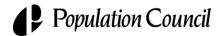# POVERTY, GENDER, AND YOUTH

Looking Beyond Universal Primary Education: Gender Differences in Time Use among Children in Rural Bangladesh

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ABSTRACT

This paper addresses gender equity in parents' educational investments in children in a context of rising school attendance in rural Bangladesh. Our premise is that in addition to factors such as school enrollment and aspects of school quality, attention should focus on household-level private investments in education. By private investments we mean time allocated to studying at home and access to private tutoring after school. Using data from the nationally representative 2005 Bangladesh Adolescent Survey, we analyze correlates of time spent in school, studying outside school, and work, using a data set on time-use patterns of school-going children and adolescents. We find that time spent in work varies inversely with the amount of time spent studying at home, while time at school shows no such association. We find support for two hypotheses regarding household influences on education. First, time spent in school is insensitive to factors such as poverty and gender. Second, time spent studying outside school is strongly influenced by household decisions that favor boys, who appear to have about 30 minutes more discretionary study time than girls.

The literature on education in developing countries suggests that schooling promotes gender equity by reducing the contrast between girls and boys in how they spend their time in work and leisure. While boys' and girls' time-use patterns generally become increasingly gender-based during adolescence, gender differences in work and leisure time are much narrower among those adolescents who go to school (Arends-Kuenning and Amin 2004; Lloyd et al. 2008).

In this paper we explore variations in time spent in school, studying, and working from a nationally representative survey conducted in 2005 in Bangladesh among young people between ages 10 and 24. We explore whether gender differences in study time persist even as school enrollment gaps diminish. We hypothesize that time spent studying by school-going girls and boys may continue to vary because study time accommodation is a product of household division of labor and has implications for the time allocation of other household members. We also explore the influences of private tutoring as another form of private investment in education on how children's time is spent. Time-use patterns provide an important perspective on disparities among school-going children as schooling becomes more nearly universal. In settings where school expansion has occurred through policies such as shorter school hours and double shifting, study time and tutoring may become particularly critical influences on educational outcomes. Studies that measure schooling in terms of enrollment and attendance cannot fully address the impact of overcrowding in school, schools running double shifts, and shortened school hours. Families may compensate for the reduced opportunities for learning that shorter hours entail by engaging tutors at home and extending study time outside of school in other ways (Assaad and El-Badawy, 2004). To the extent such accommodation occurs at the household level, it represents a form of privatization of education as success in school becomes a function of both time spent studying outside school and of direct expenditures on private tutoring.

Despite evidence that private tutoring is common and rising in many parts of the world, there are relatively few conclusive results on the impact of tutoring. Dang (2009) reviews the literature on determinants and consequences of tutoring and reports mixed results. While some studies report positive learning outcomes, others find that tutoring may be selectively provided to under-performing students and is actually associated with poorer learning outcomes. There is no evidence of gender differentials in the prevalence of private tutoring in Vietnam (Dang 2009), and the impact of tutoring on educational outcome appears to be stronger at the secondary school level. In Egypt, Assaad and El-Badawy (2004) do not find gender differences related to who receives tutoring. They conjecture that while greater returns to education for boys would predict a higher investment, perhaps parents of girls are similarly motivated by marriage market returns to invest in a daughter's education—a girl who is better educated will be able to marry a higher-quality groom, other things being equal.

This paper focuses on time use rather than monetary expenses. There are at least three ways in which gender disparities in education may persist despite reductions in gender disparities in school attendance. First, to the extent that familial investments in education matter for school achievement, the competing demands for domestic work are likely to vary by gender, and economic status will affect the amount of time spent studying at home. Second, it has been argued in the context of South Asia that parents may be more willing to incur direct schooling costs for boys than for girls because of perceived gender differences in returns to schooling

(National Council of Educational Research and Training 1995; Drèze and Sen 1995). Many studies find not only that expenditure on girls' schooling is lower than on boys', but also that an increase in the costs of schooling reduces the probability of girls going to school[1] (Chandrasekhar and Mukhopadhyay 2006; Post 2001). For similar reasons, parents may be more concerned about time spent studying outside of school by boys than by girls. In rural India, for example, systematic differences are seen between boys and girls in time spent doing homework. Among boys in the age groups 6–10, 11–14, and 15–18, 55 percent, 57 percent, and 27 percent spend some time doing homework. In contrast, among girls the corresponding percentages are 50, 45, and 16 (Motiram and Osberg 2008). Third, gender disparities may stem from differences in alternative ways of spending time outside school. In many societies, in addition to expectations regarding work, boys and girls have vastly different opportunities for leisure. Youth clubs and sports fields are usually dominated by boys. As girls mature, their lives become increasingly restricted to the confines of home (Amin, Mahmud, and Huq 2002).

