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Role of Public Schools in Education Decisions in Rural India
WORKING PAPER

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Abstract

In this paper, we attempt to determine the role of the presence of an appropriate public school within the village in the decision of school participation and continuation of children in the age group of 5-16 years in the context of rural India. The analysis is carried out using the nationally representative Annual Survey of Education Report (ASER) dataset. The results from the pooled cross-section logistical model highlight that the presence of an appropriate public school significantly enhances the odds of a child attending school. The results remain consistent and significant across different levels of schooling.

1 Introduction

To achieve the United Nations' Sustainable Development Goal (SDG) of "promoting lifelong learning opportunities for all" by 2030, governments across countries need to invest more in education infrastructure, this is particularly true for developing countries. According to the SDG report of 2019, more than half of the children and adolescents worldwide did not meet minimum proficiency standards in reading and mathematics in 2015. One of the main reasons for this is that many children still do not have access to a school, 262 million children of age 6 to 17 years were out of school in 2017 as per the SDG report of 2019. Moreover, even if they attend a school, they either drop out or have very poor learning outcomes. It is clear that although considerable progress has been made worldwide in the last decade in terms of improving enrolments at the primary level of education, the continuation and completion of education remains a major concern in many countries, especially in developing countries.

Furthermore, these gaps are wider among girls and among the poorest and the most disadvantaged (Muralidharan & Prakash, 2017).

India has a score of 58 (out of a total of 100) on the SDG Goal 4 of “Quality Education” (NITI Aayog, SDG India, Index and Dashboard 2019-20). Even with various big policy initiatives over time, India still has only 75.83 per cent of its children, of eligible age groups, enrolled in schools at the elementary and secondary levels of education. Furthermore, nearly 20 per cent of the children drop-out at the secondary level of education (NITI Aayog, SDG India, Index and Dashboard 2019-20). These reports highlight that despite near cent per cent enrolment rates at the primary level of education, a huge proportion of children in India do not complete their schooling due to insufficient and inequitable access to school infrastructure. Given this premise, our study is an attempt to assert the significance of the most basic requirement for education, that is, the presence of a school, and specifically the presence of a government school, which is of particular importance in the context of rural India. The objective is to determine the role of different factors affecting school participation and continuation, with a focus on the presence of a public school in the village.

In the case of a developing country, while the state bears most of the responsibility of providing for education and related infrastructure, the demand for education, and schooling in particular, is affected by various socio-economic, demographic, and cultural factors. There exist numerous studies which have analyzed the impact of some or most of these factors on school participation measured by enrolment, as well as on the decision to stay in school, measured by dropouts. The research on India covers a wide range of factors contributing to lower enrolments and/or higher dropouts, which include individual factors like child’s sex and age cohort (Duraishamy, 2001), household factors like parental (Afridi, 2010; Drèze & Kingdon, 2001; Huisman et al., 2010; Kurosaki et al., 2006; Maitra & Sharma, 2009), household wealth (Filmer & Pritchett, 2001), religion and caste (Borooah & Iyer, 2005; Drèze & Kingdon, 2001) and at an aggregated

level, community and village factors like culture (Huisman et al., 2010), caste-composition of village and village infrastructure (Dostie & Jayaraman, 2006). While these studies summarize various demand-side factors affecting schooling decisions, the implicit assumption is that there are no supply-side constraints.

The other strand of literature has focused on the importance of school infrastructure and school quality as major supply-side factors affecting a child's educational outcomes. To measure school quality, different measures have been discussed across different studies, such as teacher regularity, pupil-teacher ratio and the quality of school infrastructure (Banerjee et al., 2007; Drèze & Kingdon, 2001; Duflo et al., 2012; Glewwe & Kremer, 2006; Kingdon & Banerji, 2009). Once again, this strand of literature makes an implicit assumption that the school is present in the vicinity or is accessible. In other words, while these studies analyze the “quality of supply”, they do not discuss the issue of “supply”, *per se*, to begin with. Moreover, a large part of studies focusing on school quality have often delved into the quality effects on only students' learning outcomes, instead of their school participation decisions which is also an important outcome of school quality.

This study, thus, aligns itself and contributes to a third strand of literature which has emphasized the necessity of having access to a school in the first place, so that the households can then take education decisions for their children, based on a host of demand and supply-side factors (Bhatty, 1998; Das & Das, 2021; Muralidharan & Prakash, 2017; Sipahimalani, 1998). In this study, we raise the same question again as was discussed by Bhatty (1998) more than two decades ago. How much has India progressed in terms of school supply? Can we still disregard the importance of having a public school in the vicinity of a child's house and concentrate on all the other sets of explanations in isolation? This paper, thus, contributes to

