

Characteristics of Male-only and Female-only Schools

This section summarizes findings and conclusions about gender and school differences in a sample of Pakistani schools. The main objective is to identify those characteristics which because they appear to greater or lesser extent in girls' and boys' schools might reflect different contexts for learning.

A. The Sample and Measures.

The units of analysis for this section are schools, aggregated by official gender designation into boys' schools and girls' schools' samples. Scores from researcher-administered academic achievement tests for fourth grade math and science and fifth grade math, science and Urdu were combined and averaged to give an achievement score for each of the school samples. Table 1 shows the composition and the mean score for the two school samples. There is little difference between the mean scores aggregated at the level of boys' and girls' schools, though girls' schools are likely to show wider variation in scores. At the individual teacher level (reported elsewhere) this variation is even stronger. Thus girls' schools in the sample tend to have teachers whose students are more likely to perform across a wider range than the students of teachers in the boys' schools.

The samples were chosen initially on the basis of supervisor recommendation as the “best” and “worse” schools with equal numbers of boys’ and girls’ schools. Later they were redesignated “effective” and “less effective” schools based on achievement tests.

Table 1: Sample Cases and Achievement--Classroom Practices Study

CATEGORY	CASES		ACH. SCORE	
	No.	Mean%	Min.	Max.
boys' schools	15	27	10	39
girls' schools	17	30	9	48

The academic achievement tests used as measures were those developed with funding and assistance by the World Bank for use by the Primary and Nonformal Wing of the Ministry of Education. They are designed for use in assessing the relative achievement of school children across provinces. They have been developed and refined over a period of five or more years and have been field tested in schools in many regions of Pakistan. At the time of the Classroom Practices Study there were just five exams available: fourth grade math and science, and fifth grade math, science, and Urdu. For this reason the study was confined to teachers' practices in these two grades. Similarly for pragmatic reasons, in the fourth grade observations when an Urdu score was unavailable, the science score was used as a proxy for Urdu, assuming that since the same teacher teaches both subjects and science is highly dependent upon ability in Urdu that this was a reasonable measure for that subject.

The math and science tests, according to those who developed them, were highly text bound and therefore because of the heavy teacher dependence on texts appears a fair measure of the extent to which teachers are able to get across text content, if not the understanding of text concepts. The Urdu test, on the other hand, was designed to measure skill in the

understanding of that language independent of specific text content. Since few children in the study speak Urdu at home, one can assume that the test also measures the capacity of teachers to build Urdu reading, writing and comprehension skills in children. In general children seemed to do better on this Urdu test than on either math or science which required much more detailed recall of memorized material. Though unintended, this fifth grade Urdu test also may measure the extent to which teachers give their students some responsibility for their own learning. Children who had grown dependent on their teachers for the minutest details of instruction, including correct answers, lacked the self confidence to take the tests without a great deal of clarification and support.

C. Interviews

The first day in a school was used to gather background information about the school and to administer a teacher questionnaire. During this period rapport was developed with the staff to allay their fears about the nature of the study. Whenever possible the researchers tried to interview a senior or head teacher who had been in the school for some time. Table 2 shows the type of person interviewed and his or her length of time in the school. Most had considerable experience in the school being studied.

Table 2: Persons Interviewed and Their Length of Time in the School

CATEGORY	TEACHER INTERVIEWED		AVER. TIME Years
	Headteacher	Reg.	
Schools			
	%	%	
boys'	80	20	7.7
girls'	88	12	8.4

D. School characteristics

This section details the characteristics of the girls' sample using the boys' sample as a comparison. For each category of variables, a table summarizes the salient characteristics of the two samples. When there is a ten percent or greater difference between the two samples, the difference is considered "noteworthy." When a difference is smaller but the characteristic follows the tendency of related variables, positive or negative, then the event is reported as a "consistent tendency." Otherwise, differences are considered too small for notice in these prose summaries.

Characteristics are clustered in the following categories:

- o facilities
- o type of school
- o community characteristics
- o student background
- o teacher characteristics
- o headteacher characteristics
- o instructional supports
- o examination procedures
- o instructional time
- o school programs
- o school policies

An attempt has been made to collect data on the most salient features of schools, but time has prevented collecting data on every feature which might prove relevant.