A greater understanding of time-use patterns of children and adolescents is important if appropriate policies are to be developed to improve grade completion and to reduce gender disparities in examination scores and dropout rates after primary school. This paper contributes to understanding how school-going children in Bangladesh spend their time and is unique in being able to distinguish school time from study time outside school hours.

THE CASE OF BANGLADESH

Since independence in 1971 Bangladesh has experimented with a range of social and economic interventions to combat some of the highest rates of poverty in the world (Mahmud 2008). Policies in the education sector have led to universal primary education, and approximately half of children of secondary school age are in school. Primary education is mandatory starting at age six and offers five years of schooling. Secondary schools offer another seven years of schooling.

Primary schools are coeducational and usually located close to home since almost every village has a school. Most primary schools are run by the Ministry of Education with some financial and administrative contributions from the community. There is approximately one secondary school for every four primary schools. The majority of secondary schools, although not considered public, receive substantial public funding in the form of teachers' training, salaries, and scholarship support. Bengali is the language of education, English is taught as a second language, and religious education is mandatory. Schools receiving government support are required to follow a standard curriculum. Certification examinations are held at the end of grades 10 and 12 for secondary and higher secondary school certificates. In addition, school boards conduct examinations in grades 5 and 8 to select students for academic scholarships. Books are distributed free to all primary school students and supplied at a cost to secondary school students. Grade repetition is allowed, as is late entry.

In addition to formal schools, non-formal education alternatives are available in the country. Most significant among them is a program of one-room school houses, each enrolling 30 students or less, run by a national nongovernmental organization in 35,000 villages. These schools generally follow their own curriculum and recruit local teachers, who have considerably

less education than teachers in formal schools. The majority of teachers in these NGO schools are women, and the schools follow a policy of enrolling more girls than boys. Another rapidly growing educational alternative is religious schools or madrasahs (Asadullah and Chaudhury 2008). These schools offer secular as well as religious education. Madrasahs that accept public funding are required to follow a madrasah board curriculum. However, a significant number of madrasahs, called "Qoumi," do not accept public funding. (See Amin 2007 for further details on schooling in Bangladesh.)

Despite the broadly equalizing influence of recent developments on educational attainment, a number of historical influences can result in persistent remaining differentials in education. In particular, several studies have noted higher educational attainment among Hindus relative to Muslims, and have attributed this to acceptance of secular and English-language education among Hindus while Muslims continue to prefer education in Arabic and Persian schools (Ahmed 1996; Murshid 1996). These divergent historical paths in education have also led to Hindus being better represented in service-sector occupations. Muslims have been dominant in agriculture, and in recent years investments in the growth of madrasahs as a way of increasing access to schools among disadvantaged children could further exacerbate differences in achievement between Hindus and Muslims (Asadullah and Chaudhury 2008).

At the time of independence the number of boys enrolled in primary school was double that of girls. This disparity continued through the 1970s and began to close in the 1980s and 1990s. By 2005 there was gender parity in enrollment in Bangladesh. Other data on expansion of schooling show that over the period 1985–90, the number of children enrolled in primary school grew at an annual rate of 7 percent. Over the next five years, 1990–95, the annual growth rate of enrollment increased marginally to 8 percent. Over the decade 1995–2005, a marginal decline occurred in the annual growth rate of enrollment because of a decrease in the number of children aged 6–12 years (World Bank 2008b). At the secondary level girls' gross enrollment in secondary school increased from 13.6 percent in the 1990s to 46.9 percent in 2000 (UNESCO 2003), Table 7, p. 349). Between 1970 and 2005 the female-to-male ratio of gross enrollment increased from 0.39 to 1.05 for secondary school enrollment.

Educational programs credited with increasing schooling and closing the gender gap include enrollment drives that target girls, free tuition for girls (beginning in the late 1980s), and monetary incentives that reward families for sending girls to and keeping them in secondary school (beginning in 1994). These incentives are aimed at encouraging later age at marriage and consequently lower fertility. One requirement of the incentives is that parents sign a pledge that they will not marry off their enrolled daughters before age 18. In addition, the "education for all" program increased the number of schools and provided targeted subsidies (food/cash for education, free tuition) to poor children. It is not surprising that there is now near gender equity in the first ten years of school (World Bank 2008a). Although other studies have documented increased schooling among women, at least one study shows that while the program has reduced the proportion of girls who are neither in school nor married, it has had relatively little impact on age at marriage. The study also finds that marriage and dowry considerations prevail in decisions about when to end a girl's schooling (Amin and Huq 2008).