this scant literature by undertaking analysis at the child level, based on different years of a nationally representative dataset, the Annual Status of Education Report (ASER), for the period post the implementation of the Right to Education Act, 2009. Access to a school is often measured by “distance to school” or simply the “presence of a school” in the village. However, in this paper, we instead define “access” to school for each child in a household, based on the availability or presence of an appropriate-school in the village. We define the “appropriateness” of a school depending on the last class attended by the child.¹ This novel classification enables us to capture the effect of differential access to schools for children belonging to different age cohorts in the same household. To get deeper insights, we further split our sample across the levels of appropriate-school being primary, middle or secondary, to analyze how the importance of the presence or absence of a public school differs across different levels of education. Das and Das (2021) using the 71st round of National Sample Survey Office (NSSO) data find that distance to a secondary school beyond 2-3 km can significantly reduce the chances of attaining secondary and higher education by school-age children. Mukhopadhyay & Sahoo (2016) take the argument of access to schools at different levels further and have acknowledged the importance of access to middle and secondary level schools for enrolments at primary levels of education. They argue that the plausibility of having access to schools at the higher or highest level plays an important role in affecting households’ current decisions of enrolling their children at lower levels of schooling. Using our definition of appropriate-schooling, we are able to nest the underlying hypothesis of both these studies and test the importance of the presence or absence of a public school differs across different levels of education using a larger data set for rural India.

Based on a pooled cross-sectional logit model, we find that the presence of an appropriate-school within the village significantly improves the probability of a child going to school. The

effect is more pronounced for a girl child than a boy child. However, for the children of older age cohorts, there is a dampening effect of age as it reduces the positive effect of the presence of an appropriate-school. Further, our results also highlight that the presence of an appropriate-school matters for the educational outcomes of children at all levels of schooling. Particularly for the middle and secondary level schools, we find that the importance of an appropriate-school is higher for the children of higher age cohorts. Lastly, we also find that the importance of an appropriate-school is significantly higher for a girl child at the secondary level of education.

The rest of the article is organized as follows: We, first, describe the data used for our analysis in section 2. In section 3, we describe our main variable of interest – “appropriate school”. We, then, define our empirical methodology in section 4. We discuss the results in the following section 5 and then finally, conclude our paper with possible policy implications in section 6.

2 Data

Data for the study comes from the Annual Status of Education Report (ASER).² This is a nationally representative survey, spanning all the states of India, covering all rural districts. ASER, therefore, follows two-stage sample designs. In the first stage, 30 villages are randomly selected from each of the districts based on the village directory of the 2001 Census. In the second stage, 20 households are randomly selected from each of the selected 30 villages. This gives a sample size of 600 households from each rural district or about 3,00,000 households at the all India level.

The survey includes modules on household information, the availability of a variety of village-level infrastructure like a post office, primary health centre, banks, internet café, availability of private schools as well as the availability of public schools at different levels, i.e., primary, middle, and secondary. Additionally, it collects information on the learning outcomes of all the children in the age group of 3-16 years.

For our analysis, we have utilized the survey data for five years – 2012, 2013, 2014, 2016 and 2018,³ that is, the period after the implementation of the Right to Education Act, 2009. Our dataset spans approximately 15 lakh households across all the specified years. Since for our analysis, the sample of interest is the children in the school-going age group, that is between the ages of 5 to 16 years, our working sample has 23,63,059 observations.

3 Definition of “appropriate-school”

The data from our study highlights that if we look at the presence of schools at different levels of education for all the children in the age group 5-16 years, nearly 68% of them have access to both a primary as well as a middle-level school in their village. However, only 17% of the children in our sample have access to schools at all three levels, namely, primary, middle, and secondary, within their village.

The extant literature so far has focused on the importance of the availability of any school, at any level in a village. However, this definition of access defined at the village level overlooks the differential access to an appropriate school for children of different age cohorts within the household. Since our data highlights that the presence of a school is ubiquitous because of the omnipresence of primary schools (93% of children have access to a primary school), what becomes more relevant is the presence of an appropriate school defined for each child, based on the child's last class attended. Thus, if the child in question has never attended school, then

irrespective of the age, the appropriate class for this child is grade “one” and hence, the appropriate-school is a primary school or the one that has a primary level schooling available. But if the child has attended school and has dropped out after completing some grade, then the appropriate class is assumed to be one grade higher than the one in which the child dropped out. Simply put, in such scenarios, the appropriate class for the child is one grade higher than the child’s last class attended. Hence, the appropriate-school would be primary if the appropriate class is till grade 5, it would be middle school if the appropriate class is between grades 6-8 and finally, it would be secondary school if the appropriate class is higher than grade 8. Using this revised and updated definition of “access to an appropriate school”, we observe that nearly 23% of the children in our sample do not have access to an appropriate-school. Amongst them, roughly 30% of the children, whose appropriate class is grades 6-8, do not have access to “middle level” schooling; and, as high as 80% of the children, whose appropriate class is grades 9-12, do not have access to “secondary level” schooling (see **Table 1.**). Further, looking at the intra-household differences in access to an appropriate-school, we find that in roughly 34% of the households there are children with no access to an appropriate-school residing along with their siblings who do have access to one. Therefore, this makes it pertinent to define and use “access to an appropriate school” at the child level rather than at the village level, as has been done in our study. This is a critical contribution of our study to the ever-growing literature on “access to schools”.

[Table 1.]