1. Facilities.

Table 3 shows the types of facilities provided for boys' and girls' schools. There are few distinct differences between the two samples. Schools average about the same age, approximately half are in need of major repair or replacement and the other half are in good condition or need minor repairs, almost all need more classrooms. The boys schools have somewhat larger facilities in terms of numbers of classrooms. Overall 65 percent of the girls' schools have three or fewer classes compared with 47 percent of the boys' schools.

Almost half the schools in the boys' sample are able to shelter all their students compared with less than a third of girls' schools. However, boys' schools are more likely to experience extreme crowding of children in the classroom and fewer report adequate space. These two findings suggest that boys' and girls' schools may be organized somewhat differently: teachers may put more children in a room in an attempt to "shelter" as many as possible in boys' schools, while in girls' schools the teachers may spread the children out more, even if it means putting them outdoors.

Table 3: Facilities

CATEGORY	SAMPLES	
	Boys mean*	Girls mean*
age of the school (yrs.)	21	19
<u>need for repair</u>		
needs replacement (or building)	20	6
needs major repairs	27	35
needs minor repairs	40	29
good condition	13	29
<u>adequacy of space</u>		
number of classrooms	3.7	3.1
need more classrooms	100	94
all children building- sheltered	47	29
percent unsheltered (in remaining schs)	45	40
<u>crowding in the classroom</u>		
no sheltered space extremely insufficient** (below 5 sq.ft./ch.)	0	6
insufficient** (5-10 square feet or less/child)	40	18
adequate	47	47
<u>facilities</u>	13	29
verandas	73	82
halls	0	6
mosque	0	41
boundary walls	27	41
toilets	53	88
office	53	29
library	47	18
staff room	7	18
electricity	40	29
gas	0	0

water	60	65
telephone	0	6
staff residence	13	12
playground		
no playground	73	41
for minor sports	7	53
for major sports	20	6
<u>provision of desks</u>		
0% child. with desks	47	59
1-25%	7	0
26-50%	7	6
51-75%	7	12
76-100%	33	24

*Unless otherwise noted, the mean represents the percent of sample possessing a particular characteristic. **Definitions of insufficiency come from the PNE Wing of the MOE School Location Survey.

Girls' schools are much more likely to have mosque areas, boundary walls, toilets, staff rooms and playgrounds. They are less likely to have offices, libraries, and electricity. More of the girls' schools have no desks at all for their students. In both samples one half or more of the schools have no desks.

While shelter and adequate space make classroom learning more pleasant, they are not absolutely essential to effective learning as has been shown elsewhere in this report. However, there is evidence from the greater number of amenities found in effective schools and from supervisor rankings and comments, that certain kinds of facilities may allow for more efficient organization in a school, and may, therefore, indirectly contribute to more effective learning. Schools where toilets do not exist, for example, may require different scheduling with longer breaks to allow children (especially girls) to go home during the school day. When the water supply is limited, it may not be possible to reuse slates and wood calligraphy boards as often during the day.

Presentable facilities also provide a better image of a school and therefore help encourage a feeling of pride and interest in the school and its activities. Supervisors appeared to be influenced a great deal in ranking the effectiveness of schools by their appearance and the kinds of material resources they possessed.

Desks are more likely to be available to more children in the Sindi schools. Desks do not appear to be a necessary condition for effective learning and in fact there are certain circumstances where desks can contribute to crowding in classrooms. When the desks are the wrong size, or more than one child must use a single desk, when desks crowd a room and prevent free passage to the blackboard and other areas children need to move to. When broken or unused desks must be stored in spaces crowding normal classroom activities or forcing children outside into the courtyard. Desks may be useful (but again not necessary) when there is adequate sheltered space, and for older primary age students. It is true about desks as it is for facilities that desks can be a morale builder allowing for a better image of a school.

2.Type of school.

Table 4 shows some further characteristics of the schools.

Schools tend to be designated single-sex schools based on the sex of the teacher rather than the real composition of the student body. When we arrived at the school we would find many more mixed schools than expected. The table shows that designated boys' schools were more likely to turn out to have a mixed student body than girls' schools though the latter also included a large proportion of mixed classes.

