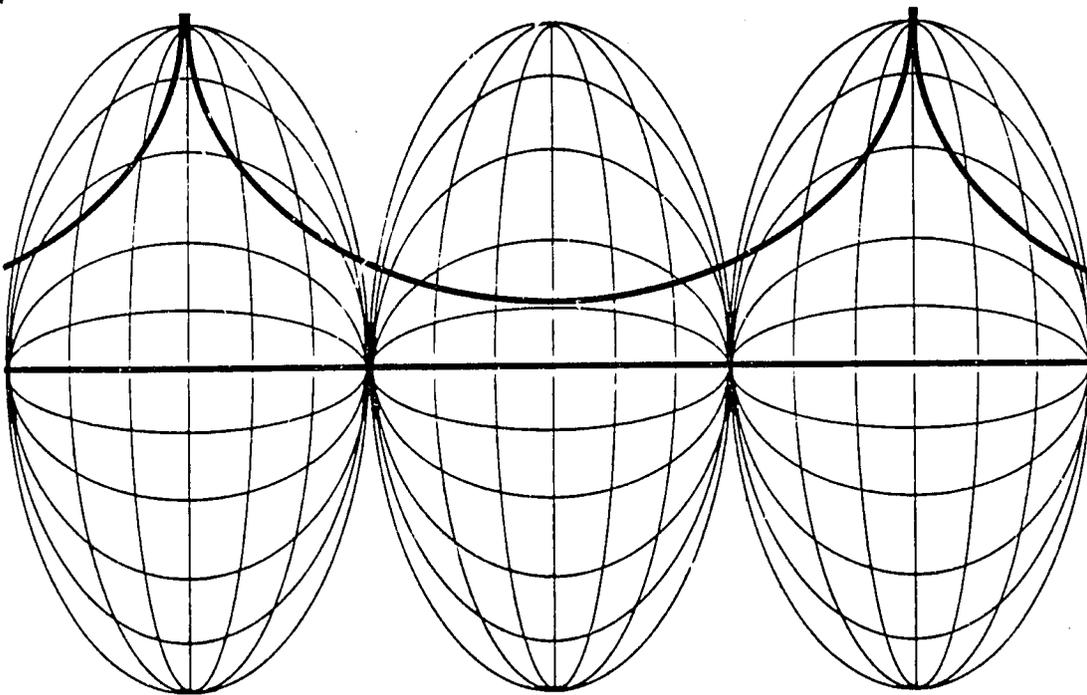


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in Developing Education Systems

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HOW DO PUBLIC PRIMARY SCHOOLS IN PAKISTAN
DIFFER ACROSS PROVINCES?

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HOW DO PRIMARY SCHOOLS IN PAKISTAN
DIFFER ACROSS PROVINCES?^{1, 2}

Noel McGinn, Fernando Reimers and Donald P. Warwick
Harvard University

This paper describes differences in the physical and organizational characteristics, and the building administrators, of schools in Pakistan. Educators believe that differences between schools and their administrators account for some of the differences in student achievement in those schools. For this reason a discussion of policies to improve student achievement often begins with a discussion of how schools differ.

Because the provinces share responsibility with the Federal government for primary education, we should expect to find some unique features of schools from province to province, and in comparison with schools of the Federal District. Attention to those differences that occur between provinces may help to focus attention on aspects of schools that can be changed by policy decisions made at the provincial or federal level.

The paper asks "Are there large differences in school characteristics from province to province?" It follows with information about differences between the administrators of schools across provinces. In a second paper we ask, "Are there differences in schools that are related to the quality of education provided?" In this paper we are looking for evidence

to support an argument that because of differences in characteristics of schools and their administrators, quality of education varies from province to province. First we have to show that schools do differ from each other.³

A. Are There School Differences between Provinces?

This section includes information about differences between provinces in terms of:

1. Type and gender of schools
2. Length of school day
3. Size of schools and student/teacher ratio
4. Teacher and student attendance
5. Contact with middle or high schools
6. Sources and amounts of local funding
7. Physical facilities.