Moving on, we will now discuss the estimation strategy and the econometric model in the next section that has been employed for this analysis.

4 Econometric Model

To adequately estimate the probability of a child going to school, given that he or she is in the eligible age group, we employ a logistic (logit) model which helps determine the conditional probability of a binary dependent variable taking a particular value. The estimation equation is defined as follows:

$$\ln\left(\frac{P_i}{1-P_i}\right) = \alpha + \omega \text{Appropriate_school}_{ihv} + \beta C_{ihv} + \gamma H_{hv} + \delta V_v + \epsilon_{ihv}$$

Where, P_i is the conditional probability of $Y_{ihv} = 1$. Y_{ihv} is a binary variable that takes value 1 if the child i , of household h and village v , is going to school and zero if the child is not going to school. The value zero, therefore, includes children who have either never been enrolled or who have dropped out after completing some grade.

Our main variable of interest is the presence of an appropriate-school ($\text{Appropriate_school}_{ihv}$) for each child in the household. It is important to note that the variable has been constructed at the child level and not at the household level, keeping in mind the last completed level of education of the child, as described in section 3 previously. Therefore, appropriate-school is a binary variable that takes value 1, if for the specific child the appropriate school is present in the village and zero,⁴ otherwise. Given the construction of the variable, children in the same household can have differential access to an appropriate-school. As already mentioned in the previous section, our sample has roughly 34% of such households which have children with no access to an appropriate school residing along with their siblings who do have access to the same.

Besides, we have also controlled for a host of other factors. C_{ihv} captures all the child level factors, which include the age of the child, sex of the child, if any elder sibling is going to school or not, and if the mother of the child has ever gone to school or not. H_{ihv} includes all the household level factors. They include primarily three factors – first, the wealth index of the house, which is meant to capture the financial well-being of the household; second, the information index, which is a composite index created using variables like – if the household has a television, if it gets newspaper daily, if it gets any other reading material like magazines etc., and if there is anyone in the house who knows how to operate the computer. The information index intends to capture how well-informed or well-read a household is. Thirdly, we have controlled for the total number of children in the household. There are also a host of village-specific factors, V_v , that have been controlled for. These include variables that capture information on the state of infrastructure in the village – such as if the village has a *pucca* (cemented) road, if it has a post office or not, if it has a primary health centre or not, if there exists a bank branch within the village or not, and if the village has an internet café or not. Lastly, we have also controlled for district and year fixed effects.

Further, to enrich our analysis, we have also investigated if the school-going behaviour differs across the three levels of schooling – that is, primary, middle and secondary levels, by running sub-sample estimations. For this purpose, we divide the entire sample of children into three sub-samples based on their appropriate class and the corresponding level of schooling. Therefore, children whose appropriate classes are grades 1-5 and consequently, appropriate school a primary level school, form part of the first sub-sample. Likewise, children whose appropriate classes are grades 6-8 and hence, a middle-level school being an appropriate school, form part of the second sub-sample. Lastly, children with appropriate classes in grades 9-12 and a secondary school being an appropriate school, form part of the third sub-sample. The idea is that it is possible for the decision of “going to school” to differ across different

levels of schooling due to factors other than the availability of an appropriate school. These could be factors like the opportunity cost of going to school, which will get higher for higher levels of schooling because not only can the child provide labour but can also be a potential caregiver to other siblings or for the house, in general. Hence, it may render the availability of an appropriate school less or more critical for different levels of schooling. Similarly, it is expected that if the child or family or both are highly motivated for getting or providing education, the availability of a school within a village may not be a concern for them as they would be willing to travel outside the village as well. This is especially expected to be true for decisions at the secondary level of schooling. Hence, making these sub-sample comparisons will give a finer analysis of the effect of an appropriate school. It will further enlighten us on many aspects that contribute to the decision of going to school other than just the availability or the distance to schools.

In the next section, we discuss the estimation results from the specified econometric model.

5 Results

We first present the results (in **Table 2**) from the logit estimation of our main model to analyze the probability of a child going to school. Column (1) of the table presents the estimation of the model where we include only our main variable of interest, that is the availability of an appropriate-school defined uniquely for each child in the eligible age group (5-16 years), within the household. In column (2), we additionally control for child-specific characteristics, which include the child's age, sex, and an indicator for whether the child has an elder sibling going to school. In column (3), we include various household-level characteristics which include the child's mother's education status, measured by whether she ever went to school or not, total children in the household, an index for household wealth, and the information index. Lastly, in

our complete model in column (4), we control for various village-level characteristics indicative of a village's infrastructure, such as the presence of a bank, post office, internet cafe, pucca road and access to a government primary health centre. Furthermore, to test for any differential effect of appropriate-school across a girl and a boy child, we estimate the complete model including an interaction of the appropriate-school with the gender of the child, as presented in column (5).

[Table 2.]

