.5 million out of school 6 to 11 year old children in the Democratic Republic of Congo are girls (Kirk, 2003).

Many children also do not attend or fully

participate in school because they have some form of disability. UNESCO (2010b) describes disability as, “one of the least visible but most potent factors in educational marginalization.” (p. 181) Many disabled children never enter school, when they do they make slow progress and eventually drop out.

The review highlights the complexity of schooling; the factors that affect schooling are interrelated and require interventions at all levels – the household to the national level.

Methodology

Data

This study used the 2006 Uganda Demographic and Health Survey (UDHS) data to examine the school attendance and Grade 5 completion of lower secondary school age children in Uganda. The 2006 UDHS is a nationally representative survey with a sample of 9,864 households. One of the objectives of the 2006 UDHS was to measure key education indicators including school enrollment, attendance, repetition, and dropout rates. The other objectives of the survey were to provide policymakers and researchers with detailed information on reproductive health; fertility and family planning; adult and child mortality; maternal and child health; and domestic violence.

The sample was selected in two stages. First, 368 clusters were selected from a list of clusters sampled in the 2005-2006 Uganda National Household Survey and internally displaced peoples (IDPs). Second, households in each cluster were selected – both randomly and purposively. Because respondents were chosen with differing probabilities, the data was weighted to obtain unbiased estimates of the parameters of interest for this study. The standard errors of the estimates and regression parameters were corrected for the use of cluster sampling II using the SURVEY command in the STATA software package.

Descriptive Statistics

Uganda uses a 7-4-2-3 system of education; seven years of primary school, four years of lower secondary school, two years of high school, and three years of tertiary. The official age of school entry is 6; therefore 6-12 years (primary school), 13-16 years (lower secondary school), 17-18 years (high school) and 19-21 years (tertiary). The sample used in the study consisted of 4,695 children aged 13 – 16 years². To determine whether or not a child had enrolled and attended school respondents were asked the following questions: *Has (NAME) ever attended school? Did (NAME) attend school at any time during the 2006 school year?* They were asked the second question if they reported they had attended school. Surprisingly, the gender gap was larger

²The official lower secondary school ages in Uganda are 13 to 16 (ISCED, 1997).
<http://www.uis.unesco.org/Education/ISCEDMappings/Pages/default.aspx>

Table 1
School Participation of Rural/Urban Children by Age and Gender

	GIRLS				BOYS			
	Attending school	Dropped out	Never enrolled	Total	Attending school	Dropped out	Never enrolled	Total
RURAL								
13	91.42	4.91	3.67	100	93.01	4.06	2.93	100
14	88.10	9.00	2.90	100	90.32	7.19	2.48	100
15	81.42	16.00	2.59	100	80.95	15.89	3.16	100
16	68.19	27.92	3.89	100	72.50	25.10	2.40	100
Total	83.66	13.08	3.26	100	85.24	12.02	2.74	100
URBAN								
13	89.88	7.47	2.65	100	98.75	0.00	1.25	100
14	84.94	15.06	0.00	100	93.57	4.86	1.57	100
15	80.51	19.49	0.00	100	81.38	17.01	1.61	100
16	76.14	22.59	1.27	100	83.95	11.69	4.36	100
Total	83.43	15.40	1.17	100	89.70	8.25	2.05	100

in urban areas. About 13% of rural girls and 23% of urban girls reported they had dropped out of school compared to 12% of rural boys and 8% of urban boys. About 3% of rural girls and boys and about 1 – 2% of urban girls and boys had not yet enrolled in school. If they do enroll, research shows they are more likely to repeat grades and drop out before completing the school cycle (Colclough & Lewin, 1993; Fentiman et al., 1999; Glewwe & Jacoby, 1995; UNESCO, 2005; Wils, 2004).

Second, there was a sharp increase in the proportion of urban and rural children who drop out of school after age 14; however, urban girls reported a sharp increase from age 13. The dropout rate was highest among rural 16 year-old-children, where about 28% of rural girls and 23% of urban girls reported they had dropped out of school compared to 25% of rural boys and 12% of urban boys. On average over 80% of the children in the sample reported they attended school.