Despite the school-based and household incentive programs, Bangladesh's progress in improving secondary school completion rates has been far from satisfactory. Evidence remains

of considerable gender disparity beyond the first ten years of schooling, with girls dropping out at a faster rate than boys. Only 10 percent of girls who completed primary school passed the secondary school certificate examination, compared to 25 percent of boys (authors' calculations from the 2005 Bangladesh Adolescent Survey). A case study by UNICEF found that "retention, dropout and other challenges are still faced by girls more than boys" (Mahbuba and Tate 2007, p. 29). The United Nations Girls' Education Initiative has expressed concern over the "large disparities in the upper levels of secondary schooling and in tertiary education, indicating lower expectations and limited opportunities for girls. Although the enrollment rate is relatively high, the completion rate is much lower. High drop-out rates and poor quality continue to be major challenges for the primary education system." Further, a World Bank (2008b) review of studies on the quality of primary education in Bangladesh asserted that they "generally point to low levels of learning achievement, poor literacy and numeracy skills acquired during the primary school cycle as well as to a gender gap in test scores in favor of boys" (pp. xii–xiii).

Poor secondary school completion rates are cause for concern because school certificates are often an important determinant of successful transition into the labor force. Although some increase has been seen in women's participation in the labor force over time, women remain less likely than men to enter the labor force (World Bank 2008a). A recent study on differential rates of schooling by economic status showed that early marriage is also a reason for not completing secondary school. The proportion of women in Bangladesh in the age group 20–24 who were married by age 18 is 68.7 percent. Although girls continue attending school until they marry, very few girls are able to continue after marriage (Mahmud and Amin 2006).

DATA COLLECTION

The 2005 Bangladesh Adolescent Survey is a nationally representative survey conducted by BRAC's Research Division with technical assistance from the Population Council.[2] The purpose was to provide detailed descriptions on transitions to adulthood in terms of school, work, marriage, and reproduction and to provide data on poverty and vulnerability specific to adolescence. The survey collected information on household-level poverty indicators and on factors that might lead to greater vulnerability, such as a death and disability in the family.

The questionnaire included household and individual modules. The sample consists of 14,592 boys and girls between ages 10 and 24 living in 20,000 households. Sample households were selected using a multi-stage cluster sample and a sampling frame generated from the 2001 census. The clusters are primary sampling units (PSU) corresponding roughly to a *mouza* in rural areas and a *mohalla* in urban or metropolitan areas. The sample sizes were calculated to generate indicators at the division level by urban/ rural residence, with a minimum of 30 households from each PSU. Only one randomly chosen adolescent between ages 10 and 24 was interviewed from each household in order to preserve confidentiality and anonymity.[3]

The Bangladesh Adolescent Survey includes the first nationally representative data on time-use patterns for young people irrespective of schooling status. Survey respondents were asked to recall sequentially how they spent their time during a 24-hour period on the day prior to the interview. Start and end times for each activity were recorded by the interviewer in an open format grid marking the time of day. Multiple data quality measures were taken: the detailed

time grid included markers for prayer times, and interviewers were trained to query improbable and inconsistent reports. For example, a person who reported being in school after school hours would be asked for more detail. Similarly, responses on work reported during harvest seasons or unreasonably long commuting times were cross-checked.

TIME-USE DATA

In the time-use data, information is available on some 60 distinct activities. For the current analysis we group time spent by children and adolescents on a given day into the following categories: time spent in school (including time commuting to school), time spent at home studying, and time spent in domestic chores and other work. In addition, our residual category includes leisure time and sleep. We report the average time and median time spent on different activities for individuals in the age group 10–16 years. Although the multivariate analyses presented later include all children regardless of whether they attended school on the day in question, Table 1 reports the statistics only for those who attended school on the day of the survey to demonstrate that the school day is relatively short. We find that in rural areas, boys spend slightly over 5 hours in school, nearly 4 hours studying at home, and around half an hour working (Table 1). There is a gender-specific difference in time spent on work, with girls spending more time on average.

