Chapter 4: Parents and their Children

4.1 *Is it true that parents, who may have low educational attainment themselves, must be cajoled and "incentivized" into sending their children to school?* The media and governmental policy suggest that the reality for children, even when enrolled, is that their ability to participate and learn is severely hampered by multiple demands on their time, either through housework or paid child-labor. The girl-child is less likely to be enrolled in school in the first place, and when she is her learning suffers because of the added burden of work at home and low parental attention, both in terms of money spent and time given. Popular wisdom is that the emergence of rural private schools may have made matters worse still. Illiterate parents, unable to gauge the quality of private schools, it is conjectured, are easily fooled by unscrupulous private school operators into paying unnecessarily high fees. These perceptions have clear implications for educational policy. The government must work hard to get children into school, compensate for the inability of parents to fund or spend time with their children, legislate against child-labor and regulate the private sector. Leaving illiterate parents to fend for themselves is not the best educational investment in the next generation of citizens. What do the data say about parental participation in the education process?

4.2 *Participation is only part of the story*. Researchers in Pakistan and elsewhere *have* actively explored the link between households and schools. However, the focus has been on factors that lead to higher enrollment. In the Pakistani context, given the importance of the distance to school and its interplay with gender, there is a considerable literature on the impact of distance from school on attendance; more so for girls than for boys. [21] As the chapter on learning shows, once children get to school ensuring learning outcomes is an entirely separate issue. Upping enrollment is undoubtedly an important first-step, but it is now time to think about how to bolster their learning and expand our understanding about the role of households in supporting the learning process.

4.3 *The role of the household in promoting better educational outcomes is equally important*. This chapter presents detailed information on the choices that parents make regarding their children's schools, the time and money they spend on their children, the daily activities that a child engages in, and reiterates the critical constraints that distance to school has for enrollment, especially among girls. While some findings from the survey data accord well with some of the commonly held beliefs mentioned above, other findings suggest a closer evaluation of the Pakistani rural household and its role in educating their children is in order. As a teacher

[21] Alderman, Behrman, Khan, Ross and Sabot (1995), Holmes, Jessica. (2003), Lloyd, Mete and Sathar (2005), Sawada and Lokshin (2001).

said to one of us recently "*The child is in school 6 hours a day and at home 18. If parents do not pay attention, what can the child learn?*" This chapter looks at how parents both enhance and hamper their children's educational outcomes. The results show that households are very different in what they want for their children, and that different children within the same household are treated very differently. The chapter concludes with a discussion of how these findings can enhance the educational policy debate.

I. FACTS AND FINDINGS

4.4 *A typical parent probably goes through the following thought process when considering the educating their children.* They look for an appropriate school; gather information about different schools in their village in terms of distance, fees, quality and other attributes important for them; decide which school to send their child to, if they decide to enroll their child at all; and then determine how much time and money to spend on their child's education and how much time a child will devote to school work, household chores, and other activities. These decisions are not taken one after the other in the fashion presented here, but are intrinsically inter-related and play out over time. For instance, a household may decide against enrolling a child under any circumstances, in which case they may not look at the different schools in their village. Similarly, the household may decide which school to send their child to depending on their assessment of the inputs in time and money they are likely to spend on their child. This model is not meant to serve as an "explanation" of the data presented here, but rather to provide a context for the specific facts and findings that follow.

Parents Perceptions of Quality: Children, Teachers and Schools

4.5 *Contrary to popular belief, parents know a lot about how their children are performing, how good their teachers are, and how good the schools in their villages are.* The LEAPS household survey asked the following questions of fathers and mothers, separately:

- Rate each of your children on a scale of 1 (very poor) to 5 (excellent) for intelligence and effort (how hard-working are they?).
- Rate each of your children's *teachers* on performance and attendance (regularity) using a similar scale.
- Rate each of the *schools* in the village. For every school in the village parents were asked whether they had heard of the school, and if yes, how good they thought the school was.

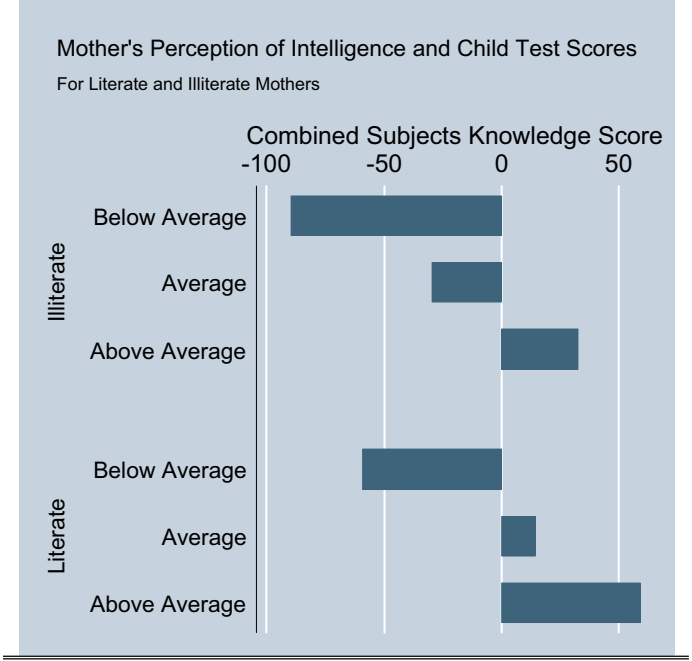
4.6 *The LEAPS survey design allows us to match these parental perceptions to objective outcomes.* Because the LEAPS survey tested a large number of children for whom household surveys were also completed, we can match the responses of the households to the test scores of more than 800 children in Class 3. We are also able to

match parental assessments of the child's teachers and schools to the test scores of children taught by the teacher and to the test scores of the Class 3 children in every school.

4.7 *Households are well-informed about the performance of their children, their children's teachers, and their children's schools.* The following four figures demonstrating the extent of household information, all follow the same pattern. The horizontal axis plots what the household said. The vertical axis plots the test scores in the independently administered test, whose results had not been disclosed to households at the time of the survey. Depending on the figure, these are the test-scores of their child, other children taught by the child's teacher, or children in the school that the parents ranked.