In poor countries, like Uganda, with limited ability to enforce compulsory schooling laws, households play a key role in the timing and duration of school participation (Colclough & Lewin, 1993; Lloyd & Blanc, 1996). Therefore, Table 2 presents school participation by household factors: child’s relationship to the head,

education level of the head of household, wealth quintiles, and region of residence. Table 2 shows that heads of households were more altruistic towards their own children or close relatives. Children who reported they were not related to the head of the household were the most disadvantaged; about 65% of girls and about 64% of boys had dropped out; compared to about 9% for children of the head of household. It is possible that those children who were not related to the head of household resided in these households to provide domestic labor.

Households with an uneducated head had the highest proportion of out-of-school children; about 25% of the children in these households were out of school. The higher the education level of the head of household; the lower the proportion of out-of-school children. This survey did not collect information on household income, but they used information on household assets to create an index representing the wealth of the households. Household wealth is positively associated with greater demand for education. Children from households in the lowest wealth quintile faced significant disadvantage; about 12% of girls and 10% of boys reported they had not yet enrolled in school; compared to about 1% of girls and boys in the wealthiest quintile.

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Table 2
Household Characteristics and School Participation

	GIRLS				BOYS			
	Attending school	Dropped out	Never enrolled	Total	Attending school	Dropped out	Never enrolled	Total
Relationship to the head of household								
Son/daughter	87.25	9.45	3.30	100	88.39	8.78	2.82	100
Adopted/foster	89.41	8.69	1.90	100	93.61	4.72	1.66	100
Grandchild	85.31	12.36	2.33	100	83.87	13.65	2.48	100
Other relative	76.08	21.82	2.10	100	81.07	17.52	1.41	100
Unrelated	29.19	64.65	6.16	100	25.11	64.27	10.62	100
Total	83.62	13.40	2.98	100	85.73	11.60	2.67	100
Education of the head of household								
No education	75.28	15.93	8.79	100	76.48	15.02	8.50	100
Incomplete primary school	83.73	14.10	2.18	100	83.98	14.46	1.56	100
Completed primary school	90.96	7.34	1.70	100	92.03	7.61	0.36	100
Incomplete secondary school	92.63	7.37	0.00	100	93.50	5.87	0.63	100
Secondary+	95.46	9.04	0.50	100	96.49	3.51	0.00	100
Total	83.71	13.34	2.95	100	85.67	11.73	2.60	100
Household wealth								
Poorest	69.31	18.85	11.84	100	80.54	9.83	9.63	100
Second poorest	82.37	14.11	3.52	100	84.55	13.90	1.56	100
Middle	84.23	14.40	1.37	100	85.04	13.21	1.75	100
Richer	92.49	7.37	0.14	100	85.09	14.18	0.73	100
Richest	92.33	6.90	0.77	100	92.10	6.82	1.08	100
Total	83.63	13.40	2.98	100	85.73	11.60	2.67	100
Region								
Central 1	83.86	13.87	2.27	100	79.61	19.94	0.45	100
Central 2	87.82	11.54	0.64	100	87.86	11.40	0.74	100
Kampala	79.93	18.52	1.55	100	91.73	5.83	2.43	100
East Central	88.34	9.90	1.76	100	89.87	9.42	0.71	100
Eastern	92.51	6.99	0.50	100	91.79	7.61	0.60	100
North	70.79	16.26	12.94	100	82.07	7.85	10.07	100
West Nile	82.96	14.06	2.97	100	89.59	10.05	0.36	100
Western	84.96	13.64	1.39	100	84.38	14.16	1.46	100
Southwest	82.60	17.15	0.25	100	81.83	14.32	3.85	100
Total	83.63	13.40	2.98	100	85.73	11.60	2.67	100

It is also important to look at regional patterns of enrollment because, like other countries in the region, Uganda is likely to have differences in resources and infrastructure between administrative regions. Furthermore, since the current government came to power in 1986, there have been internal conflicts in Northern Uganda. In 2004, the United Nations described the situation in Northern Uganda as, “the world's worst humanitarian crisis.”³ The UDHS data break down the 4 regions of Uganda into 9 sub-regions: Central – Central 1, Central 2 and Kampala; Eastern – East Central and Eastern; Northern – North and West Nile; Western – Western and Southwest. The Northern region had the highest proportion of 13 – 16 year old children who reported they had never enrolled in school; about 13% of girls and 10% of boys had not yet enrolled in school. The Northern region was the only region where the proportion that had never enrolled was greater than the proportion that had dropped out of school. This supports the finding from previous research that majority of out-of-school children in regions that experience armed conflict have never enrolled in school (Lewin, 2009).