There are several reasons for the incidence of boys in girls' schools and girls in boys' schools. Female teachers sometimes bring their own small children to school; parents sometimes believe that female teachers are more conscientious and less likely to use physical punishment than male teachers. It is also likely that when a school has a reputation for excellence that parents press to send children of the other sex. In this case, it appears that this practice is most likely to result in boys' enrollments in girls' schools. Some parents are reluctant to send girls' to learn under male teachers and in a male environment while the same reluctance would not hold for their male children in the opposite situation.

Table 4: Type of school

CATEGORY	SAMPLES	
	Boys mean*	Girls mean*
Single shift	93	82
Multi-shift (am and pm)	7	18
Highest grade level (5th)	93	94
Boys'sch. officially	93	6
Boys'sch actually	53	0
girls'school officially	0	82
girls'school actually	7	53
mixed officially	7	12
mixed actually	47	47
<u>ownership</u>		
no building	0	6
provincial ownership	53	41
local government	7	47
rented	7	6
other	33	0
Size (no. of students)	204	230
km. from paved road	.87km.	.65km.
can be reached by car	100	94

*Unless otherwise noted, the mean represents the percent of sample possessing a particular characteristic.

Girls' schools tended to be owned more frequently by regular government agencies, while boys' schools were provided through a greater variety of channels, including through private gift or loan. This finding is consistent with the fact reported below that communities generally make greater contributions to boys' as opposed to girls' schools.

The girls' schools averaged higher numbers of students, even though as noted earlier, they possessed fewer rooms and felt less crowded in their classrooms.

3. Community characteristics

Table 5 shows the characteristics of the communities surrounding the schools. There was little to distinguish the nature of the location: none were remotely rural, about half were rural and the rest were equally divided between town and urban environments.

Table 5: Community characteristics

CATEGORY	SAMPLES	
	Boys mean*	Girls mean*
<u>school location</u>		
remotely rural	0	0
rural	47	41
town	27	29
city	27	29
<u>services within 2 km.</u>		
railway station	33	35
bus stop	87	77
electrical lines	100	100
gas	20	12
telephone	80	77
health unit	73	71
post office	80	71
police station	47	59
mosque	100	100
shops	100	100
drinking water	100	94
<u>educational services</u>		
<u>within 2 km.</u>		
mosque Koranic		
school	80	94
mosque mod.		
curr.sch.	60	65
primary gov. sch.	67	94
primary private sch.	33	53
nai roshni	73	47
mohalla	27	29
middle school	47	47
high school	60	47

*Unless otherwise noted, the mean represents the percent of sample possessing a particular characteristic.

Services within 2 km. of the school were also essentially the same.

Educational services, however, differed to some extent, probably as a consequence of the kind of environments where girls are likely to find facilities. For example girls would be more likely to find schools in more "sophisticated" environments where a demand for girls' education was present. Thus

there might be more alternatives such as mosque schools (modern and religious), other primary schools, and private schools. It is unclear why there are fewer high schools and nai roshni schools, however.

4. Community contributions.

Table 6 shows the community contributions to the schools. There are consistently more community contributions made to boys' schools than girls' schools. The school fee is also higher in boys' schools (Rs.9.3:Rs.7.3/yr).

Table 6: Community contributions

CATEGORY	SAMPLES	
	BOYS mean*	GIRLS mean*
free land	33	15
free labor	20	7
free building	20	14
free materials	33	13
labor for repairs	13	7
boundary wall	14	13
money donation	20	0
equipment	7	6
school fees	33	31
other	13	12

*Unless otherwise noted, the mean represents the percent of sample possessing a particular characteristic.

5. Family characteristics.

Table 7 shows some of the characteristics of students' families. It is interesting that more girls live farther away from the school than boys. Generally speaking one would expect parents to choose a school for their daughters as close as possible to home. The fact that they are going farther probably indicates more restricted options for girls.