As can be observed from the table, we find that the presence of an appropriate-school significantly improves the probability of a child going to school. The coefficient is strong and positive across all the specifications. This result highlights the importance of having access to a public school within the village as it reduces the direct as well as indirect costs of attaining education. The direct costs include the cost of transportation when the child has to travel to some other village to attend school or the higher cost of attending a local private school. The indirect costs include the cost of time and effort, as well as the psychological cost of the well-being of the children travelling a significant distance. Further, when we introduce the interaction between the presence of an appropriate-school with child's age, we find that for older age cohorts, there is a dampening effect of the presence of an appropriate-school (as indicated by the negative sign of the interaction coefficients). The dampening effect implies that the opportunity cost of education for children in the older cohorts is higher. This could be on account of an increase in household responsibilities for children in older age-cohorts, in the form of childcare or other household chores (Kis-Katos, 2007). Alternatively, children in the older age cohorts may also need to contribute to the household income through participation in the labour market, which reduces the probability of these children going to school (Ravallion et al., 1999; Shah & Steinberg, 2019).

We also find a host of other factors playing a significant role in determining a child's probability of going to school. Amongst the child-specific controls that have been included in the model, a child's sex plays a negative role that is, the probability of going to school is significantly lower for a female child than it is for a male child. A possible explanation for these differences comes from the patriarchal norms wherein a girl is supposed to leave her parent's house post marriage. This, then, implies that returns to education, in terms of better-earning potential, would also get transferred post marriage. This makes investment in girls' education less beneficial than the investment in boys' education, who are supposed to take care of them in their old age. Several studies support this argument (Kingdon, 2002; Pal, 2004). Further, through an interaction of the appropriate school with the child's gender, we also test how the presence of an appropriate-school matters differently across genders (Column 5 of **Table 2**). We find that there is a significantly positive effect of the presence of an appropriate-school for the girl child as it accentuates their probability of attending the school vis-a-vis that of boys. Additionally, among child-specific factors, we also look at the effect of having a school-going elder sibling within the household, which we find a significantly positive effect on a child's probability of going to school. This result could be driven by the chaperoning of younger siblings to schools, by their elder siblings which is a common practice in rural areas. Amongst the household level factors, we find significant and positive effects of the mother's education, the wealth index of the household and the information index. The positive effect of mother's education is aligned with the extant literature in this area. The literature argues that this is on account of the higher autonomy that a woman enjoys as a result of her education, giving rise to an improvement in intergenerational transfers (Behrman et al., 1999; Kingdon, 2002). As in the case of the wealth index, a higher value is associated with a higher level of affluence and hence, more resources within the household to be allocated for the education of children. Further, a higher level of wealth index may also be an indicator of an overall high

level of education in the household, which would further contribute to better educational outcomes for the children. Lastly, the inclusion of the information index takes into account if the household has access to any source of information either via television or newspaper or magazines etc., in addition to anyone having operating knowledge of a computer. The index may influence the decision-making within the household concerning the children's education. A positive effect in this case, therefore, is indicative of positive information transfers through these media. Another household-specific factor in our model is the total number of children in the household. This has a significant negative effect on the probability of a child attending school as having more children puts pressure on the limited resources of the household, thereby forcing some of these children either to drop out or to never enrol in school.

We have also controlled for various village-level factors indicative of their level of infrastructure. We find that improved infrastructure, specifically access to *pucca* roads, significantly enhances the probability of a child going to school through better and safer connectivity (Adukia et al., 2020).

Next, we discuss results from our sub-sample estimations, depending on the level of appropriate-school, presented in **Table 3**. Column (1) presents the results for children whose appropriate-school is at the primary level. Similarly, column (2) shows the results for the middle-level school and column (3) for the secondary-level school.

Overall, we find that the presence of an appropriate-school within the village matters at all three levels of education, which reinforces our findings from the aggregate analysis. That is, for a child, the probability of going to school significantly increases in the presence of a school at all levels of education – primary, middle as well as secondary, compared to in its absence.

Further, when we observe the interaction between the presence of an appropriate-school at different levels with a child's age, we find that for higher ages, there is a dampening effect of age when the appropriate school is a primary level school. This result is in line with our

aggregate analysis (**Table 2**). However, the same is not true when the appropriate-school is a middle level and secondary level school, where we find that for children of older age cohorts, the presence of an appropriate-school matters all the more.

This contrasts with the aggregate results in **Table 2**, where for higher ages the effect (aggregated over all levels of schooling) was getting lower, which could be driven by the results at the primary level of education as a large number of our observations belongs to this category (constituting roughly 60% of our observations). Therefore, the dampening effect of higher ages at the primary level of schooling once again is a reflection of the higher opportunity cost of education (direct and indirect cost, discussed above) for children of older age cohorts. This highlights that as the child grows farther from the eligible age cohort for the primary level of schooling, his or her incentive or desire to resume education diminishes starkly.

On the other hand, the reinforcing effect of higher ages at middle and secondary levels of education may emanate from the fact that children of older age cohorts are closer to the average eligible age for such higher levels of education and hence, they are at the margin of taking that decision of going to school or not. In such circumstances, the availability of an appropriate school at these higher levels of education significantly and positively influences their decision towards attending a school.