Armed conflict has a negative impact on schooling (World Bank, 2003). Children from the conflict-affected Northern Uganda faced significant disadvantages. For example, about 30% of the children come from households where the head had no education and about 57% came from households in the lowest wealth quintile; compared to the Central 1 where about 15% came from households where the head had no education and 5% in the lowest quintile.

Tables 1 and 2 indicate that rural girls, poor children, Northerners, and rural children had less access to school. Another big but less visible obstacle to schooling is disability. UNESCO (2010b) notes that, “Beyond the immediate health-related effects, physical and mental impairment carries a stigma that is often a basis for exclusion from society and school.” (p. 181). Table 3 presents children’s disability (difficulties with seeing, hearing, walking or climbing stairs, in remembering or concentrating, in self-care, and in communicating) and school participation.

According to the UDHS report (2007) the questions used to determine disability were,

based on a tool that was being developed by the UN Washington Group on Disability Statistics (WG). The WG is one of several City Groups formed under the auspices of the United Nations Statistical Commission, and it is mandated to develop tools to measure disability in censuses and sample surveys.

The WG’s questions focus on a person’s functional abilities rather than physical characteristics. (p. 22)

Therefore, to determine disability respondents were asked the following questions:

Does (NAME) have difficulty seeing, even if he/she is wearing glasses? Does (NAME) have difficulty hearing, even if he/she is using a hearing aid? Does (NAME) have difficulty walking or climbing steps? Does (NAME) have difficulty remembering or concentrating? Does (NAME) have difficulty (with self care such as) washing all over or dressing, feeding, toileting etc.? Does (NAME) have difficulty communicating, (for example understanding others or others understanding him/her) because of a physical, mental or emotional health condition?

About 12% of children aged 13 – 16 years reported they had some form of disability. Table 3 shows that a higher proportion of children with some form of disability were out-of-school. The most disadvantaged were those with difficulty with self-care, and communicating. For example, about 35% of children with a lot of difficulty with self-care and 40% of children with a lot of difficulty communicating had never enrolled in school; however, only 3% of children without a disability had never enrolled in school. The highest school rates were found among the physically disabled children; about 67% were attending school compared to about 38% of those who faced with a lot of difficulty communicating or self-care. Table 3 indicates that the more severe the disability the greater the proportion of out-of-school children.

Table 1 showed an increase in the dropout rate after age 14. If these children remained out of school they more likely to be poor. The extent of the poverty would partly depend on the quantity and quality of education they received before dropping out. Table 4 presents the proportion of children who reported they had completed Grade 5 by gender and rural/urban residence. Successful completion of Grade 5 is often taken as the threshold for acquisition of literacy and numeracy (UNESCO, 2005). All respondents who reported they had enrolled in school were asked the following questions: *What is the highest level of school (NAME) has attended? What is the highest grade (NAME) completed at that level?* Less than a third of children between 13 – 16 years have successfully completed Grade 5. A closer look at Table 4 indicates that a greater proportion of girls had completed Grade 5; this was the case in rural and urban areas. In rural areas about 27% of girls and 26% of boys had completed the Grade 5; in urban areas about 54% of girls and 52% of boys had completed Grade 5.

³“Top UN relief official spotlights crisis in northern Uganda,” UN News Service (11 November 2004). Retrieved from: <http://www.un.org/news/dh/pdf/english/11112004.pdf>

Table 3
Child Disability and School Participation

	Attending school	Dropped out	Never enrolled	Total
Difficulty seeing even with glasses				
No difficulty	75.15	21.60	3.24	100
Yes - some difficulty	77.76	20.33	1.91	100
Yes - a lot of difficulty	56.11	27.95	15.94	100
Difficulty hearing even with hearing aid				
No difficulty	75.19	21.69	3.13	100
Yes - some difficulty	80.64	17.36	2.00	100
Yes - a lot of difficulty	54.91	24.49	20.60	100
Difficulty walking or climbing stairs				
No difficulty	75.21	21.58	3.20	100
Yes - some difficulty	74.76	23.64	1.60	100
Yes - a lot of difficulty	71.52	11.82	16.66	100
Difficulty remembering or concentrating				
No difficulty	75.56	21.39	3.04	100
Yes - some difficulty	74.46	22.16	3.38	100
Yes - a lot of difficulty	41.78	36.86	21.36	100
Difficulty with self-care				
No difficulty	75.25	21.61	3.14	100
Yes - some difficulty	83.98	9.57	6.45	100
Yes - a lot of difficulty	34.16	26.74	39.11	100
Difficulty communicating				
No difficulty	75.60	21.44	2.97	100
Yes - some difficulty	63.32	31.71	4.97	100
Yes - a lot of difficulty	34.71	24.82	40.47	100