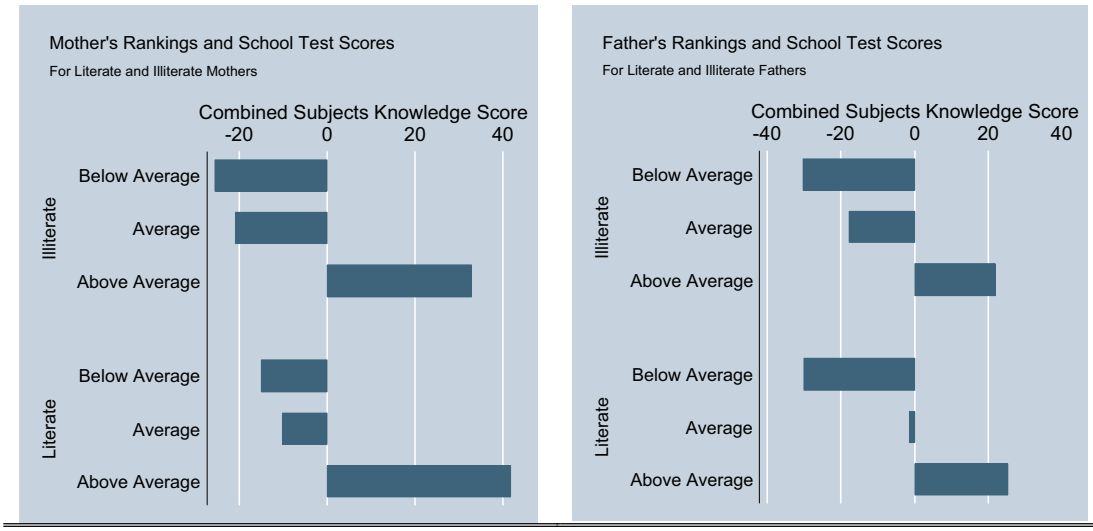
4.8 *Result 1: Children perceived as more intelligent by their parents score higher on tests.* Figure 4.1 plots household reports of child intelligence against the child's actual test score for illiterate and literate mothers (the results for fathers are similar). When households say that a child is very intelligent, he/she reports test scores that are much higher than when the household says that a child is not intelligent. The differences are large and significant—a child who is perceived as less intelligent reports test scores close to 0.7 standard deviations lower than a child perceived to be intelligent. *The results do not depend on whether the parents are literate.* Illiterate mothers are as good as literate mothers in figuring out which of their children is intelligent and hard-working and which is not. Finally, factors other than learning are not associated with parental assessments of child intelligence: For every additional standard deviation increase in the child's average test score there is a 13 percentage point increase in the probability that the mother perceives her child as highly intelligent, and a 10 percentage point increase in the probability that she perceives her child as "performing highly". It is particularly interesting to note that neither age nor gender are statistically significant, suggesting that mothers do not discriminate among older or younger children or among boys and girls.

Figure 4.1: Children Perceived as Intelligent Score Higher on Tests



4.9 *Result 2: When parents say a school is good, it usually is.* Figure 4.2 shows a similar pattern in way households' perceive school performance. Here, we plot for both fathers and mothers the actual English score of tested children in the school against what parents told us they thought the quality of the school was ("poor", "average" or "above average"). The results are also separated by mothers and fathers who can read and those who cannot. (The choice to show results for English test scores is based on the expectation that parents will be less able to assess the quality of teaching in English, which may or may not be true.) When households feel that a school is above average, the English test scores of children in that school are much higher than that of schools that households feel are poor. Again, illiterate parents are as good at judging school performance as literate ones. And women are good as men in figuring out which schools perform well.

Figure 4.2: Parental Perceptions of School Quality are Accurate



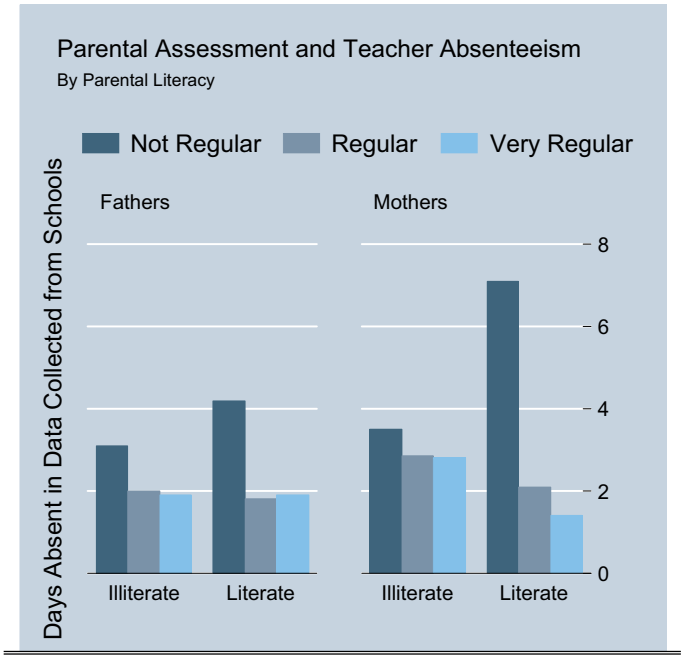
Box 4.1: Are household assessments of schools based on observable characteristics rather than test scores?

Part of the result above could be driven by parents judging schools on attributes *other* than test scores but still correlated with the performance of children in the school. For instance, if parents ranked all private schools as good and all public schools as bad, similar correlations would arise. As it turns out, the relationship between household ranking and test scores of children in the school remain significant *after controlling for all observable characteristics of the school.*

Parents are indeed more likely to rate a school highly if it is private (26 to 31 percentage points). In addition, observed characteristics of schools increase the probability that parents rate the school highly; in particularly, the number of teachers increases the probability by 1 percentage point and better infrastructure by 1.2 percentage points. However, test scores continue to matter most: a one-standard deviation in the combined subject test scores increases the probability that a school is ranked highly by more than 2.6 percentage points, twice as high as any other observable characteristic other than whether the school is public or private. These results tell us not only that households place value on test scores and rate schools where children are performing better higher, but *also* that literacy and the gender of the parent do not matter for the ability to judge schools and that households are not "taken in" by observable characteristics of schools. Schools may have better infrastructure and more teachers, but at the end, it's the quality of instruction that influences household perceptions.

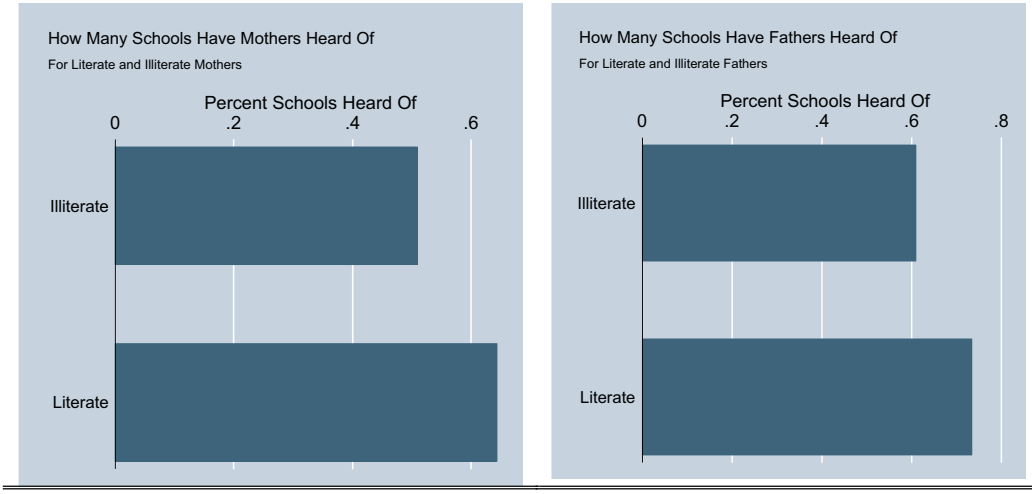
4.10 *Result 3: Mothers know best.* Figure 4.3 relates households' perceptions of teacher attendance (regularity) measured at the school as part of the teacher questionnaires and roster exercise (see Chapter 3). Again maternal assessment of the teachers' regularity tracks the actual state of affairs well. Literate mothers do a slightly better job (especially in figuring out which teachers are not regular) than literate fathers. Combining this with results 1 and 2, mothers are more aware of school conditions despite, as we will see next, having visited far fewer schools than fathers.