Further, we also find that a girl child is at a higher disadvantage as the level of schooling increases, possibly because of reasons such as – the responsibility of girls to provide care to their siblings and manage other household chores, the gender discriminatory practices of early marriages, skewed resource allocation in favour of male siblings, etc. (Muralidharan & Prakash, 2017). Additionally, for a girl child, the presence of an appropriate-school in her village of residence matters all the more when she needs to attend secondary or higher secondary level of schooling. This indicates the psychological cost of well-being which becomes more prominent due to the added safety concerns in the case of a girl child (Siddhu,

2011). These notional costs become altogether more pertinent for a girl child belonging to the post-pubertal age group.

As for the other explanatory variables in the sub-sample analysis, reported in **Table 3**, the results are in line with our findings from the aggregate analysis in **Table 2**.

[Table 3.]

As a check for robustness, we also estimate the stated empirical equation using the Linear Probability Model (LPM), the results of which are shown in tables in the Appendix. Our results remain robust to the LPM estimations, both for the main sample, as well as for sub-samples.

6 Conclusion

Despite the adoption of wide-ranging schemes for promoting educational development, the school participation (dropout) rates in India remain dismal and unsavoury. Our study contributes to the literature by analyzing the significance of the most fundamental factor – the presence of an appropriate-school within the village in determining school participation. The findings show that the supply of schools makes a difference over and above the demand factors that have been analyzed in the literature.

We find that the presence of an appropriate-school within the village significantly increases the probability of a child going to school. While the need for a primary school within the village is felt obvious, there is not much cognizance of the importance of having a middle as well as a secondary school within accessible limits. Our results suggest that due to various types of direct and indirect costs, as discussed previously, the presence of higher levels of schools can have substantial effects on improving the educational outcomes of children, especially on the completion of education. Further, along the expected lines, given patriarchal norms and additional concerns associated with girls' safety, we observe that the girls benefited more from

the presence of the public school within the village, compared to boys, specifically in secondary and higher secondary levels of education.

Our results offer direct and important insights for the government authorities, too and contributes to the literature that argues for a greater role of the state in the provision of education, particularly in rural India (Gill, 2017; Singh et al., 2022). Now, with the enactment of the Right to Education, education is no longer just a “need” but a “right”, which implies that there must be a way to fulfil this “right”. Making public schools at all levels accessible within the village can help in the fulfilment of the same. Additionally, it will also help in bridging gender gaps and in enhancing educational outcomes. Ensuring the availability of a school at all levels of education requires innovation and investment in the existing physical infrastructure of schools so that it can be used to expand the level of schooling at higher levels by simply investing in human and other required resources, and thereby improving “access”. But dwindling spending on education as a percentage of GDP over the years (at around 3% between 2010 till 2020), which is way less than the prescribed expenditure of 6% by the National Education Commission of 1964-66, highlights the glaring gap, which can be exploited for improving educational outcomes of children in the country.

Notes:

1. In our definition of an “appropriate-school”, we only consider public schools. This is because information on the level of education of the school – primary, middle and secondary, is not available for a private school in the village. Hence making it difficult for us to verify if the private school provides a suitable option for the children at primary level of schooling or at middle and secondary level of schooling, too.
2. Restrictions apply to the public availability of the data. The data was provided to the authors by ASER under a ‘call for papers’ wherein the proposal of this study was accepted. It can be made available by the authors with permission from ASER.
3. ASER data for the year 2015 is not available for all the states. Further, in 2017, ASER 2017 Beyond Basics was done on a pilot basis and it focused upon the youth in the age-group of 14-18 years only. This data is not available in public domain. Hence, these years have been excluded from the sample.
4. The variable has been constructed only on the basis of availability of government schools and has not taken into account the availability of private schools, because of lack of data on the levels of schooling for which the private school provides education.

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Tables

Table 1: Availability of appropriate-school within a village (child level)

Availability of school in the village	Appropriate class for child						
	Middle School in Village			Secondary School in Village			
	6	7	8	9	10	11	12

No	31.52	30.34	29.84	80.02	79.25	79.25	79.46
Yes	68.48	69.66	70.16	19.98	20.75	20.75	20.54

Notes: Calculated by authors, using the sample data.

Table 2: Results of Logit model – decision of going to school in the presence/absence of appropriate-school within the village