Table 4
Proportion of Rural/Urban Children who have Completed Grade 5 by Age and Gender

	GIRLS			BOYS		
	Grade 5 incomplete	Grade 5 completed	Total	Grade 5 incomplete	Grade 5 completed	Total
RURAL						
13	90.57	9.43	100	90.51	9.49	100
14	76.12	23.88	100	79.33	20.67	100
15	65.49	34.51	100	67.74	32.26	100
16	49.39	50.61	100	53.00	47.00	100
Total	72.76	27.24	100	74.41	25.59	100
URBAN						
13	70.83	29.17	100	70.87	29.13	100
14	49.41	50.59	100	55.56	44.44	100
15	34.40	65.60	100	43.57	56.43	100
16	21.62	78.38	100	12.93	87.07	100
Total	46.05	53.95	100	48.09	51.91	100

Table 4 shows that many children were not in the age-appropriate grade; this may have been due to combination of delayed school entry and grade repetition. Hungi (2010) found that 53% of Grade 6 students in the SACMEQ III project reported that they had repeated a grade at least once since they started school. Moyi (2011) found that delayed school entry continues to be a problem in Uganda.

Multivariate Analysis Results

The objective of this study was to examine the schooling patterns of lower secondary school age children in Uganda. Therefore, the dependent variable was a nominal response variable with three categories; attending school, dropped out of school, or never enrolled in school. Because there were three possible outcomes and multiple independent variables, the study used multinomial logistic regression. The multinomial logistic model is similar to a logistic regression model, except that the probability distribution of the response is multinomial instead of binomial. A multinomial logistic model involves a nominal response variable with at least three categories. A response variable with n categories will produce n-1 equations; therefore, in this study we have two equations. These equations are binary logistic regressions that compare one category with the reference category.

In the multinomial logistic models, the reference category was the children who reported they are currently

attending school. The models include the following independent variables: child’s gender, age, disability, number of household members below age 5, relationship to head of household (child of head, relative of head, unrelated to head), female head of household, education of the head of household (none, incomplete primary, primary, incomplete secondary), wealth quintiles, regions. These independent variables were based on previous research on determinants of education in sub-Saharan Africa.

The results of the multivariate analysis are presented in Table 5. Table 5 reports the relative risk ratios for each variable in the model. The relative risk ratio (RRR) is the ratio of the probability of choosing one outcome category over the probability of choosing the reference category (attending school). A value of RRR that is greater than 1 indicates that the predictor variable will lead to an increase in the child being involved in that activity relative to the child not attending school. Conversely, a value of RRR that is less than 1 indicates that the predictor variable will lead to a decrease in the child being involved in that activity relative to attending school. For example, in Table 5 the 1.355 RRR for disability means that children who reported some form of disability were significantly more likely to drop out of school than those who reported no disability.