Figure 4.3: Mother Knows Best



4.11 *Result 4: In a typical village some schools are unknown to parents.* Figure 4.4 is the *only* set of results that resonate, at first glance, with the common wisdom that households are relatively ignorant, and illiterate and less wealthy households know less. Mothers have *heard of* only 60 percent of the schools in their village, and fathers 70 percent, and illiterate mothers and fathers have heard of even fewer schools. Several salient points emerge through a multivariate regression analysis: both mothers and fathers are far more likely to report having heard of a school that is public rather than private. The public "advantage" translates into a 22 percentage point increase for fathers, 17 percentage points for mothers, resulting in a 20.6 percentage point increase for household responses that combine both the parents' information. At the level of the school, the size of the school as measured by the number of male and female teachers correlates strongly with the probability of being recognized (for male, female, and household regressions), while every additional year that a school has been in the village increases the probability of recognition by 0.2 to 0.3 percentage points (males and females, respectively). At the level of the household, being rich, having educated parents and being close to a school increase the probability that any school is recognized by parents. For every kilometer that the school is further from the house, the probability of hearing about it decreases by 7 percentage points for fathers and 9 for mothers, presumably reflecting the limited mobility of women within the village.

Figure 4.4: Even in a village, people have not heard of a large number of schools



4.12 These results suggest that ignorance about schools, to the extent that it hampers the ability of households to choose appropriately for their children, is limited *on the average* to household's knowledge of the existence of certain schools. Even here, it is easy to imagine scenarios where this ignorance has no impact on actual outcomes. For instance, if the schools that the household has not heard of are those which would never be chosen (perhaps they are too far), lack of knowledge does not imply that households are making uninformed decisions. The average household is thus reasonably accurate in their perceptions of how well their child is doing, how well their child's teacher is doing, and how well different schools in the village are doing. The common wisdom that mothers and illiterate parents know less is limited, at most, to their awareness of certain schools.

The decision to enroll a child

4.13 *The household survey showed that between the ages of 5 to 15, just over one-third of the children in the sample (35 percent) were not enrolled in any school.* The data are consistent with the patterns observed in the Pakistan Integrated Household Survey (PIHS). In particular, girls are less likely to be enrolled than boys, and there is a familiar pattern of delayed enrollment, whereby enrollment first increases with age, peaks between the ages of 9 and 10, and subsequently declines. There is a hint of a greater decline among girls compared to boys between the ages of 10 and 15, but the additional decline for females is neither large nor statistically significant. Close to 30 percent of the enrolled children are in private schools (27.3 percent), a number not very different from that in the PSLM for rural areas of the province. Finally, as expected, enrollment is higher among wealthier households and household with more educated parents. These facts are well known and the LEAPS data are similar to those obtained from larger surveys.

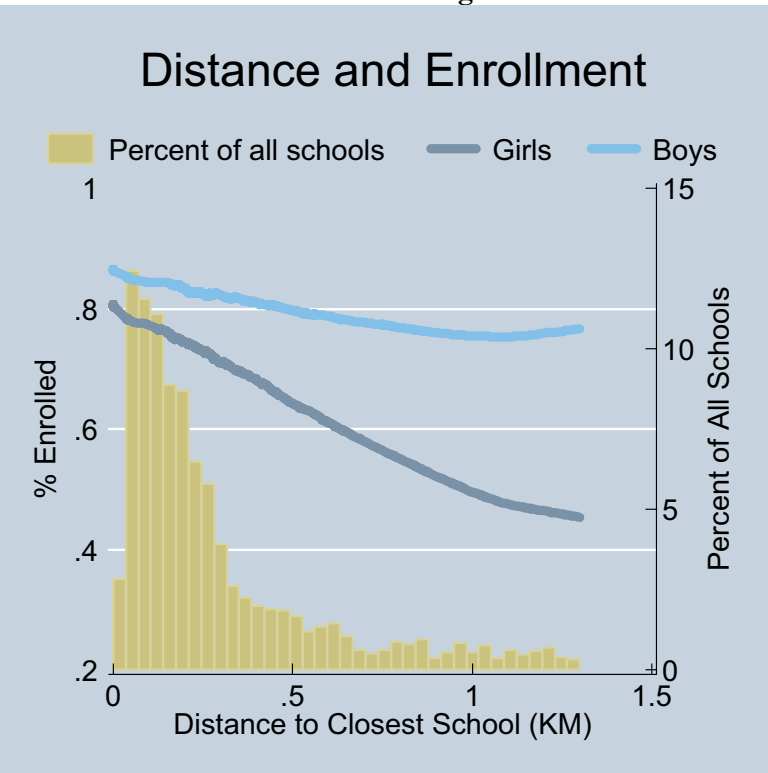
4.14 *The LEAPS survey improves on PIHS enrollment data in three ways.* First, the LEAPS survey measured distances from households to schools using global positioning systems (GPS). For every child in the surveyed household, there is data on the distance not only to the school he/she attends, but to *every possible school in the village*. This is an improvement over the PIHS where the questionnaire assumes a single school in the village and provides a single number for distance between home and school for every household—a strategy that can yield erroneous results when there are 10-12 schools in every village. Second, the survey recorded the specific name of the school so that the association between distance and enrollment can be linked to information about the school the child attends. Third, as described in the previous section, the survey included questions for parents on their perceptions of the child's intelligence, work ethic, and school performance. These additional bits of information lead to some surprising results. Relating enrollment to parental perceptions of intelligence yields important insights into how parents allocate educational investments among children in the same household. And new findings (relative to what is well known from analysis of standard household survey data) emerge when these new distance measures and information on parental perceptions of the child's intelligence are used to better understand enrollment and school choice decisions.[22]

4.15 *Distance plays a major role in the decision to enroll a child, and more so for girls.* Figure 4.5 presents the relationship between enrollment and the distance to the closest eligible school that the child can attend, differentiated by gender. The left axis presents a histogram of the distance measure for the children in the sample. The right axis shows the enrollment for boys and girls as a function of the distance measure.[23] The distance measure was computed by using GPS coordinates to measure the distance between every household-school pair (close to 50,000 such pairs in the data); by using information on whether a school is co-educational (all private school) or single-sex (all government schools are either for only boys or only girls) to assess whether a child is *eligible* to attend the school (for instance, girls are not eligible to attend a boys' school, even if it is much closer than the alternative); and by combining the eligibility and distance data to compute the distance to the closest eligible school.

[22] Parental perceptions of the child's intelligence could be self-reinforcing, in that, they invest in the child they *think* is more intelligent, and the child then performs better, making the parental beliefs self-fulfilling. Nevertheless, these perceptions do present an added dimension to understanding intra-household allocations across children. For instance, parents who invest more in children they *think* are more intelligent still suggests that parents are not following a policy of compensating for weaker children in their educational investment decisions.

[23] The associations are computed in a non-parametric fashion using locally weighted linear regressions. Since these non-parametric measures tend to be highly sensitive to areas with few observations, the fitted curves are "trimmed" at the 95th percentile of the distance measure. That is, the associations are plotted using the full sample data, but omit observations in the top 5 percent from the graph.