In terms of investing in children, parents may opt to send a child for additional tutoring. A child could be sent for tutoring either to help the child to cope with his or her studies or to realize his or her full potential. It is reasonable to conjecture that time spent studying at home will be positively correlated with academic performance. Since we do not have outcomes related to grade level or academic performance, we are unable to address the benefits of spending time at home studying. The data set has information on whether the individual goes for private tutoring, which will be reflected in time spent studying outside school. We find that there is a reallocation of time across activities if the child gets tutored, with these children spending more time studying at home (Table 2).

As one would expect, school attendance is an increasingly significant way of spending time. All young people report some form of productive activities, with young women more likely to report domestic chores. In general, while boys leave school to go to work, girls get married and spend the majority of their time in domestic work and childcare. There are large differences by economic status in the amount of time spent in school and working, but little difference in time spent in social or leisure activities. Poor adolescents are as likely to be in school as working adolescents, whereas rich adolescents are considerably more likely to be in school than at work (Rabbani, 2006).

EMPIRICAL METHODS

Cross-country evidence indicates that time-allocation decisions across activities are determined by a variety of factors (Ersado 2005). The allocation of time may be viewed as the outcome of an optimization exercise among members of the household. Our objective here is to identify time-use patterns of children going to school. For this reason we estimate a seemingly unrelated regression model.[4] We explore the factors determining the proportion time spent at

school, time spent studying at home, time spent working at home and elsewhere, and the residual category of time spent in leisure. Ideally, we need information on time-use patterns of all individuals in the household. The fact that we have information for only one adolescent from each household is a limitation of the data set that should be kept in mind. In our specification of adolescent work, we include domestic and productive tasks. Several studies have concluded that for the purpose of understanding tradeoffs with schooling and gender differentials in this regard, it is important to consider unpaid or domestic work (Lloyd, Grant, and Ritchie 2008; Assaad, Levison, and Zibani 2007; Post 2001).

In our regression model, the explanatory variables for the three equations are the same.[5] The literature on educational outcomes has established that the greater the number of siblings, the lower the probability of a child from that household attending school (Blake 1981, 1989; Knodel, Havanon, and Sittitrai 1990; Knodel and Wongsith 1991). Several studies have indicated that the poor may be more strongly motivated to substitute schooling for work, suggesting a need to control for household wealth or poverty (Basu 1999; Ravallion and Wodon 1999; Shafiq 2007). Other household-level controls are the religion to which the household belongs (Muslim or non-Muslim), educational attainment of the household head, the number of children under age five years, the number of individuals over age 60, and whether members of the household belong to a nongovernmental organization. Being a member of an NGO can affect decisions about education, since these organizations encourage schooling of children and even run schools to promote education, particularly focusing on early childhood. Although not part of the formal education system, their importance can be gauged by the fact that around 1.2 million children in Bangladesh are part of the primary school system run by nongovernmental organizations (World Bank 2008b).

We use the statistical technique of principal component analysis to construct a wealth index reflecting the socioeconomic status of the household. The components of the wealth index are whether the household owns a radio, television, bike, motor or engine, cot, mosquito net, quilt, clock, multiple sets of clothing, and shoes. We also control for whether the household has electricity. This is important since having access to electricity increases the time available for children to study after dark (Sen and Desai 2004). In addition to household variables the models include two measures of the community to identify local economic opportunities that may influence decisions on schooling. These are a lagged aggregate poverty measure for the division in which the residence is located and an average urban wage measure for construction workers in the nearest urban locality.

The individual-specific controls are age and square of the age the individual, sex of the individual, the type of school attended (primary versus secondary level, and madrasah versus non-madrasah), and whether the child was tutored.

In these models we include girls and boys in the same analysis. To test for whether effects operate differently by gender, we also estimate models run separately for boys and girls. We confirm that the direction of the effect is the same for boys and girls, as indicated by the signs of coefficient estimates. The only variables that operate differently for boys and girls are NGO membership and the presence of children under five in the household. For a parsimonious presentation, we show these estimates as interaction terms. Similarly, to test for whether differences in school administration, child's age, and curriculum lead to time-use differences, we

also estimate models separately for primary and secondary school and include the significant interaction terms. For schooling, the main interaction term is the tutoring variable.

We estimate the model by including all children who are currently enrolled in school, including those who did not attend school on the day of the survey. Had we excluded the enrolled children who did not attend school on day of the survey, we would have had to address the selectivity of regular school attendance. In addition, both time spent studying and time being tutored are likely to be recorded on weekends as well as school days. The summary statistics of the variables used in the analysis are presented in Table 3.