Table 5
Relative Risk Ratios of School Attendance

	General model		Girls model		Boys model	
	Dropped out	Never attended	Dropped out	Never attended	Dropped out	Never attended
Female	1.195	1.082				
Age	2.040**	1.084	2.031**	1.128	2.104**	1.042
Disability	1.355+	2.173**	1.460	2.674*	1.235	1.669
Number of children under 5 years	1.086+	0.958	1.199**	0.924	0.997	1.014
Female head of household	0.882	0.489**	0.954	0.321**	0.792	0.680
<i>Relationship to head¹</i>						
Other relative	2.996**	1.063	3.247**	1.169	2.917**	0.832
Unrelated to head	48.206**	39.409**	48.123**	26.626**	45.776**	23.888**
Adopted/foster	0.772	1.063	0.913	1.210	0.601	0.781
Grandchild	1.528*	0.714	1.470	0.574	1.698*	0.859
Rural	0.736	0.710	0.887	1.283	0.578	0.373
<i>Region²</i>						
Central 1	2.456**	0.414*	1.552	0.795	4.029**	0.141*
Central 2	1.445	0.220**	0.975	0.201	2.155*	0.325+
Kampala	1.544	0.829*	1.641	1.786	0.933	0.692
East Central	1.089	0.277*	0.787	0.402+	1.655	0.162+
Eastern	0.661+	0.071**	0.403**	0.066*	1.055	0.087**
West Nile	0.990	0.253**	0.947	0.456	1.097	0.057**
Western	1.448	0.256**	1.094	0.212*	2.018*	0.384+
Southwest	1.830*	0.357**	1.962*	0.041**	1.784	0.960
<i>Education of the head of household³</i>						
Incomplete primary education	0.827	0.197**	0.852	0.193**	0.797	0.180**
Complete primary education	0.383**	0.088**	0.355**	0.111**	0.431**	0.038**
Incomplete secondary education	0.421**	0.033**	0.615+	0.065**	0.262**	0.072**
Secondary+	0.349**	0.022**	0.550+	0.051**	0.156**	0.001**

(Table 5 and footnotes are continued on the next page).

Table 5, Continued

<i>Wealth quintiles⁴</i>						
Second	0.750	0.344**	0.548*	0.416*	1.131	0.194**
Middle	0.601**	0.251**	0.510*	0.248**	0.787	0.185**
Fourth	0.416**	0.074**	0.189**	0.022**	0.830	0.096**
Highest	0.285**	0.132**	0.251**	0.083**	0.317**	0.121**
N	4676		2345		2331	

Notes:

+p<0.10, *p<0.05, **p<0.01

1: Reference group for relationship to head of household is son/daughter

2: Reference group for region is Northern region

3: Reference group for education of head of household is no education

4: Reference group for wealth quintiles is poorest

In Table 5 the General Model includes all children aged 13 – 16 years. Girls were more likely to drop out and never attend school but the results were not significantly different from the boys. Results from the analysis indicate that older children had a greater risk of dropping out of school. Children who reported some form disability have greater odds of never enrolling and dropping out of school than those who reported no disability. Lloyd and Blanc (1996) found that presence of children under age 5 increased the time needed for childcare. The General Model also shows that the greater the number of children under age 5 in a household, the greater the odds that lower secondary school age children would drop out.

Lloyd and Blanc (1996) highlight the important roles played by mothers and fathers. In this sample about 33% of the children resided in female-headed households; these female-headed of households were poorer (19% are in poorest quintile compared to 15% for male-headed households) and less educated (37% reported no education compared to 12% of the male heads). Despite these challenges, there was no statistical difference in school attendance between children in female-headed households and those in households headed by men; however, children from female-headed households had a lower probability of never enrolling.

The child’s relationship to the head of household has a strong effect on schooling. Children who are not related to the head of household were about 39 times more likely than children of the head to never enroll and 48 times more likely to drop out of school. Grandchildren and other relatives were also disadvantaged compared to children of the head; however, there was no statistical difference between children of the head and fostered children.

The descriptive statistics showed a large proportion of children from the Northern region of Uganda never enroll; The General Model shows that children from all the other regions were less likely than those from the North to never enroll in school. The effects of the education of the head were compared for children who resided in households headed by someone with no education, with incomplete primary schooling, with complete primary school, with incomplete secondary school, and with at least complete secondary school. The decision whether or not to send a child to school depends on the cost of schooling (Chernichovsky, 1985; Colclough & Lewin, 1993; Lloyd & Blanc, 1996; UNESCO, 2005). Therefore, the resources of the household have a strong and significant effect on enrollment and current attendance. Table 5 shows a strong relationship between the wealth levels and the school enrollment and attendance. The more educated the head of household, the more likely the children would have enrolled and were still in school.

The next two models in Table 5 explore girls and boys separately. Lloyd et al. (2008) found that girls and boys had different time use patterns; these differences affected their ability to enroll and attend school. The greater the number of children under 5 in a household, the greater the probability that girls of lower secondary school age children would drop out; however, the number of children under age 5 did not increase the probability that boys would drop out. This suggests the presence of younger children increased the need for childcare, and the greater responsibility largely falls on older girls. Girls who were not related to the head faced a much greater disadvantage than boys. Lloyd et al. (2008) also found that girls carry a heavier domestic workload; this may help explain the differences in enrollment patterns

between girls and boys.