Figure 4.5: Most schools are within 500 meters of the household…yet enrollment falls dramatically with distance and more so for girls



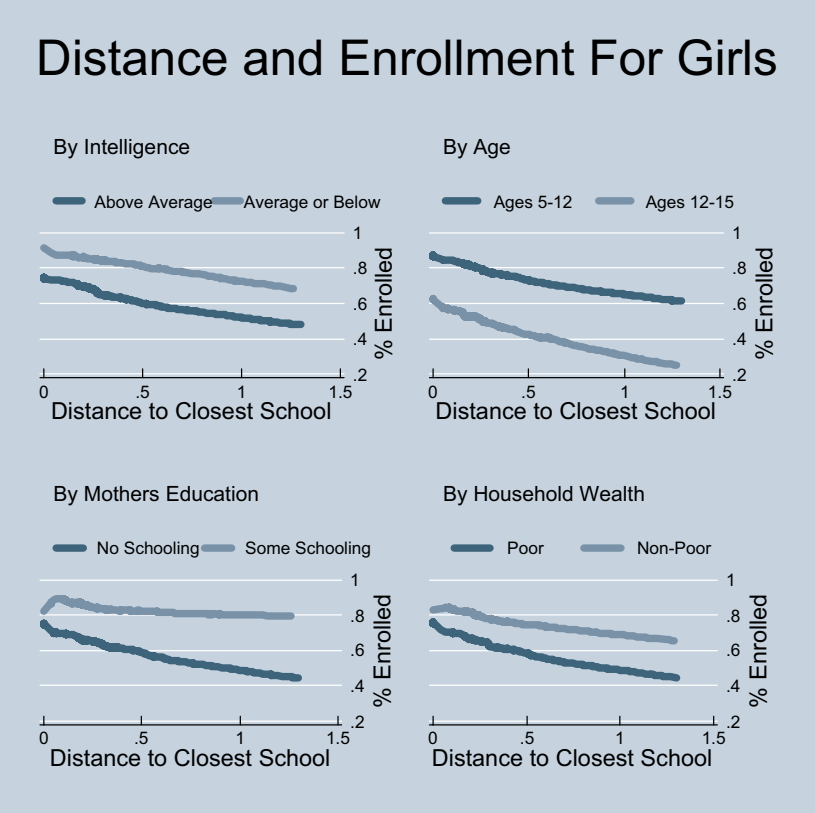
4.16 *Across the three districts, 50 percent of children are within 200 meters of the closest eligible school and the average distance of a child from his/her closest eligible school is 350 meters.* The histogram in Figure 4.5 shows the distribution of distance from school for children in the LEAPS survey. The vast majority of children are within 500 meters of the closest eligible school. In several villages we walked this distance with boys and girls between the ages of 8 and 12, and in no case did it take us more than 10 minutes. Children live closest to schools in Faisalabad (median 150 meters and mean 220 meters) and furthest in Rahim Yar Khan. Even in Rahim Yar Khan though, 50 percent of all children live within 400 meters from the closest school (the average distance is 550 meters). At first glance, low enrollments arising because children live far from school does not appear be an issue.

4.17 *Even with the relatively small distances to school, the distance-enrollment relationship is strong, especially for girls: the "distance penalty" accounts for 60 percent of the gender-gap in enrollments.* The relationship between enrollment and distance is strongly negative and more or less linear. Across boys and girls, enrollment declines by 8-10 percentage points for every 500 meters that a school is further from the house, and the relationship is as strong moving from 0 to 100 meters as from 800 to 900 meters. As expected, the relationship is (much) stronger for girls than for boys; in fact, the drop in enrollment as the distance to the closest eligible school increases is 3-4 times as much as that for boys—4 percentage points for every 500 meters for boys and 11-16 percentage points for girls. In a multivariate regression context that controls for age, household expenditures (a measure of income), education and the intelligence of the child, the "distance penalty" for boys is further reduced to 1.5-3 percentage points; for girls, the effect of distance is still large at 9-11 percentage-points for every 500 meters. While household and child characteristics, such as household expenditures and the child's age, all have independent effects on enrollment they do not alter the size of the basic gender gap of 15-16

percentage points in enrollment in the LEAPS data. In sharp contrast, allowing for the distance-enrollment relationship to differ across boys and girls reduces the pure effect of gender on enrollment to 5 percentage points—a dramatic decline of 60 percent.

4.18 *One way to assess what policies might increase female enrollment is to ask whether there are any household or child characteristics that reduce the "distance-penalty"*. For instance, if girls from richer households are able to attend schools farther away this is an indication that with more money, parents will be able to pay for transportation costs. We examine the effects of two household characteristics (the maximum education of an adult female in the household and the wealth of the household) and two child characteristics (age and intelligence) on the distance penalty. The analysis examines a policy question: in the absence of new school construction, how many households can be induced to send their children, particularly girls, to schools that are farther away?

Figure 4.6: Only educated adult females reduce the "distance-penalty" for girls



4.19 *The enrollment-distance relationship for different types of children and different types of households is used to address the policy question.* Figure 4.6 presents the results for girls. As in Figure 4.5, the relationship between enrollment and distance to the closest school for girls is plotted, but now for different sub-groups. The top-left graph looks at the relationship for girls perceived to be "above average" in intelligence and "average or below average intelligence"; the top-right graph looks at girls aged 5-12 and those aged 13-15 (post-menarche); the bottom left by whether the mother has any schooling or not and the bottom right by household wealth (poor or non-poor is defined such that 50 percent of all households fall into each of the two categories). Each graph conveys the *level* effect of the categorization (the extent to which, say, intelligent girls are more likely to be enrolled than those who are less intelligent) and the *gradient* effect of the categorization (the extent to which, say, intelligent girls are more likely to be sent to schools farther away).

4.20 *For girls, only the presence of educated adult females in the household reduces the distance penalty.* Girls living in households with educated females or in richer households are all more likely to be in school, as are those who are more intelligent and those in the younger age groups. These differences are large and significant, accounting for an increase in enrollment of between 15-20 percentage points (the dramatic effects of intelligence on enrollment will be discussed further on). However, apart from the presence of an educated female in the household, *none* of the other characteristics reduce the distance-penalty for girls. A priori, one might have thought richer households could and would obtain appropriate transport (or chaperone services) or that post-pubescent girls will be less likely to travel farther, but there is *scant evidence that distance plays a larger role for girls from poorer families or for teenage girls compared to others.* Girls in households where there is an adult female with *some* education (30 percent of all households) are enrolled even when the school is farther away, and the result is fairly large and significant in a regression context.

4.21 *In the case of boys, both educated adult females and parental perception of the child's intelligence reduce the "distance penalty".* Figure 4.7 shows the same set of relationships for boys. As before, child intelligence, younger ages, adult female education and greater wealth are all significantly associated with higher enrollment, albeit with two notable differences. First, consistent with Figure 4.1, the overall gradients are less steep—distance matters less for boys. Second, adult female education plays less of a role in reducing the distance effect, but parents are more willing to send boys they perceive to be more intelligent to schools farther away. As before, household wealth and the age of the child has little effect on the enrollment-distance gradient.