FINDINGS

Tables 4, 5, and 6 present estimates based on our regression model. As indicated in column 1 of these tables, very few of the covariates considered are significant determinants of time spent in school. Among those with significant effects are age, gender, and the poverty headcount ratio (HCR) for the division. The coefficient on age is positive and the one on square of age is negative, suggesting that the amount of time spent in school increases at a decreasing rate as children grow older and attend higher levels of schooling. This is expected since children in primary school typically spend considerably less time in school than those in secondary school, and this is probably what the age variable is capturing. Indeed the age variable is not significant for the analysis disaggregated by level of schooling. We find that girls are significantly more likely to spend more time in school in the pooled table (Table 4) but not in the disaggregated tables (Tables 5 and 6). There is some evidence in the grade-for-age data that girls attend higher grades than boys at lower levels of schooling. This is most likely a result of conditional cash and food transfers that are available for girls at the secondary level but not for boys. Boys in poor households who receive food for education in primary school may be less motivated than girls to progress through primary school and enter secondary school since the program is not extended to secondary school children. Because secondary schools have slightly longer hours, better grade-for-age progression for girls could explain the observed gender differences in time spent in school. The poverty headcount ratio has a significant negative effect on time spent in school. We also find that time spent in school is positively correlated with tutoring but only for students in secondary school. Since some families who cannot afford tutoring year round may choose to hire private tutors during particularly critical times such as before annual examinations, this correlation is expected. Muslim children spend marginally less time in primary school than non-Muslims, but this effect is not significant for the pooled sample or for secondary school. We do not have a ready explanation for this difference in schooling by religion, but it is possible that less time in school is driven by poor attendance while enrolled. Poor attendance in turn may be a consequence of the propensity among Muslim children to attend poorer-quality schools such as madrasahs.

Unlike time spent in school, the majority of covariates considered are significantly associated with time spent studying (column 3 in the three tables). Girls are significantly less likely to spend time studying at home, and the interaction between girls and NGO membership is also significantly negative. We find the coefficient on age and square of age to be positive and negative respectively. Like time spent in school, this age effect may be driven by the demands of

time at higher levels of schooling. By contrast, children of educated parents spend significantly more time studying, as do children in wealthier households. As with schooling, Muslim children spend less time studying relative to non-Muslims, although attending a madrasah is not a significant explanatory factor in study time. Children who are tutored, particularly those who are tutored while in secondary school, spend more time studying. Household electricity, number of household members over age 65, average wage rate in the community, and poverty headcount ratio are not significant explanatory variables for study time.

Time spent working (column 5 in the tables) has more covariates that are significant than does time spent in school, and these covariates complement time spent studying. Generally, variables that are positively associated with study time are negatively associated with work time. Girls are significantly more likely to work than boys, and this effect is found for both primary and secondary school. Students who are tutored are significantly less likely to work, and the effect is stronger for secondary school students. Students living in households with children under age five are more likely to spend time working, while those living in households with members over age 65 are significantly less likely. For students in secondary school, having household electricity is associated with less time spent working. Children of parents who have more than primary school education are less likely to spend time working. The community poverty headcount ratio is positively associated with work, significantly so in the case of the total sample and the primary school sample. Prevalent wage rates are not significant predictors of children's work time. Attending a madrasah and being Muslim are not significantly associated with work time.

DISCUSSION

The most striking results presented are the significant association of gender and poverty with study time and the complementary effects of time spent working, suggesting that work responsibilities have implications for study time even when they do not influence decisions to enroll children in school. Gender-specific differences in time-use patterns and our other findings support those in the literature. For instance, the literature has documented gender-specific differences in literacy rates, enrollment rates, dropout rates, and educational attainment. The reasons advanced for gender-specific differences include perceived higher returns to investments in education of sons, differences between boys and girls in costs of schooling and access to schools, social norms favoring sons over daughters, and the tradition of early marriage of girls. These reasons can also affect the time-use pattern of girls, in particular time spent studying outside school. From the summary statistics we reported earlier, it is evident that girls spend at least 30 minutes less on studying on average compared to boys. If we conservatively assume that children study five days a week, that is, only on the days they go to school, then a difference of slightly over half an hour daily implies that over the year girls study 130 hours less than boys. This average, of course, masks differences in time spent studying among girls across households from the lowest and highest socioeconomic classes.

Not only do children attending madrasahs spend less time studying outside school, but children from Muslim households are also likely to spend less time in school and less time studying outside of school. Higher educational attainment among Hindus has long been noted in

Bangladesh and is generally ascribed to long-standing differences in propensity toward schooling in the two communities. We also find that children spend less time working in households where the household head has completed at least primary school.