A companion paper describes "How Headmasters and Headmistresses Differ from Province to Province." These are followed by a paper that assesses whether these differences are related to differences in quality, in terms of student achievement.

1. Gender of schools⁴

Do the provinces differ in terms of opportunities for girls to enrol in school? In all provinces boys have more chance of finding a school (either a "boys" school or a "mixed" gender school) in which to enroll than do girls (who can enrol in either a "girls" or a "mixed" gender school). Overall there are 121 schools in Pakistan that will enroll boys for every 100 schools that will enroll girls. The difference in opportunity to enroll

is most marked in Baluchistan, where there are 3 schools for boys for every 1 for girls. There are about 3 schools for boys for every 2 schools for girls in N.W.F.P., and about 5 schools for boys for every 4 for girls in Punjab and Sind. In the Federal District girls have the same chance of finding a school as do boys, that is, the ratio is 1 to 1. Sind has the largest proportion of "mixed" schools (45.6%), and N.W.F.P. the least (only 1%).

2. Operation of the School and Length of School Day

Research in other countries has shown that the level of academic achievement that a student attains in school is strongly influenced by the amount of time the student spends in school. One determinant of time spent in school is length of the school day. Schools that operate two sessions or shifts per day are likely to have shorter school days than those that operate only one shift. (A second determinant is how much time teachers actually teach. See "Teacher Characteristics and Student Achievement in Mathematics and Science.")

Very few primary schools (about 5%) operate more than one shift per day. In Sind, where 34 per cent of the schools in the sample are urban, about 18 per cent of the schools are double shift. In the Federal District, where 27 per cent of schools in the sample are classified as urban, 8 per cent of schools with 4th and 5th grades have two shifts. The other provinces have less than 20 per cent of their schools classified as urban, and less than 2 per cent have more than one shift.

Even though there are few double shift schools, there are reliable differences between provinces in terms of the average length of the school day. Headmasters and headmistresses were asked what time their school opened, and at what time the school day ended. The average school in Baluchistan is open for 291 minutes, compared to 343 minutes in N. W. F. P. This difference of 52 minutes per day amounts to about 28 5-hour days in a school year of 180 days. The differences in duration of the school length across provinces are statistically significant.

Table 1. Average length of the school day across provinces.

| | |
|------------------|-------------|
| Federal District | 334 minutes |
| Baluchistan | 291 minutes |
| N.W.F.P. | 343 minutes |
| Punjab | 333 minutes |
| Sind | 312 minutes |
| Total | 328 minutes |

The average length of the second shift in a two shift school is only 247 minutes, which is significantly shorter than in the first shift. But the first shift is also shorter in a two shift school.

3. Size of School and Student/Teacher Ratio

Some educators argue that small schools are better because students have more contact with teachers. Other educators believe that large schools are better because they can provide more material resources (learning materials, laboratories) considered important for achievement. In this section we look at how provinces differ in terms of size of school, and contact of

students with teachers.

There are no significant differences between the provinces in terms of the total number of children enrolled in the primary school. The average (median) is about 115 children per school. There are, however, enormous differences within provinces in terms of number of children per school, ranging from 2 in one school, to 1400 pupils in another.⁵

The provinces differ in terms of average number of teachers per school. Schools in Punjab have the smallest number of teachers (3.7 on average), those in the Federal District the most (8.8 teachers). Schools in Baluchistan, N.W.F.P. and Sind each average between 4 and 5 teachers per school.

Each province has some one-teacher schools (about 19% of the schools in the sample have only one teacher), but the Federal District does not.

As the provinces are not different in terms of number of pupils per school, but are in terms of number of teachers, there are differences between provinces in terms of average ratio of pupils to teachers. In Punjab, there are 48 pupils for each teacher, in N.W.F.P. 43, about and in Sind, Baluchistan and the Federal District, about 30 students per teacher. Overall, more than 27 per cent of schools have more than 50 pupils per teacher.