Figure 4.7: Nothing reduces the "distance-penalty" for boys

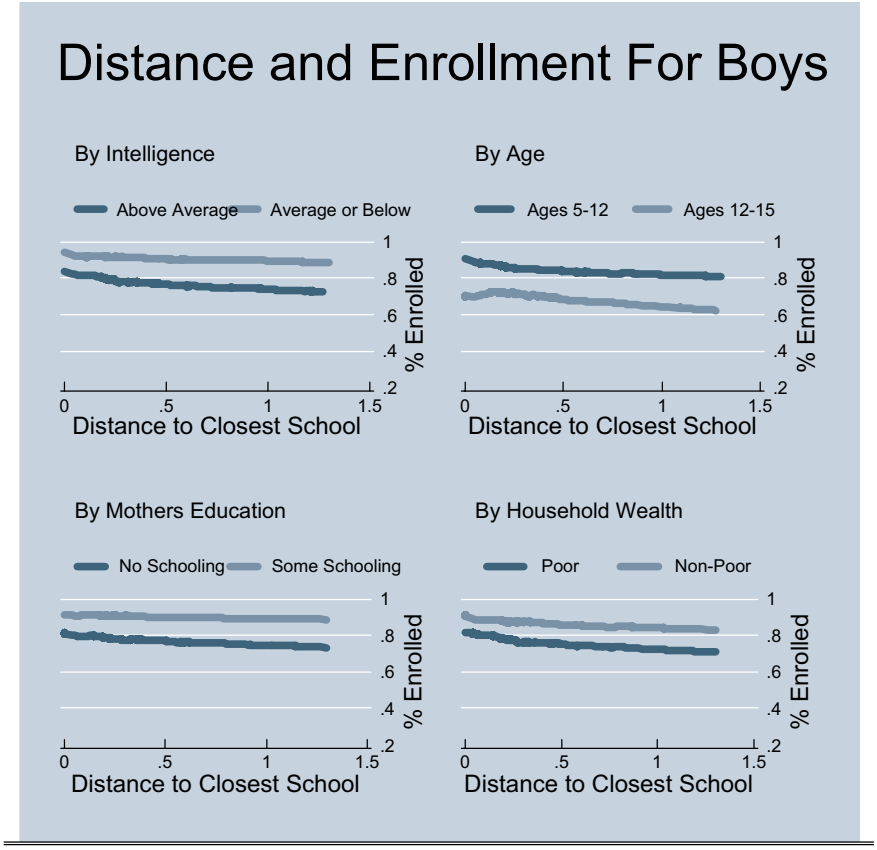


Table 4.1: Household and Child Characteristics, Enrollment, and the Distance Gradient				
	Boys		Girls	
	Likelihood of Enrollment	Effect of Distance on Enrollment	Likelihood of Enrollment	Effect of Distance on Enrollment
Child Intelligence	Increases	Reduces the distance penalty	Increases	No Change
Child in teenage years	Decreases	No Change	Decreases	No Change
Household Wealth	Increases	No Change	Increases	No Change
Educated Adult Female in Household	Increases	No Change	Increases	Reduces the distance penalty

4.22 *Children more likely to be enrolled if they come from richer households, are more intelligent (according to their parents), and are pre-teens.* The enrollment analysis is summarized in Table 4.1. In essence, children from richer households, more intelligent children, and those in the pre-teen years are all more likely to be enrolled, whether they are boys or girls. However, in the case of girls, child attributes do not play a role in decreasing the detrimental effects of distance; the only statistically significant result is that the distance-penalty is lower for girls in households with an educated female. For boys, child intelligence plays an important role in attenuating the distance penalty.

The school choice decision

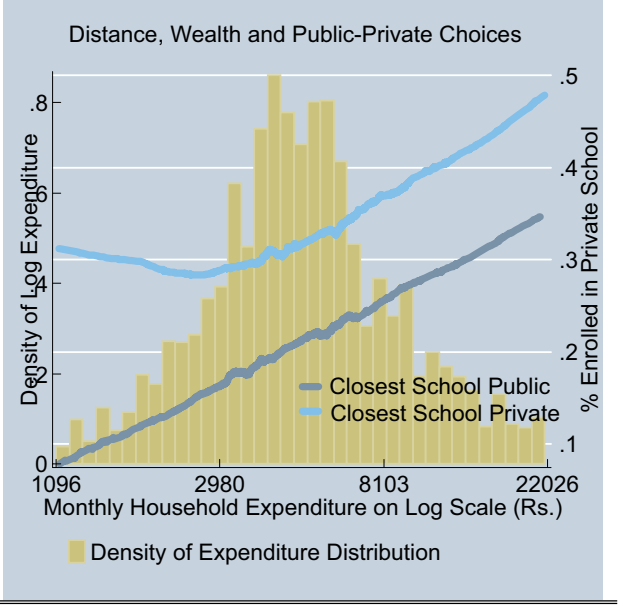
4.23 *The question of school choice at the household level is linked to understanding how policy changes might affect enrollment in different types of schools.* The next section looks at the public-private school choice and, in particular, the effects of distance, household income and expenditure on the choice of a private school. It then examines the evidence on how parents are choosing schools. Two main findings emerge. First, poorer students attend public schools partly because they are closer. Second, different households care about different things in choosing schools. For instance, despite the dramatic effects of distance on enrollment, 50 percent of enrolled boys and girls *do not go to the closest eligible school.* School choice depends on whether households are quality conscious, distance conscious, or price conscious.

Table 4.2: Children closer to private schools are from richer and more educated households		
Household Characteristics	Closest Eligible School is:	
	Private	**Public**
% all Children	53.14	46.86
Mother's Education (Years)	1.407	0.828
Father's Education (Years)	3.706	2.93
Per Capita Expenditure	778.933	659.394
PCA Wealth	-0.199	-0.404
Median distance to closest eligible school	0.176	0.277

4.24 Chapter 2 on the schooling environment showed that private schools tend to locate in richer settlements and public schools are also found in peripheral areas of the village, where households are poorer. Table 4.2 confirms this typology using household data—children who are closest to a private school tend to come from richer and more educated households, and travel shorter distances to school.

4.25 Figure 4.8 shows how location patterns relate to the wealth segmentation observed in the data, whereby children in private schools were 1.2 standard-deviations richer on average than those in public schools. It plots the percentage of children enrolled in private schools against (log) monthly household expenditure for two groups of children—those whose closest eligible school is public, and those whose closest eligible school is private. The histogram gives some sense of the distribution of (log) household expenditures.

Figure 4.8: Distance to a private school has as much to do with their use as the wealth of the household



4.26 *Public-private enrollment decisions show a clear pattern.* First, there is a dramatic increase of 10 percentage points (30 percent) in the probability of using a private school *regardless of wealth* when the private school is closer than a public school. A child in a household with monthly expenditures of Rs.3000 whose closest school is private is as likely to enroll in a private school as a child in a household with monthly expenditures of Rs.15000 whose closest school is public. Second, the likelihood of enrolling in a private school as household income increases is unaffected by whether the closest school is public or private. This implies that even if every child in the village had equal access to a private school, there would still be a considerable difference in the household incomes of children in public and private schools. Predictions from a regression model suggest that if private schools were the closest option for *all* children, enrollment in these schools would increase from 31 to 34 percent for the rich and 24 to 29 percent for the poor. Part of the 7 percentage point gap between the rich and the poor is because of the specific location choices of private schools, but even if private schools were to locate in all settlements, the gap would remain at 5 percentage points.

4.27 *The distance and enrollment analysis shows that the distance to school matters when parents choose whether to enroll a child or whether to send a child to a public or private school.* One might think that parents always enroll their children

in the closest school given the strong relationship between distance and enrollment (a 500-meter increase in this distance leads to a 20 percentage point decline for girls). Yet the results so far say little about the school that the parent *actually* chooses—while children are less likely to attend school if it is further away, this does not necessarily imply that all *enrolled* children go to the closest eligible school.

4.28 *Other selection factors.* In fact, only 36 percent of all enrolled boys and 38 percent of all enrolled girls attend the closest eligible school. Of the remainder, 52 percent choose to bypass a nearby private school to go to a public school that is further away; 15 percent bypass a nearby government school to go to a more distant private school, 25 percent choose a most distant government school than the one that is closest to their house and 12 percent bypass one private school to go to another. Neither is bypassing a purely male-child phenomenon. While boys *are* more likely to bypass the closest school, 60 percent of all enrolled girls also travel beyond the closest eligible school to one that is further away. The additional distances they travel are not large in themselves, ranging from 150 meters (private for private) to 500 meters (public for public), but these do attain greater significance in light of the enrollment-distance relationship discussed above.[24] These results may be reconciled in a number of ways.