The resources of the household had a strong and significant effect on enrollment and current attendance for girls and boys. The impact of the education of the head of household was stronger on girls than boys; the boys in households with an uneducated head faced a greater disadvantage compared to girls in similar households. However, the difference in access to school between children in the poorest and richest households was greater for girls; girls in the poorest households faced a greater disadvantage than boys in similar households. This suggests that poor households were more likely to keep girls home than boys.

In summary, Table 5 presents a very complex schooling pattern for girls and boys. The households access to resources, as measured by the education of the head and wealth have the most significant and consistent effect on schooling. However, the relationship to the head of household had the strongest effect on schooling. It is likely that the children who reported they were unrelated to the head of household were residing in these households to provide domestic support.

The objective of the second part of the study was to estimate the probability of completing Grade 5. Parents/guardians were asked the following question: What is the highest level of school (NAME) has attended? What is the highest grade (NAME) completed at that level? A dichotomous outcome variable (1=completed grade 5, 0=grade 5 incomplete) was generated from their responses. Because the outcome variable is dichotomous, logistic regression was used to calculate the probability of children completing Grade 5. If children enroll in school at the required age of 6 and progress successfully they should complete Grade 5 by age 10. Hence those who had not completed grade 5 had dropped out, delayed enrollment and/ or repeated classes. Table 6 presents the three models.

The General model indicates that girls were marginally more likely to complete Grade 5; however, this difference was not statistically significant. This is an interesting finding because girls carry a heavier domestic load in households (Lloyd et al., 2008), yet there is no difference in educational attainment with boys. As expected, older children were more likely to complete Grade 5. Children who reported some form of disability were less likely to complete Grade 5. Increasing number

of dependents (number of children under age 5) reduced the odds of a child completing Grade 5. Female-headed households were poorer and less educated, but children who resided in these households had greater odds of completing Grade 5. Lloyd and Blanc (1996) also found that female-headed households are more likely to invest resources to support children's schooling. Female-headed households spend a larger proportion of their resources on children than male-headed households.

Looking at the child's relationship to the head of household, the findings show that children who were unrelated to the head were less likely to reach Grade 5. In terms of regional differences, children in five regions had greater odds of completing Grade 5. However, children in the West Nile region had lower odds of Grade 5 completion. An increase in the education level of the head of household was associated with an increase in the probability of completing Grade 5. A child in a household whose head had at least completed primary school had greater odds of completing Grade 5 compared to a child from a household whose head had no education. Children from households in the two wealthiest quintiles had greater odds of completing Grade 5; a child from the wealthiest quintile had 4.5 times greater odds of completing Grade 5 compared to a child from the poorest quintile. The effect of household wealth had the greatest effect on whether or not the child completes Grade 5.

Girls and boys were also examined separately because of the gender differences in time use (Lloyd et al., 2008). For many of the variables the effects on girls and boys are similar. However, there were differences worth noting. The education level of the head of household and the wealth of the household had a greater impact on the Grade 5 completion on girls than boys. A girl whose head had incomplete secondary had 2.7 times greater odds ($p < 0.001$) of completing grade 5 than a girl whose head had no education; a boy whose head had incomplete secondary had 1.3 times greater odds ($p < 0.10$) of completing Grade 5 than a boy whose head had no education. Similarly, a girl from the wealthiest quintile had 5.9 greater odds of completing grade 5 than a girl from the poorest quintile; a boy from the wealthiest quintile had 3.9 greater odds of completing Grade 5 than a girl from the poorest quintile. The resources of the household had the greatest impact on the probability that children would complete Grade 5.

Table 6
Odds Ratios of Completing Grade 5

	General Model	Girls Model	Boys Model
Female	1.093		
Age	2.265**	2.334**	2.236**
Disability	0.555**	0.567**	0.529**