Table 7: Family characteristics

CATEGORY	SAMPLES	
	BOYS mean*	GIRLS mean*
<u>stu.residence within 1km</u>		
<u>of school</u>		
no children	0	0
less than half	13	12
half	0	6
more than half	27	35
all	60	47
<u>stu.main language</u>		
Urdu	7	12
Punjabi	47	59
Pushto	13	6
Sindi	27	18

Baluchi	7	6
<u>second main lang.</u>		
<u>spoken by stu.</u>		
no other	20	41
Urdu	7	47
Punjabi	33	0
Pushto	20	0
Sindi	0	6
Baluchi	7	0
Brauhi	13	0
Hindko	0	6
<u>opportunity to speak Urdu</u>		
<u>in daily life</u>		
never	47	12
some	47	53
great deal	7	35
<u>occupation of parents</u>		
agriculture	41	23
skilled work	11	25
manual work	21	18
government	19	24
business	8	10
other	0	0
<u>education of fathers</u>		
illiterate	54	54
some primary	17	19
primary cert.	12	12
higher certificates	17	14
<u>education of mothers</u>		
illiterate	80	78
some primary	11	8
primary cert.	6	8
higher certificates	3	6

*Unless otherwise noted, the mean represents the percent of sample possessing a particular characteristic.

Few children in both samples speak Urdu in their homes as a first language. The effective schools have as the largest proportion, students who speak Punjabi at home, or as the second most common language. In less effective schools the most common family languages are Punjabi and Sindhi. The importance of Punjabi as a background factor in effective schools may be that, first, it is closer to Urdu than other provincial languages; second, teachers even in areas where the local language is other than Urdu or Punjabi (such as in Baluchistan) are often Punjabi speakers; and, third, the children of Punjabi parents working in provinces other than Punjab may be more likely to send their children to school than some local parents and thus Punjabi speaking children may make up a disproportionately larger ratio of school children than their numbers in the general population would suggest.

There are no notable differences between effective school parents and less effective school parents in the way family income is generated. The same is true for the education of fathers.

Though in general only a minority of mothers are educated, nevertheless the pattern is consistent.

Effective schools have higher proportions of mothers with all levels of education: some primary, primary certificate, and schooling beyond the primary level. They also have significantly lower ratios of mothers who are illiterates.

6. Teacher characteristics.

Table 8: Teacher Characteristics in Sample Schools

CATEGORY	SAMPLES			
	Boys		Girls	
	mean*		mean*	
teacher perform. (ave. total class ach.)	27		29	
total sanctioned posts	5.3		6.8	
total actual teachers	5.9		6.8	
student/teacher ratio	36:1		43:1	
absent days per month	1.9		1.5	
teachers who communicate in local lang.				
none	0		0	
some	33		24	
all	67		77	
<u>profess. qualifications*</u>	Check percents (no. cleaned)			
untrained	1.40	24	1.18	17
JV	1.40	24	1.47	22
SV	0.20	3		0
PTC	2.87	49	3.88	58
CT	0		0.18	3
BEd	0		0.06	1
other	0			0
under qualified		48		39
approp.qualified		49		58
over qualified		3		4
<u>academic qualifications</u>				
middle level	0.13	2	0.41	6
matric	4.13	70	4.29	64
FA/FSc	1.27	22	1.59	23
BA/BSc	0.33	6	0.47	7
underqualified		2		6
approp.qualified		70		64
overqualified		28		30

*Unless otherwise noted, the mean represents the percent of sample possessing a particular characteristic.

Both samples average slightly more teachers than sanctioned, and overall the effective sample has more teachers. The effective sample has a lower student teacher ratio. (Note in the section on instructional practices that effective teachers by a large margin are more likely to teach in single grade

classrooms. The connection between larger student body size and more teachers may translate into greater certainty that a school will have single grade classes).

Though the effective sample has a higher ratio of trained teachers, it has considerably more underqualified teachers (JV and untrained) than the less effective sample. The picture is therefore mixed as far as training is concerned. Taken alone, the ratio of PTC trained graduates does not mean any greater likelihood that a school will be effective. Similarly, the fact that more teachers are academically overqualified does not necessarily mean an effective school.