4.29 *Data on school bypassing suggests three types of households.* A potential reconciliation is that the child whose enrollment status is affected by the construction of a nearby school is very different from the one who bypasses a school that is next door to go to one that is further away. In fact, the only child whose enrollment changes after school construction nearby *is* the child who is sent to the closest school. The data on bypassing suggests three types of households in the sampled villages (see Annexure 1, Table A4.1):

- Distance conscious households are characterized by a combination of fewer enrolled children and enrollment in the closest school for those who attend.
- Quality conscious households bypass a nearby public school to go to a private school further away. These households tend to be rich with more educated parents, and the schools they finally select report learning levels close to one standard-deviation higher than the school closest to their house.
- Price conscious households bypass a nearby private school to go to a public school further away. As one may expect, these households tend to be poorer, less educated, and children are enrolled in schools where the learning levels are much lower than the school close to their house.

[24] If all households and children were identical this finding is puzzling. Consider a household with a school 500 meters away from home. The results suggest is that if the government constructs another school 200 meters from the household, enrollment would increase, but *some of the newly enrolled children would go to the school that is 500 meters away*. A natural question is: why were these children, whose choice is not affected by the construction of the closer school, not in school in the first place?

4.30 *The presence of these different types of households in a typical village (which cannot be identified a priori) makes it very hard to say much about school choice without further assumptions.* For instance, does bypassing mean that households are searching for quality? Not necessarily. *If* the household is bypassing a public school to go to a private school further away, it is searching for quality. But, if it bypasses a nearby private school to go to a public school that is further away, it is probably searching for a lower cost. What happens in the aggregate data depends on the proportions of each type of household.

4.31 *Interactions between households or between children within the same household could also explain part of the data on school choice.* As an example, a nearby school may allow children from a cluster of households to leave together; some of whom may then attend the closest school, while others may travel a little further, or even accompany their companions to the school further away before returning. Such effects are likely larger if there are particular obstacles that have to be crossed—a main road for example, or an empty field, or a stream.

4.32 These new data add several elements to the debate on distance and enrollment in Pakistan. To summarize the new findings:

- Distance and enrollment are strongly and negatively related, and more so for girls. There is little that mitigates the distance penalty.
- The poor use public schools more partly because private schools are located closer to richer households, but even if location patterns were equitable, (not surprisingly) there would still be a gap in the use of private schools by the rich and the poor.
- Moving beyond distance-enrollment relationships to the choice of specific schools reveals diverse household preferences with regard to quality, cost, and distance. Different households want different things for different children. Figuring out who these different households are or even their proportions in the data is new territory with the potential to offer insights with important policy implications.

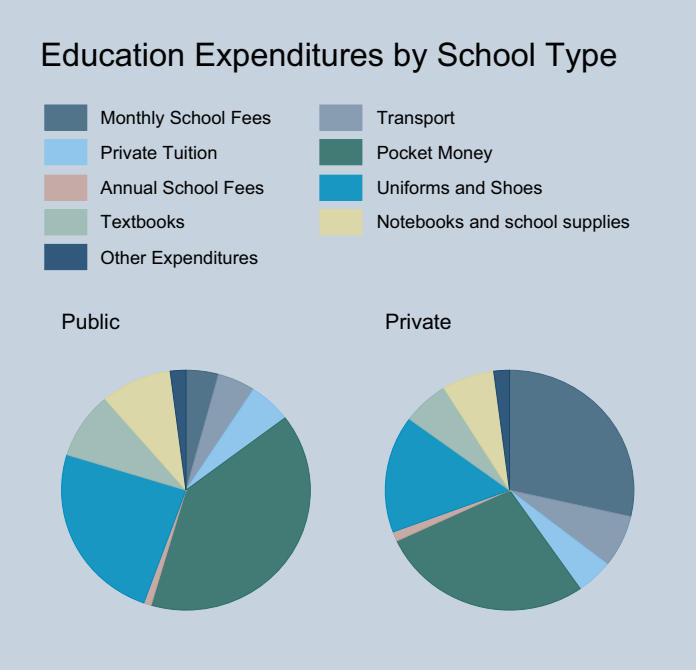
Households Educational Investments in their children: Money

4.33 *The final discussion centers on the "popular wisdom" about Pakistani rural households; in particular parental investments of time and money on their children's education.* It is commonly believed that households do not have the money to spend on their children's education; it is also believed that children are burdened by multiple demands on their time, and that learning outcomes suffer as a result. It is also commonly believed that these problems are far worse for girls compared to boys. How much of this is true?

4.34 *Households spend substantial sums of money on school-going children.* Households with children enrolled in public schools spend Rs.155 every month and households with children enrolled in private schools spend Rs.231 every month. The median monthly expenditures at the household level are about Rs.4700, which implies that a household with four children enrolled in a private school would be spending close to 20 percent of its budget on schooling expenditures. It also implies, together with the results from the schooling chapter on expenditures by schools that close to 50 percent of the total spending on education in public schools is incurred by households as out-of-pocket expenditures.

4.35 *How the money is spent depends on whether the child is enrolled in a public or a private school.* Figure 4.9 shows the breakdown of schooling expenditures across public and private schools. As expected, school and admission fees are the dominant expenditure category in private schools. The next most costly outlay is in public schools, for "uniforms and shoes" and "pocket money". In fact, pocket money is the single biggest expenditure category for students in public school—so large, that in absolute amounts, it is only Rs.10 less than school-fees paid by private school-going children.

Figure 4.9: Household Spending on children in public and private schools

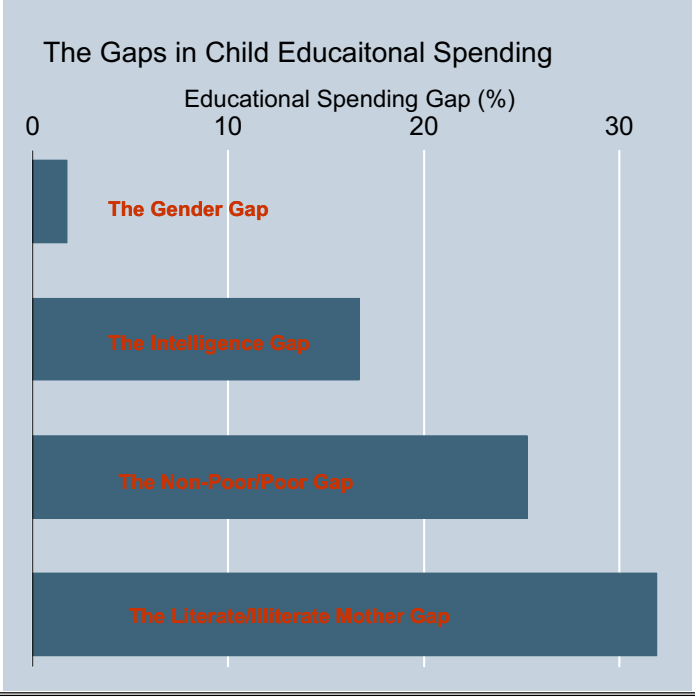


4.36 *If the cost of uniforms and pocket money is excluded from school expenditures, the average amount spent on education drops dramatically.* If expenditures on pocket money and uniforms would have been incurred regardless of enrollment, it is wrongly counted as spending associated with school enrollment. It could well be that pocket money, which parents say is used to purchase drinks or snacks, would have been spent as food expenses in any case, and represents a pure substitution from spending on the child at home or at school. Similarly, if spending on uniforms means that less is spent on other clothing for the child, this is a clothing expenditure rather than expenditure associated with schooling. Excluding both of these categories drops the expenditure on schooling dramatically to Rs.50 a month; with free textbooks, this becomes only Rs.30 a month for public and Rs.100 a month for private school-going children. With four children in private schools, this comes to less than 10

percent of the household's monthly expenditures; with four children in public schools, it is less than 2 percent.