The literature on educational outcomes has established that the greater the number of siblings, the lower the probability of a child from that household attending school. We find a similar result in the context of time spent studying—that is, children in households with larger numbers of siblings spend less time studying outside of school. The presence of individuals over age 65 is not a significant determinant of time spent studying outside of school. Note, however, that the presence of an elderly family member reduces the time children spend working, while the presence of a child under age five increases the number of hours worked.

One might have expected that access to electricity would affect the time-use patterns of children, especially time spent studying outside school. Sen and Desai (2004) suggest that availability of electricity increases the amount of time available for study, particularly after sunset. We do not find electricity to be associated with time spent studying but do find that children in households with electricity are likely to spend less time working. Children from higher wealth classes are likely to spend more time studying at home than children from the bottom wealth class. At the same time, we find no differences across the first three wealth classes in terms of time spent working. Only children in the top wealth class are likely to spend less time working.

Finally, we turn to two issues specific to Bangladesh: whether the household belongs to a nongovernmental organization and attendance at religious versus secular schools. Whether the household is a member of an NGO does not appear to be a significant determinant of time-use patterns. While only poorer households are usually eligible to be members, membership may also be a community proxy for road accessibility and development, since most NGOs are able to function better in areas that are more accessible by road from the capital city. A household's NGO membership may also measure a kind of modern association. There is some evidence that pro-poor NGO agendas are not uniformly accepted across the country and that NGOs have found it most difficult to recruit members in more conservative areas. Another factor may be that some NGO-run primary schools provide reasonably high-quality early education to poor children and thus give these children a head start.

Children attending madrasahs spend significantly less time studying, although there is only a marginal difference in time spent in school. This is consistent with the findings of Asadullah and Chaudhury (2008), who contend that madrasahs in Bangladesh serve a function similar to NGOs as non-state providers of education and typically cater to less privileged segments of the population. They argue that, like the spread of nongovernmental organizations, the growth of madrasahs is compatible with the rise of secular female education. Pointing to similar patterns of growth in all three types of schooling, Asadullah and Chaudhury recommend subsidizing madrasah education as a means of expanding schooling among disadvantaged children. Our results suggest that this step may result in the provision of inferior education to poor children, and policymakers need to devise ways to compensate for this inferiority.

CONCLUSION

A better understanding of time-use patterns of children and adolescents will help policymakers formulate appropriate policies for increasing levels of grade completion and educational attainment in the context of rising student:teacher ratios in developing countries. Schools routinely accommodate increased demand by introducing multiple shifts (Bray 1990), leading to shorter school hours in parts of South Asia and elsewhere (Lloyd et al. 2008). Concerns have been expressed about poor school achievement under these conditions. To compensate for shorter school hours and to ensure success in school examinations and grade progression, students have to spend increasing amounts of time studying outside school. In addition, parents invest in private tutoring to ensure that time spent studying is spent productively. As enrollment rates expand and time spent in school is reduced, we see an early trend toward privatization of education, which has become a function of the extent to which households increase their investment in private tutoring. Most children now receive some tutoring, usually at critical times to maximize performance in examinations.

Our findings suggest that additional resources may be targeted to disadvantaged children to extend their time in school. Such targeted investments have been shown in other countries to improve performance because they compensate for the intense supervision that poorer parents are unable to offer their children. In a country like Bangladesh such targeted investments may exert an even stronger impact, since the majority of school-attending children live in households with no literate adults.

Table 1: Time (in minutes) spent on important activities by boys and girls

	Boys		Girls	
	Mean	Median	Mean	Median
School	315	320	330	340
Studying at home	231	225	198	185
Work	32	0	63	30
No. of Observations	1401		1430	

Table 2: Time (in minutes) spent on important activities by boys and girls according to whether they were tutored

	Boys			
	Not tutored		Tutored	
	Mean	Median	Mean	Median
School	312	310	319	330
Studying at home	204	200	272	270
Work	35	0	28	0
No. of observations	841		560	
	Girls			
	Not tutored		Tutored	
	Mean	Median	Mean	Median
School	326	330	340	355
Studying at home	172	160	252	240
Work	72	40	44	10
No. of observations	962		468	