7. Headteacher characteristics

Table 9: Headteacher Characteristics in Sample Schools

CATEGORY	SAMPLES	
	EFFECT. mean*	LESS EFFECT. mean*
headteacher exists	100	100
age (years)	43	39
origin in local comm.	53	47
<u>responsibilities</u>		
admin. only	7	6
admin./normal teaching	87	77
admin./less teaching	7	18
<u>income and outside work</u>		
salary	Rs.1332/mo.	Rs.1086/mo.
allowances	Rs.490/mo.	Rs.393/mo.
other income	Rs.65/mo.	Rs. 0
time in outside work	3hr./wk.	0
time in tutoring	.19hr./wk.	0
<u>profess. qualifications*</u>		
untrained	13	6
JV	40	41
SV	13	0
PTC	27	35
CT	0	6
BEd	7	12
under qualified	53	47
approp. qualified	27	35
over qualified	20	18
<u>academic qualifications</u>		
middle level	13	0
matric	73	71
FA/FSc	7	18
BA/BSc	0	6
MA	7	6

underqualified	13	0
approp.qualified	73	71
overqualified	14	24
have had management training	27	6
experience		
time taught in primary (years)	15	11
time as headteacher	8	7
time as head.in this school	6	5

*Unless otherwise noted, the mean represents the percent of sample possessing a particular characteristic.

All schools had designated headteachers (the sample was selected by criteria which tended to eliminate very small schools, i.e. complete schools with all 5 grades, where the number of students in grade 5 during 1987/88 was no less than five students).

Effective schools had more headteachers who were underqualified professionally, more who were appropriately qualified, and fewer who were overqualified. They were about the same with regard to academic qualifications (most matric)?????. Most had no training in administration.

Effective schools had headteachers who were somewhat older.

Effective schools had headteachers who had taught longer, had been headteachers longer, and had been headteacher in the current school longer (10:4 yrs.).

Effective schools had a higher proportion of headteachers from the local community.

The headteachers in both groups almost all carried a normal teaching load in addition to their administrative role.

The headteachers in effective schools averaged higher salaries and allowances.

Headteachers in effective schools have higher levels of extra income, spend more time in the week on outside work and engage in more tutorial work. However only about 20 percent of the headteachers in the effective sample report engaging in this outside work so the numbers may be somewhat misleading. work.

8. Instructional supports

Table 10: Instructional Supports in Sample Schools

CATEGORY	SAMPLES	
	BOYS	GIRLS

	mean*	mean*
no. of supervisor visits	8.8/yr.	2.6/yr.
observes instruct.	100	94
advises on instru.	94	75
<u>instruct.mater.</u>		
teachers guides	60	29
school curricula	53	41
teaching kits	73	77
visual aids	20	35
charts	60	71
globes	13	41
other	13	12
<u>% ch. with requ.textbooks</u>		
none	0	0
less than half	7	0
about half	7	0
more than half	20	12
all	67	88
<u>% ch. with subject texts</u>		
Urdu		
have enough	80	88
missing some	13	0
none	7	12
Math		
have enough	80	94
missing some	20	0
none	0	6
Science		
have enough	60	94
missing some	40	6
none	0	0
Social studies		
have enough	67	94
missing some	33	6
none	0	0
Islamiyat		
have enough	73	94
missing some	27	6
none	0	0

*Unless otherwise noted, the mean represents the percent of sample possessing a particular characteristic.

Effective schools have fewer reported supervisors' visits per year. In both samples most supervisors observe teaching in the classroom and give suggestions on how to improve instruction.

Effective schools are more likely to have teacher guides, visual aids and curricula.

Effective schools were less likely to have teaching kits.

In both samples the majority of the children had all the required textbooks. Individually by subject texts the same was true for both samples though the effective schools consistently have more children with all the requisite texts in a subject.

9. Examinations

Table 11: Examinations in Sample Schools

CATEGORY	SAMPLES	
	BOYS mean	GIRLS mean
<u>Half-year examinations</u>		
Kachi	53	100
Pacci	53	100
Two	53	100
Three	53	94
Four	53	100
Five	67	94
<u>End of year examinations</u>		
Kachi	80	100
Pacci	93	100
Two	100	100
Three	100	94
Four	100	100
Five	100	100
<u>Other exams</u>	93	47
<u>school exam scores</u>		
average pass rates		
in Gr.4&5 over		
last three		
years	90	88
overall achievement	27	30
Urdu	37	50
Math	23	19
Science	28	31

Frequency: Both groups are about equally likely to require half year exams in grades Kachi through three (78), while effective schools are more likely to require half year exams in grades four and five (88:75). Most schools require final exams for most grades. Effective schools are more likely to require additional exams during the school year (75:63).