4.37 *Average spending on children masks considerable variation across households and children.* Richer households and households with educated parents spend significantly more and elder children incur greater educational expenditures. This is not unexpected since educational spending is almost certainly a normal good. What is surprising is the strong effect of child intelligence on educational spending. Figure 4.10 shows educational expenditures for children disaggregated by parental perception of intelligence (very poor, poor, average, above average and highly above average) and by enrollment in public/private schools. Children perceived as more intelligent are four times more likely to be enrolled in private schools. The differences are much smaller for those enrolled in public schools, but still represent a two-fold increase over the same range. In contrast to this "intelligence" effect, gender discrimination in educational spending is small, accounting for at most a 5 percent difference in spending (Figure 4.11). Putting the two together, households, on average spend a *lot more* on girls perceived to be intelligent than on boys who are not (Rs.224 versus Rs.180 per month). To the extent that parental perceptions of intelligence can be viewed as "objective", this implies that even at the young ages of 5-15, parents start supporting children who are doing better with more investments, and cutting back on the children they feel are not performing.

Figure 4.10: Parents spend more on children they think are more intelligent



Households Educational Investments in their children: Child Time Allocation

Girls do more work at home, but they also spend more time studying, while boys play. Children not attending school do more housework (girls) and paid-labor (boys) and in the teenage years (especially for girls) these are close to full-time jobs. For the primary-age group though, out-of-school children spend most of their time playing (and sleeping).

4.38 *Both boys and girls in schools spend less than one hour per day on housework or paid work.* The average child in the sample spends 10 hours a day sleeping, 5 hours attending school, 3 hours playing, 1 hour each on housework and homework from school. The

remaining time is spent on prayer and religious activities (1 hour), working for wages (15 minutes), preparing for school (45 minutes) and entertainment such as listening to the radio or watching television. This is very close to what children around the world do; certainly the time spent either on housework or on paid work does not seem excessive.

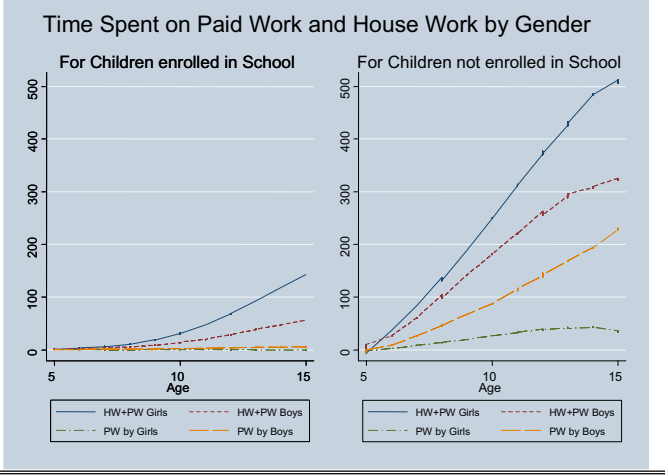
Table 4.3: A Day in the Life: How Children Spend their Day—a minute by minute account

	Non-Enrolled	Public	Private
Sleep/Rest	661.9	597.0	603.3
Playing	267.1	159.1	144.7
Housework	194.5	27.9	20.0
Paid Work	57.0	2.8	1.5
School	0	358.5	355.0
Tuition	0	16.3	25.6
School work outside School	0	74.5	79.4
Media Entertainment	31.1	35.2	45.1
Religious Education/ Prayer	63.5	76.4	77.8
Preparation for School	0	58.8	57.4
Other	127.6	23.7	21.8

4.39 *Primary school-age children, on average, do not spend their time in paid work even when they are out of school.* An immediate question is the difference in time allocation between children who are going to school and those who are not. The average school-going child spends 350 minutes, or roughly 6 hours in school and 1 hour, on school work. The 6 hours for the child who is not enrolled is spent sleeping and playing (2½ hours), working for pay (1 hour), and housework (3 hours) (Table 4.3). Children, on average, are not working all the time whether they attend school or not. Despite the 6 hours that they spend in school every day, the enrolled child still gets 2 ½ hours a day to play, spends a ½ an hour on housework and less than 2 minutes on paid work. Children of primary school age (less than 12 years old) who do not attend school play more than 4 hours a day, substantially more than those in school and spend *93* minutes on average on paid work and housework. The notion that school-age children are being exploited for "child labor" is not consistent with the data.

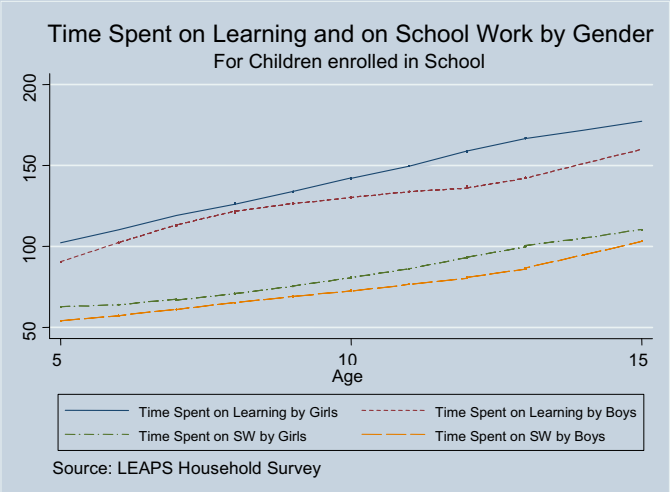
4.40 *For older children, particularly girls, child labor may be an issue.* Figures 4.11 plots the minutes spent every day on paid work and the minutes spent on the combination of paid and housework for girls and boys, separately. The graph on the left is for children who are in school; that on the right for those who do not attend school. The abbreviations HW stands for "housework" and PW for "paid work". For children in school, paid work for both girls and boys is minimal and probably reflects one-off activities during particular seasons. It never exceeds 10 minutes a day, even for older children (15 years old). When housework is added to paid work, girls come out looking much worse off than boys, and the difference between the two increases with age. At 10 years old, girls and boys are similar in their time allocation patterns, but by the time they are 15, girls spend twice as much time as boys on these two categories, but the total time spent never exceeds 2 hours. For children not attending school, the gradient of time spent on these two categories becomes steeper with age for both boys and girls, with boys spending more time on paid and girls more time on housework. By the time she reaches her early teen years, the girl-child who does not attend school spends close to 300 minutes a day on housework and by the time she is 15, housework has become a full-time job (8.5 hours a day). For these girls, the trade-off between child work and school is clear.

Figure 4.11:



4.41 *Although enrolled girls spend more time on house and paid work than boys more housework for girls does not mean that they are spending less time on school-related activities.* Figure 4.12 graphs the time girls and boys of different ages spend on schoolwork at home (SW) and learning activities, in general, which includes not only homework, but also time spent in tuition and media activities. The graph shows that girls spend more time on learning activities. In fact, most of the additional time spent doing housework for girls comes at the expense of playtime. In essence, boys and girls are both in school for roughly the same time; but when they come home, boys are allowed to play more while girls are

Figure 4.12: Girls do more housework…and more school work



asked to do more housework. The differences are not large; even with this additional housework, the average girl-child spends 2 hours a day playing.