Table 3: Summary statistics

Variable	Mean	Std. Dev.	Min	Max
Share of time (%) spent in				
School	13.8	12.33	0	53.82
Study	13.4	9.33	0	57.29
Work	6.6	9.74	0	59.72
Leisure, sleep, personal care	66.2	14.43	28.96	100.00
Age	12.23	1.86	10	16
Square of age	153.04	47.49	100	256
Female	0.50		0	1
Ever tutored	0.35		0	1
Currently attending madrasah	0.15		0	1
Education of household head				
None	43.74		0	1
Primary and below	28.84		0	1
Above primary	27.41		0	1
No. of children under 5 years of age	0.47	0.68	0	5
No. of elderly over 65 years of age	0.18	0.42	0	2
Member of NGO	0.35		0	1
Household has electricity	0.30		0	1
Wealth index	0.10	1.76	-5.61	3.58
Observations	4611			

Table 4: Factors determining proportion of time spent in school, studying outside school, and working, primary- and secondary-school-going children

Variables	School	S.E	Study	S.E	Work	S.E.
Age	3.36**	1.49	5.07***	1.03	1.62	1.13
Square of age	-0.16***	0.06	-0.20***	0.04	-0.01	0.04
Female	0.92**	0.46	-2.18***	0.32	2.55***	0.34
NGO member	0.63	0.55	0.62	0.38	-0.12	0.41
Female * NGO member	-0.48	0.76	-1.03**	0.53	-0.04	0.58
Attend secondary school	0.87	0.58	2.43***	0.40	-0.26	0.44
Tutored	0.76	0.57	3.32***	0.39	-1.89***	0.43
Tutored * Secondary	1.14	0.78	2.20***	0.54	-1.30**	0.59
Attend madrasah	0.05	0.53	-0.08	0.37	0.25	0.40
Muslim	-0.80	0.58	-0.84**	0.40	0.02	0.44
Education of household head						
Primary and below	0.24	0.45	0.95***	0.31	-0.41	0.34
Above primary	0.60	0.51	1.55***	0.35	-1.31***	0.38
No. of children under 5 years of age	-0.05	0.28	-0.62***	0.19	0.68***	0.21
No. of elderly over 65 years of age	0.12	0.44	0.12	0.30	-1.05***	0.33
Household has electricity	-0.06	0.46	0.22	0.32	-0.93***	0.35
Household socioeconomic status (bottom 20 percent)						
2nd Quintile	0.13	0.57	1.19***	0.39	-0.12	0.43
3rd Quintile	-0.24	0.59	1.92***	0.41	-0.26	0.44
4th Quintile	-0.19	0.64	2.05***	0.45	-0.13	0.49
5th Quintile (top 20 percent)	-0.27	0.75	2.40***	0.52	-0.76	0.57
Division wage rate of unskilled construction workers 2004-05	-0.02	0.02	-0.01	0.01	-0.01	0.01
Poverty HCR division 2000	-0.04*	0.02	0.00	0.01	0.07***	0.02
Constant	0.14	9.63	-19.06***	6.66	-12.49*	7.29
Observations	4558		4558		4558	
R-squared	0.02		0.18		0.10	

***, ** Significant at 1 percent, 5 percent

Table 5: Factors determining proportion of time spent in school, studying outside school, and working, primary-school-going children

Variables	School	S.E	Study	S.E	Work	S.E.
Age	3.82	2.72	3.54*	1.82	-0.55	2.09
Square of age	-0.17	0.11	-0.15*	0.08	0.08	0.09
Female	0.86	0.57	-1.94***	0.38	2.70***	0.44
NGO member	0.15	0.67	0.77*	0.45	0.12	0.51
Female * NGO member	-0.37	0.96	-0.65	0.64	-0.91	0.74
Attend secondary school	0.59	0.54	3.33***	0.36	-2.01***	0.41
Attend madrasah	-0.65	0.62	0.69	0.42	-0.03	0.48
Muslim	-1.47*	0.76	-0.78	0.51	0.07	0.58
Education of household head						
Primary and below	0.45	0.54	0.90**	0.36	-0.28	0.42
Above primary	0.65	0.71	2.47***	0.47	-1.48***	0.54
No. of children under 5 years of age	-0.04	0.33	-0.39*	0.22	0.59**	0.26
No. of elderly over 65 years of age	-0.12	0.59	-0.48	0.39	-0.74*	0.45
Household has electricity	0.38	0.64	0.17	0.43	-0.54	0.49
Household socioeconomic status (bottom 20 percent)						
2nd Quintile	0.62	0.63	1.09***	0.42	-0.41	0.48
3rd Quintile	0.02	0.69	1.39***	0.46	-0.28	0.53
4th Quintile	0.38	0.81	2.39***	0.54	-0.85	0.62
5th Quintile (top 20 percent)	0.23	1.03	2.58***	0.69	-0.07	0.79
Division wage rate of unskilled construction workers 2004-05	-0.01	0.02	-0.02	0.01	-0.01	0.02
Poverty HCR division 2000	-0.06**	0.03	0.02	0.02	0.10***	0.02
Constant	-3.19	16.25	-9.59	10.87	-0.64	12.47
Observations	2501		2501		2501	
R-squared	0.01		0.11		0.09	