Pass rates: Effective schools had slightly higher pass rates on previous year district wide fifth grade and teacher-made fourth grade exam scores (93:87)

Achievement: Achievement scores were low overall in both samples (36 in effective:21 in less effective). Effective schools had higher average scores on researcher administered academic

achievement tests in math (27:16), Urdu (55:34), and science (37:21).

10. School efficiency.

Table 12: Efficiency in Sample Schools

CATEGORY	SAMPLES	
	BOYS mean%	GIRLS mean%
repetition rate	7.6	8.7
dropout rate	6.7	3.4
expect ch. to return	47	35
Kachi	7	23
Pacchi	33	23
Other classes	34	23

Repetition: Effective schools have a lower ratio of children repeating years (8:9). In effective schools children are most likely to repeat in Kachi (7:0 children) and in both samples a number of students repeat in Pakki (7 children).

Dropout: Effective schools have a lower ratio of dropouts in the current year (4:6). The highest numbers of dropouts come in effective schools at Kachi (2.7 children), and Pakki (2.2). In less effective schools the highest numbers come in Pakki (2.9 children), Kachi (2.4), and grade 2 (2.3).

11. Instructional time.

Table 13: Instructional Time in Sample Schools

CATEGORY	SAMPLES	
	BOYS mean	GIRLS mean
schools having shorter day(s) in the week	47	65
number of classroom periods/normal*	6.3	7.1
periods/short**	4.9	4.8
minutes in a period		
normal day*	42	41
short day**	36	40
number of minutes/da		
normal day*	265	291
short day**	176	192
minutes in the break	30	33
hrs. in the year	1052	1044

*Of those using a period system.** Of those having a period system and short day.

Short days in the week. Both samples have the same proportion of schools with a shorter day in the

week (63).

Classroom periods: Effective schools have more classroom periods in a day (7:5.5). On the shorter day in the week effective schools have slightly fewer periods (3.2:3.8).

Period length: Both samples have approximately the same number of minutes in a period (37:36). On the shorter day effective schools have longer periods (35:27).

Instructional time per day: Effective schools have more instructional time in a day (258:198 min./ day). On the shorter day, effective schools average more instructional time (110:100 min./day). Overall, therefore there is a consistent pattern of more instructional time in effective schools.

Breaks: Effective schools have shorter breaks during the day (24:30 min./day).

Hours in the school year: Effective schools had a few more hours in the school year based on school officials' reports of the numbers of school days, holidays, length of periods for normal and abnormal days, and summer and winter timings (1063:1032 hrs./yr.).

12. School programs.

Table 14: Programs in Sample Schools

CATEGORY	SAMPLES	
	BOYS mean	GIRLS mean
improvement	40	12
after school	33	24
assemblies		
sch.have assembly	100	94
ch.involved	93	94
time	16	12
lead group in resp.	100	94
recite passage	93	100
partic. in resp.	100	82
physical act.	40	6
marching	60	41
other	33	18
propor.of ch. partic.		
all	0	18
some	93	82
none	7	0

Improvement programs: A small proportion of schools of both samples participated in school improvement programs such as those financed by the World Bank and other donors (25).

After school programs: Effective schools were twice as likely to have activities for students after the school day (38:19).

Assemblies: Both groups are equally apt to have assemblies (100), and both take about the same time for this activity (14 min.). All actively involve children in the assembly leading others in group responses (96), reciting passages (96), participating in responses (90), physical exercises (22), marching (50), etc.

13. School policies.

Table 15: Policies in Sample Schools

CATEGORY	SAMPLES	
	BOYS	GIRLS
	mean	mean
readmission	93	65
unregistered	18	5
refuse entrance	47	24
too many in K-P cl.		
%with no limit	73	41
av.no.remaining	40ch.	78ch.
DEO instruct.	20	53

Admission: Most schools in each group would not refuse the admission of any child. However, effective schools are more likely to refuse admission (38:25) even though they state a greater willingness to take a larger number of admissions into a Kachhi or Pakki class before closing admissions for that class (36:23). Two-thirds of both groups say they are not given any guidance about admission from the DEO's office. Both groups report about the same number of unregistered children who come to school (11 children).

Dropouts: Effective schools expect more children who have dropped out to return at a later date. Effective schools are more likely to have set policies about the admission of children who return.