II. DISCUSSION

4.42 *The LEAPS household survey and subsequent analysis adds an important new dimension to the educational debate.* As this study makes clear, the question facing parents in many villages is no longer "should I enroll my child in the single school in the village" but "*which* school should I send my children to?" The complexity of this decision must be taken into account by policymakers if future educational policies are to be as effective as possible. Some parents care about quality, some about cost, and some about distance, and if policies fail to take this into account they will likely aid one type of households but not others.

4.43 *Three key dynamics emerge that are useful for the policy debate in this more complex environment.* First, distance is important for enrollment, especially for girls. Second, parents are fairly well-informed and make substantial investments in their children's education. Third, through their choices of whether to enroll a child, through the choice of school (private or public) and finally through the amount they chose to spend, households pick "winners" and try to carry them through. In the following section, we examine the implications these three dynamics have for two key policy issues currently under debate; a third important policy issue—the regulation of schools—is discussed in the epilogue.

Potential Policy 1: Improving education for the girl-child

4.44 *The gender gap in educational attainment is large, but as the findings in this chapter show, the gender gap is almost entirely restricted to enrollment.* The gap in education expenditures is small (not more than 5 percent) and households spend a lot more on intelligent girls than on less intelligent boys. It is true that girls enrolled in school work more at home than boys, but the average working hours are still less than an hour per day and girls *also* do more schoolwork at home compared to boys.

4.45 *The commonly held view that distance to school affects girls more than boys is supported by the data and accounts for 60 percent of the gender gap in enrollment.* And that is precisely the problem. The relationship is so strong and so negative, that it really does not make much sense viewed in physical terms. Enrollment drops by 20 percentage points for girls for every 500 meters increase in distance from home to school. When we walked with out-of-school children from households in our sample, it took us 10 minutes to walk these 500 meters. With 12 schools in every village and with 50 percent of our households within 500 meters of a school, the policy option of building more schools makes no sense. No government can ensure the availability of a school within 100 meters of every household; such a policy is neither feasible nor cost-effective. Furthermore,

household wealth, the child's age and the child's intelligent all have an independent effect on enrollment, but *none* of them mitigate the distance "penalty", except for the presence of an educated female, which is outside the purview of any short-term policies. It appears then that this distance effect has little to with monetary needs of the family or whether the child has reached her teenage years. A workable policy is not yet evident.

4.46 *The Punjab government's stipend program, whereby households are given Rs.200 per month for every enrolled girl between Class 5 and 8 signals the government's commitment to education, yet the costs may far outweigh the benefits.* An evaluation (Chaudhury and Parjuli 2006) shows the program increased enrollment by 10 percent. Out of 110 girls now in school, 100 would have gone to school with or without the stipend and 10 additional girls changed status from non-enrollment to enrollment because of the stipend. The price of targeting these 10 girls is the stipend paid to all 100. The cost *per additional girl-child enrolled* is the total cost of the stipend divided by 10—a staggering $400 per marginal child. The stipend cannot distinguish between children who would be going to school anyway, or children who change their decision as a result of the stipend, or children who would not go to school with or without the stipend. The cost to target the second group is unsustainably large.

4.47 *Differences across households are evident in the significant fraction of children who bypass the closest school to go to a school that is further away.* Although males are slightly more likely to bypass, 60 percent of all enrolled girls are bypassing as well. The key to improving female enrollment is to understand better the relationship between enrollment and distance. Why is it that some households and children are able to send their kids to schools further away, while others take their children out as the distance to school increases? Would this change if chaperones or elder siblings or neighborhood children walk to school together? This requires further research.

Potential Policy 2: Improving schooling outcomes through more school inputs

4.48 *The goals of policies to increase school inputs need to be debated through a household "lens".* The government recently instituted a policy of providing free textbooks. This may bring in children for whom the costs of textbooks were prohibitive and who were therefore not enrolled. It may also have improved learning among the children who were already enrolled but did not have access to textbooks. The debate here centers around two issues. First, among the out-of-school children, was the cost of textbooks really prohibitive? The data are unclear, and much depends on whether we think of pocket money and spending on uniforms as substitutes for household expenditures on all children. Second, giving out textbooks for free means that households who were earlier buying textbooks for their children will stop buying them so that the total number of textbooks a child has access to remains unaffected by the policy. What is the specific aim of this policy? If all children were enrolled, free textbooks for instance, are a pure *income* subsidy since parents save the equivalent amount

by not buying textbooks on their own. While this might be a desirable effect of such a program, we should not expect improvements in learning as a consequence. We are asking, in essence, that a household "lens" be applied in thinking of potential educational policy.

4.49 *A household lens suggests a role for educational policies that support children who receive fewer inputs at home.* Right now some children are heavily supported by households and others are left by the wayside. Children perceived as intelligent by their parents are more likely to be enrolled, more likely to be in private schools, and have three times as much money spent on them. In high-income countries, higher investments in more "productive" children typically kick in around the college-going years. But for children in primary school, $12,500 per child is spent on learning-disabled children in the United States compared to $6,500 spent on "regular" children, with an implied spending ratio of close to 2:1. In Pakistan, by the time children are in Class 3, parents have already picked "winners" perceived to be more intelligent and are spending three times as much on these children. Public money for education should include these "vulnerable" children. In India, for instance, there is some evidence that programs designed to help poorly performing children (Banerjee and Cole, Duflo, and Linden 2005) yield positive effects. Maybe it is time to think of similar programs for Pakistan.

4.50 *It may also be time for a wider discussion about the overall goals of the educational system.* South Asian systems were traditionally formulated for stringent selection of talented students: the average or poorly performing child was relegated to trades or lifestyles that did not require formal schooling. The system was designed to bring out the best possible children through tests and screening at every possible occasion. The data show that households are mirroring this system—certain public sector jobs, for instance, are made available only to children who have passed Class 10; not surprisingly, returns to education in Pakistan are *convex* at low levels of education. If a family is aiming for such a job for one of its children, it will be spent considerable resources to ensure that the required qualification is obtained; if the child can get to Class 9, but no further, the returns are significantly lower. These kinds of "non-linear" returns or "sheepskin" effects, as they are known in the literature, may explain non-compensatory behavior among households at a young age. To the extent that the desire for the average child to perform well seems to be more widely held, it is time now to think about policies that screen poorly performing children and take measures to help them specifically, without spending large amounts on the average child.

4.51 *Whatever these eventual policies may be, each deserves to be rigorously evaluated.* During the course of our surveys, a female teacher offered the following wisdom: "*The difference*", she said, "*between Pakistan and Japan is that in Japan they think for 50 years and then make policies, in Pakistan we make the policy first and do the thinking later, if at all.*" The existing evidence offers policy makers clear choices in some areas—teacher's performance, for

instance, would certainly improve if they were held accountable for their actions. However, differences across households and children make predictions about policy effects harder—the ultimate effects of these policies will depend on the proportion of households with different types of preferences and returns to education. This proportion will certainly differ across regions (what works for Punjab may not work for Sindh) and plausibly across villages. In other areas more needs to be understood about the nature of differences across households and children that affect household educational choices. Experimenting with and evaluating policies that are in the implementation process is critical. These evaluations will at least validate how useful they were in the region they were implemented. They will be even more informative if applied using the household "lens" so the extent to which these policies interact with the decisions that households make can be better understood.

4.52 *An advertising executive once remarked that he "knows that half the money spent on advertising is wasted, the problem is that he does not know which half."* This is particularly true in this case. Policies now need to identify the *marginal* rather than the *average* child so that they do not spend a lot of money on *average* children to benefit those who are "marginal". In these situations, it is often best to enable households to make better decisions without forcing a particular set of actions on them; how the government can act as a better enabler requires discussion and debate.