Going to school	(1)	(2)	(3)	(4)	(5)
<i>Child-specific characteristics</i>					
Appropriate-school	0.329*** (0.024)	0.494*** (0.062)	0.466*** (0.066)	0.464*** (0.066)	0.404*** (0.067)
Child age					
6 years		1.123*** (0.066)	1.222*** (0.071)	1.220*** (0.072)	1.223*** (0.072)
7 years		2.566*** (0.113)	2.764*** (0.119)	2.770*** (0.118)	2.773*** (0.118)
8 years		2.768*** (0.104)	3.003*** (0.110)	2.997*** (0.111)	3.000*** (0.110)
9 years		2.938*** (0.104)	3.178*** (0.107)	3.184*** (0.107)	3.188*** (0.107)
10 years		2.804*** (0.085)	3.042*** (0.089)	3.044*** (0.090)	3.047*** (0.090)
11 years		3.243*** (0.083)	3.440*** (0.089)	3.447*** (0.089)	3.452*** (0.089)
12 years		2.784*** (0.071)	2.976*** (0.076)	2.984*** (0.077)	2.987*** (0.077)
13 years		2.536*** (0.069)	2.702*** (0.073)	2.704*** (0.074)	2.710*** (0.074)
14 years		2.293*** (0.068)	2.444*** (0.074)	2.446*** (0.074)	2.450*** (0.074)
15 years		1.904*** (0.067)	2.053*** (0.072)	2.052*** (0.072)	2.055*** (0.072)
16 years		1.426*** (0.069)	1.567*** (0.074)	1.567*** (0.074)	1.571*** (0.074)

Appropriate-school * Child age

6 years	0.043 (0.065)	0.043 (0.069)	0.044 (0.071)	0.041 (0.071)
7 years	0.140 (0.107)	0.092 (0.114)	0.087 (0.114)	0.082 (0.114)
8 years	0.161 (0.101)	0.119 (0.107)	0.126 (0.108)	0.122 (0.107)
9 years	0.264** (0.104)	0.221** (0.108)	0.210* (0.108)	0.204* (0.108)
10 years	-0.031 (0.081)	-0.038 (0.086)	-0.042 (0.087)	-0.046 (0.087)
11 years	-0.309*** (0.083)	-0.295*** (0.089)	-0.305*** (0.089)	-0.311*** (0.089)
12 years	-0.582*** (0.071)	-0.524*** (0.075)	-0.535*** (0.076)	-0.539*** (0.076)
13 years	-0.539*** (0.070)	-0.473*** (0.074)	-0.475*** (0.075)	-0.483*** (0.075)
14 years	-0.981*** (0.069)	-0.894*** (0.073)	-0.902*** (0.073)	-0.908*** (0.073)
15 years	-1.336*** (0.068)	-1.237*** (0.072)	-1.244*** (0.072)	-1.249*** (0.072)
16 years	-1.313*** (0.067)	-1.222*** (0.071)	-1.234*** (0.071)	-1.238*** (0.071)

Appropriate-school *Female child

				0.125*** (0.024)
Female child	-0.124*** (0.017)	-0.098*** (0.017)	-0.098*** (0.017)	-0.187*** (0.026)
Elder sibling going to school	0.775*** (0.015)	0.979*** (0.015)	0.978*** (0.015)	0.978*** (0.015)
Mother went to school		0.582***	0.581***	0.582***

			(0.013)	(0.013)	(0.013)
<i>Household specific characteristics</i>					
Total children			-0.163***	-0.163***	-0.162***
			(0.004)	(0.004)	(0.004)
Wealth index			0.178***	0.176***	0.176***
			(0.005)	(0.005)	(0.005)
Information index			0.152***	0.152***	0.152***
			(0.006)	(0.006)	(0.006)
Constant	2.708***	0.985***	1.053***	1.050***	1.089***
	(0.023)	(0.066)	(0.073)	(0.074)	(0.074)
Village specific characteristics	No	No	No	Yes	Yes
<i>N</i>	2336568	2320740	2092635	2037741	2037741

Note: Coefficients (log of Odds) have been reported in the table. Standard errors are clustered at the district level and are reported in parentheses. The estimations control for district and time fixed effects. We have also tried estimations with controls for interactions of appropriate-school with “Wealth index” and mother’s schooling status (“Mother went to school”). Our results are robust to all these alternate specifications.

* $p < .10$, ** $p < .05$, *** $p < .01$

Table 3: Results of Logit Model – decision of going to school at different levels of schooling

	(1)	(2)	(3)
Going to school	Primary level	Middle level	Secondary level
<i>Child-specific characteristics</i>			
Appropriate-school	0.399*** (0.060)	0.178*** (0.053)	0.111*** (0.043)
Child age			
6 years	1.152*** (0.069)		
7 years	2.683*** (0.116)		
8 years	2.829*** (0.116)	2.942*** (0.198)	
9 years	3.190*** (0.131)	2.597*** (0.140)	
10 years	2.832*** (0.119)	2.780*** (0.087)	
11 years	2.624*** (0.135)	3.353*** (0.093)	0.695*** (0.140)
12 years	1.927*** (0.118)	2.930*** (0.061)	0.395*** (0.060)
13 years	1.306*** (0.142)	2.783*** (0.065)	0.555*** (0.040)
14 years	0.512*** (0.129)	1.906*** (0.052)	0.901*** (0.034)
15 years	-0.334** (0.142)	0.833*** (0.045)	0.562*** (0.022)
16 years	-0.792***		