Table 6, Continued

Number of children under 5 years	0.848**	0.814**	0.876*
Female head of household	1.398**	1.294+	1.522**
<i>Relationship to head¹</i>			
Other relative	0.963	0.802	1.200
Unrelated to head	0.360**	0.510+	0.137**
Adopted/foster	0.993	1.295	0.593
Grandchild	1.259+	1.321	1.224
Rural	0.831	0.858	0.841
<i>Region²</i>			
Central 1	1.878**	2.915**	1.292
Central 2	1.490+	1.794+	1.267
Kampala	2.084*	2.761**	1.673
East Central	1.640*	2.222**	1.148
Eastern	1.476+	1.793*	1.314
West Nile	0.496**	0.234**	0.785
Western	0.770	0.698	0.824
Southwest	1.035	1.403	0.813
<i>Education of the head of household³</i>			
Incomplete primary education	1.003	1.253	0.818
Complete primary education	1.675**	1.888**	1.481+
Incomplete secondary education	1.909**	2.774**	1.355+
Secondary+	2.436**	2.903**	2.085**
<i>Wealth quintiles⁴</i>			
Second	1.147	2.086	0.703
Middle	1.333	1.642+	1.167
Fourth	2.530**	3.850**	1.901*
Highest	4.537**	5.957**	3.921**
N	4444	2226	2218

Notes:

+p<0.10, *p<0.05, **p<0.01

1: Reference group for relationship to head of household is son/daughter

2: Reference group for region is Northern region

3: Reference group for education of head of household is no education

4: Reference group for wealth quintiles is poorest

⁴<http://www.unmillenniumproject.org/goals/gti.htm#goal2>

Discussion and Conclusion

The international community set a target to achieve universal primary education by 2015⁴. Despite progress, UNESCO (2011) warned that the number of out-of-school children could rise by 2015 if countries do not redouble their efforts to increase enrollment. There were about 71 million children of lower secondary school age (13 – 16 years) out of school (UNESCO, 2011). Clearly, more needs to be done to increase educational access for lower secondary school age children.

The findings of this study demonstrate that the household structure, disability, wealth and the education of the head of household have significant effects on schooling. The study found that children from households with economic resources were more likely to remain in school, whilst those from poorer households were less likely to ever enroll, and more likely to drop out before completing the primary school cycle. Children from wealthier households had a better chance of going to school and progressing through grade 5 than children from poorer households. The government of Uganda is not reaching the poorest households. This limited access to schooling is evident despite the free primary school policy. This may be because the government pays tuition but households are still responsible for school meals, exercise books, and transportation (Ministry of Education and Sports, 1999). Other social policies are needed to augment government efforts in the education sector

This means that policies aimed at wealth creation could raise child enrollment and attendance. Because wealth creation takes time, therefore, it is necessary for the Government of Uganda to also pursue policies that are likely to have a more immediate impact such as conditional cash transfers. Can conditional cash transfers encourage the poorest households to keep their children in school? Conditional cash transfers could provide cash payments to poor households that keep their children in school. The cash transfers could boost household income and offset the direct and indirect costs of school enrollment and attendance. For example, Bangladesh has a means-tested conditional cash transfer program, *Food for Education* (FFE). An evaluation of the FFE by the International Food Policy Research Institute found that school enrollment in Bangladesh increased among the poor families (Ahmed & del Ninno, 2002).

Besides the socioeconomic status of the household, children who reported some form of disability also face significant obstacles. This study found that these children, especially those who had difficulty communicating or difficulty with self-care, were more likely to be out of school. The data suggest that the Uganda government has not been able to reach the children with severe disabilities. Uganda will not be able to achieve universal education if it cannot reach these children with disabilities. More research is needed to

understand child disability and education in Uganda. For example, in this study we were unable to establish the distribution of children with disabilities. The lack of reliable data on disability is not surprising; Durkin et al. (2008) report that, “relatively little is known about the situation of children with disabilities globally, and in developing countries in particular.” (p. 5).

One of the most interesting findings was that only about a third of the children in the sample had completed Grade 5. The household wealth and the education of the head of household had the largest impact on grade 5 completion. This indicates that despite enrolling in school, majority of the children are not successfully progressing through school. This slow progression is likely to affect the quality of schooling because in addition to teachers dealing with multi-age classrooms, they face increased class congestion. Previous research shows that the quality of Ugandan schools has deteriorated significantly in recent years (Byamugisha & Ssenabulya, 2006; Kasirye, 2009). More research must be undertaken to understand why so many children are not progressing through school successfully.

It is clear we do not know enough about the obstacles some children face. The study raises many important questions. How can schools in Uganda better serve the needs of all children? Are poor children not progressing through school because they attend schools that offer poor quality education? If the government offers quality education, will the poor attend and progress? What does quality education in Uganda look like? How is disability manifested in Ugandan society?

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