***, ** Significant at 1 percent, 5 percent

Table 6: Factors determining proportion of time spent in school, studying outside school, and working, secondary-school-going children

Variables	School	S.E	Study	S.E	Work	S.E.
Age	0.75	2.92	9.91***	2.07	2.05	2.18
Square of age	-0.07	0.11	-0.38***	0.08	-0.03	0.08
Female	0.97	0.74	-2.63***	0.52	2.41***	0.55
NGO member	1.23	0.91	0.36	0.65	-0.33	0.68
Female * NGO member	-0.69	1.23	-1.32	0.87	0.91	0.92
Tutored	2.03***	0.61	5.53***	0.43	-3.07***	0.45
Attend madrasah	1.10	0.95	-1.41**	0.67	0.64	0.71
Muslim	0.06	0.89	-0.93	0.63	-0.09	0.66
Education of household head						
Primary and below	-0.15	0.77	0.95*	0.55	-0.65	0.58
Above primary	0.48	0.76	0.84	0.54	-1.27**	0.57
No. of children under 5 years of age	-0.09	0.47	-0.95***	0.34	0.87**	0.35
No. of elderly over 65 years of age	0.32	0.67	0.73	0.47	-1.37***	0.50
Household has electricity	-0.36	0.67	0.27	0.47	-1.33***	0.50
Household socioeconomic status (bottom 20 percent)						
2nd Quintile	-1.07	1.17	1.21	0.83	0.41	0.87
3rd Quintile	-1.18	1.11	2.34***	0.79	-0.15	0.83
4th Quintile	-1.29	1.15	1.65**	0.82	0.53	0.86
5th Quintile (top 20 percent)	-1.31	1.25	2.22**	0.89	-0.91	0.93
Division wage rate of unskilled construction workers 2004-05	-0.04	0.03	-0.00	0.02	-0.00	0.02
Poverty HCR division 2000	-0.03	0.04	-0.01	0.03	0.03	0.03
Constant	19.74	19.94	-48.78***	14.11	-14.27	14.87
Observations	2057		2057		2057	
R-squared	0.03		0.15		0.11	
***, ** Significant at 1 percent, 5 percent						

1   Because parents in poor households might not be able to afford to send their children to school, developing-country governments have formulated policies to make primary education free and compulsory. Many countries, including Bangladesh, offer scholarships. In India the 86th amendment to the Constitution, passed in December 2002, made free and compulsory education a fundamental right for all children aged 6–14. In many countries primary education is not free despite the fact that there are not supposed to be any charges. Kattan and Burnett (2004), examining the incidence of tuition fees in 79 countries, found that only 19 had legal tuition fees. Fees were "implemented illegally" in Benin, Ethiopia, Indonesia, Vietnam, India, Nepal, Colombia, Bosnia, Latvia, Russia, and Egypt.

2   Details on the survey and the data are available at http://dataportal.popcouncil.org

3   We are assured of high data quality on the basis of several indicators. The overall rate of non-response and refusal is low. There was intense scrutiny during fieldwork, and every questionnaire was cross-checked by a supervisor in the field to ensure rapid correction when necessary. In addition, a random sample of respondents were cross-interviewed by a data quality enforcer. Consistency checks were conducted onsite and reconciled by supervisors.

4   We observe time spent studying at home only for children who attend school. Hence, when we estimate time spent studying at home, we have to correct for sample selection bias. To do so, we include children who do not attend school and control for distance to secondary school in the division. Distance to secondary school is a reasonably good instrument. There are many more primary schools than secondary schools in Bangladesh, and grade-specific data point to a significant difference in levels of school attendance between primary and secondary schools in favor of primary schools. We test for the selection effect and reject the test at the 10 percent level of significance. All the models are estimated using the Seemingly Unrelated Regression Models command in STATA (http://www.ats.ucla.edu/stat/ Stata/faq/sureg.htm).

5   The models shown include all respondents who were recorded as being currently enrolled and attending school, whether or not they reported going to school on the day in question. These results are not substantially different from coefficients estimated from models where only those who reported attending school were included. All coefficients were similar in size and sign to the ones shown here except for the variables measuring age effects, which changed level of significance.

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