	(0.173)		
Appropriate-school * Child age			
6 years	0.067		
	(0.068)		
7 years	0.099		
	(0.112)		
8 years	0.203*	0.886***	
	(0.112)	(0.301)	
9 years	0.125	0.909***	
	(0.130)	(0.184)	
10 years	0.029	0.499***	
	(0.114)	(0.104)	
11 years	0.113	0.584***	0.040
	(0.135)	(0.099)	(0.390)
12 years	-0.347***	0.430***	0.480***
	(0.115)	(0.061)	(0.145)
13 years	-0.512***	0.292***	0.410***
	(0.141)	(0.066)	(0.093)
14 years	-0.622***	0.244***	0.254***
	(0.123)	(0.058)	(0.067)
15 years	-0.414***	0.049	0.145***
	(0.135)	(0.055)	(0.049)
16 years	-0.182		
	(0.169)		
Appropriate-school *Female child	0.037	-0.023	0.096**
	(0.042)	(0.042)	(0.049)
Female child	-0.075*	-0.178***	-0.260***
	(0.039)	(0.042)	(0.031)
Elder sibling going to school	0.903***	1.189***	0.947***
	(0.019)	(0.030)	(0.037)

Mother went to school	0.361*** (0.016)	0.886*** (0.027)	0.812*** (0.021)
<i>Household specific characteristics</i>			
Total children	-0.170*** (0.006)	-0.136*** (0.007)	-0.094*** (0.006)
Wealth index	0.132*** (0.007)	0.218*** (0.009)	0.201*** (0.008)
Information index	0.047*** (0.007)	0.245*** (0.012)	0.288*** (0.009)
Public secondary school	0.009 (0.020)	0.046 (0.030)	
Constant	1.181*** (0.070)	1.196*** (0.059)	2.378*** (0.043)
Village Specific Characteristics	Yes	Yes	Yes
<i>N</i>	1116926	517946	341826

Note: Coefficients have been reported in the table. Standard errors are clustered at the district level and are reported in parentheses. The estimations control for district and time fixed effects. We have also tried estimations with controls for interactions of appropriate-school with “Wealth index” and mother’s schooling status (“Mother went to school”). Our results are robust to all these alternate specifications.

* $p < .10$, ** $p < .05$, *** $p < .01$

Appendix: Reporting results from Linear Probability Model (LPM)

Table A.1: Results of LPM model –decision of going to school in the presence/absence of appropriate-school within the village

Going to school	(1)	(2)	(3)	(4)	(5)
<i>Child-specific characteristics</i>					
Appropriate-school	0.020*** (0.002)	0.078*** (0.012)	0.072*** (0.012)	0.073*** (0.013)	0.069*** (0.013)
Child age					
6 years		0.170*** (0.011)	0.170*** (0.011)	0.170*** (0.011)	0.170*** (0.011)
7 years		0.261*** (0.013)	0.262*** (0.013)	0.263*** (0.013)	0.263*** (0.013)
8 years		0.269*** (0.013)	0.271*** (0.013)	0.273*** (0.013)	0.273*** (0.013)
9 years		0.273*** (0.013)	0.274*** (0.013)	0.276*** (0.014)	0.276*** (0.014)
10 years		0.272*** (0.013)	0.275*** (0.013)	0.276*** (0.013)	0.276*** (0.013)
11 years		0.279*** (0.013)	0.280*** (0.013)	0.281*** (0.013)	0.282*** (0.013)
12 years		0.271*** (0.013)	0.272*** (0.013)	0.274*** (0.013)	0.274*** (0.013)
13 years		0.262*** (0.013)	0.262*** (0.013)	0.263*** (0.013)	0.264*** (0.013)
14 years		0.251*** (0.013)	0.251*** (0.013)	0.252*** (0.013)	0.252*** (0.013)
15 years		0.224***	0.225***	0.226***	0.226***

	(0.013)	(0.013)	(0.013)	(0.013)
16 years	0.176***	0.178***	0.179***	0.179***
	(0.013)	(0.013)	(0.013)	(0.013)
Appropriate-school * Child age				
6 years	-0.032***	-0.028***	-0.029***	-0.029***
	(0.011)	(0.011)	(0.011)	(0.011)
7 years	-0.059***	-0.056***	-0.057***	-0.057***
	(0.012)	(0.013)	(0.013)	(0.013)
8 years	-0.062***	-0.059***	-0.060***	-0.060***
	(0.013)	(0.013)	(0.013)	(0.013)
9 years	-0.064***	-0.061***	-0.062***	-0.062***
	(0.013)	(0.013)	(0.013)	(0.013)
10 years	-0.067***	-0.063***	-0.065***	-0.065***
	(0.013)	(0.013)	(0.013)	(0.013)
11 years	-0.073***	-0.068***	-0.070***	-0.070***
	(0.013)	(0.013)	(0.013)	(0.013)
12 years	-0.081***	-0.074***	-0.076***	-0.076***
	(0.013)	(0.013)	(0.013)	(0.013)
13 years	-0.080***	-0.073***	-0.074***	-0.074***
	(0.013)	(0.013)	(0.013)	(0.013)
14 years	-0.112***	-0.103***	-0.105***	-0.105***
	(0.013)	(0.013)	(0.013)	(0.013)
15 years	-0.177***	-0.166***	-0.168***	-0.168***
	(0.013)	(0.013)	(0.013)	(0.013)
16 years	-0.205***	-0.195***	-0.197***	-0.197***
	(0.014)	(0.014)	(0.014)	(0.014)
Appropriate-school *Female child				0.008***
				(0.002)
Female child	-0.006***	-0.004***	-0.004***	-0.011***
	(0.001)	(0.001)	(0.001)	(0.002)

Elder sibling going to school		0.031*** (0.001)	0.040*** (0.001)	0.040*** (0.001)	0.040*** (0.001)
Mother went to school			0.027*** (0.001)	0.027*** (0.001)	0.027*** (0.001)
<i>Household specific characteristics</i>					
Total children			-0.010*** (0.000)	-0.010*** (0.000)	-0.010*** (0.000)
Wealth index			0.010*** (0.000)	0.010*** (0.000)	0.010*** (0.000)
Information index			0.005*** (0.000)	0.005*** (0.000)	0.005*** (0.000)
Constant	0.930*** (0.002)	0.711*** (0.013)	0.726*** (0.013)	0.724*** (0.013)	0.727*** (0.013)
Village specific characteristics	No	No	No	Yes	Yes
<i>N</i>	2336568	2320740	2092635	2037741	2037741

Note: Coefficients have been reported in the table. Standard errors are clustered at the district level and are reported in parentheses. The estimations control for district time fixed effects. We have also tried estimations with controls for interactions of appropriate-school with “Wealth index” and mother’s schooling status (“Mother went to school”). Our results are robust to all these alternate specifications.

* $p < .10$, ** $p < .05$, *** $p < .01$

Table A.2: Results of LPM model – decision of going to school at different levels of schooling

	(1)	(2)	(3)
Going to school	Primary level	Middle level	Secondary level
<i>Child-specific characteristics</i>			
Appropriate-school	0.069*** (0.012)	0.005*** (0.002)	-0.001 (0.013)
Child age			
6 years	0.170*** (0.011)		
7 years	0.262*** (0.013)		
8 years	0.268*** (0.013)	0.950*** (0.006)	
9 years	0.275*** (0.014)	0.940*** (0.004)	
10 years	0.269*** (0.014)	0.944*** (0.002)	
11 years	0.263*** (0.014)	0.953*** (0.002)	
12 years	0.217*** (0.016)	0.946*** (0.002)	-0.019** (0.007)
13 years	0.145*** (0.022)	0.941*** (0.002)	-0.011 (0.007)
14 years	-0.020 (0.029)	0.897*** (0.003)	0.006 (0.007)
15 years	-0.222*** (0.032)	0.755*** (0.006)	-0.011 (0.007)
16 years	-0.314***	0.590***	-0.056***

	(0.034)	(0.011)	(0.007)
Appropriate-school * Child age			
6 years	-0.028**		
	(0.011)		
7 years	-0.056***		
	(0.013)		
8 years	-0.055***	0.010	
	(0.013)	(0.006)	
9 years	-0.060***	0.015***	
	(0.013)	(0.005)	
10 years	-0.058***	0.006**	
	(0.013)	(0.003)	
11 years	-0.053***	0.001	
	(0.014)	(0.002)	
12 years	-0.063***	0.004**	0.024*
	(0.015)	(0.002)	(0.015)
13 years	-0.086***	0.005**	0.015
	(0.022)	(0.002)	(0.013)
14 years	-0.108***	0.020***	0.005
	(0.027)	(0.003)	(0.013)
15 years	-0.068**	0.031***	0.011
	(0.030)	(0.007)	(0.013)
16 years	-0.017	0.027**	0.017
	(0.033)	(0.011)	(0.013)
Appropriate-school *Female child	0.004	0.002	0.009***
	(0.003)	(0.002)	(0.003)
Female child	-0.006**	-0.008***	-0.016***
	(0.003)	(0.002)	(0.002)
Elder sibling going to school	0.042***	0.024***	0.039***
	(0.002)	(0.001)	(0.002)

Mother went to school	0.016*** (0.001)	0.023*** (0.001)	0.049*** (0.002)
<i>Household specific characteristics</i>			
Total children	-0.010*** (0.001)	-0.006*** (0.000)	-0.007*** (0.001)
Wealth index	0.008*** (0.001)	0.009*** (0.000)	0.016*** (0.001)
Information index	0.001*** (0.000)	0.003*** (0.000)	0.010*** (0.000)
Public secondary school	0.000 (0.001)	0.001 (0.001)	
Constant	0.718*** (0.014)	0.051*** (0.002)	0.961*** (0.008)
Village specific characteristics	Yes	Yes	Yes
<i>N</i>	1116926	528167	344085

Note: Coefficients have been reported in the table. Standard errors are clustered at the district level and are reported in parentheses. The estimations control for district time fixed effects. We have also tried estimations with controls for interactions of appropriate-school with “Wealth index” and mother’s schooling status (“Mother went to school”). Our results are robust to all these alternate specifications.

* $p < .10$, ** $p < .05$, *** $p < .01$