What does this mean in terms of student contact with teacher? If the teacher divided the average class day equally among students in the class, (and if every student and teacher attended every day of class) each student in the Federal

District would, on average receive 10 minutes of the teacher's time, or 1800 minutes (30 hours) during the 180-day school year. Each student in Punjab, on the other hand, would receive about 7 minutes per day of the teacher's time, or about 1260 minutes (21 hours) during the 180-day school year. The other three provinces fall in between, that is, with students receiving between 7 and 10 minutes per day of teacher's attention.

These differences between the provinces are accompanied by large differences in terms of student/teacher ratio within each province, for example ranging from 5 teachers for 2 pupils in one school in Punjab, to more than 204 pupils for one teacher in another school in that province. This suggests inefficiency in the assignment of teachers to schools, that is, that some schools are being assigned more teachers than are appropriate given size of the school.

One way to look at this question is by comparing total enrolment with pupils/teacher (Table 2). If the optimal class size were considered to be 30, about 35 per cent of the schools have too many teachers, that is, have class sizes under 30. Some of these schools are large schools (that is, with 100 more students).

This is not an argument for larger class sizes. In a class with twice as many students, each student would receive half as much of teacher's time, assuming time was distributed equally across all students.⁶ It is, however, an argument that teachers should be distributed more equitably.

Table 2. Distribution of total school enrollment by pupil/teacher ratio.

| Pupils/ teacher | NUMBER OF STUDENTS | | | | | Total |
|--------------------|--------------------|------------|-----------|-----------|------------|-------------|
| | 2-50 | 51-100 | 101-150 | 151-200 | over 200 | |
| 20-less | 39 44% | 16 14% | 8 9% | 1 .9% | 3 2.3% | 66 14% |
| 21-30 | 26 29% | 23 20% | 30 34% | 8 11% | 17 15% | 104 22% |
| 31-40 | 14 16% | 29 26% | 15 17% | 21 31% | 16 14% | 95 20% |
| 41-50 | 9 11% | 23 20% | 10 11% | 10 15% | 26 23% | 78 17% |
| 50-more | | 22 20% | 26 29% | 28 42% | 51 45% | 128 27% |
| Total | 88 19% | 113 24% | 90 19% | 68 15% | 112 24% | 471 100% |

4. Teacher and Student Attendance, and Teacher Turnover.

Students can have contact with and learn from teachers only if they both are present in school. That makes teacher, and student, attendance important factors in explaining differences in student achievement.

The provinces differ in terms of the average number of teachers absent on the day of the survey, as a proportion of the total number of teachers in the school. About 85 per cent of the teachers currently working in a school were present on the day of the interview (or, about 15 % were absent). About 25 per cent of teachers in Sind were absent, followed by 16 per cent in Punjab and 14 per cent in Baluchistan. Lowest absentee rates were in the Federal District (11%) and N.W.F.P. (9%).

The provinces do not differ, however, in terms of what the respondents say are the average number of days a teacher is absent during a month. Overall, teachers are said to miss 2.1 days per month. A later analysis will report on reasons for teacher non-attendance.

Headmasters and headmistresses were asked the average distance of the residence of their teachers from the school, and the time that teachers, on the average, took to come to school. Teachers live further from their school in the Federal District (average 9 km.), and closer in Baluchistan (average 4 km.), but the differences are relatively small. There are differences between provinces in average time to come to school (about 38 minutes in Sind, 92 minutes in Federal District), but because the variations within each province are so large, one could not predict how long it would take a teacher to come to school solely by knowing in which province they live. Overall, teachers are reported to spend an average of 55 minutes to come to school.

Students, on the other hand, are reported to live on the average about 1.2 km. from school, and to take an average of 20 minutes on their journey. Again, because differences within provinces are so large, one cannot reliably predict how far a student lives from school by knowledge of the province in which s/he lives.

The interviewer asked the number of students absent for each grade. The average school in the sample has a total student absent rate of about 17 for every 100 students enrolled. The

student absentee rate varies considerably across the provinces, from 10 per cent in N. W. F. P., to 16 per cent in the Federal District, Baluchistan and Punjab, and 26 per cent in Sind.

In addition to individual absences of teachers and students, schools in the provinces vary according to the number of days they were closed during the school year in addition to official holidays. The average school in Punjab lost 9 days during the year, apart from official holidays, while the average school in Sind lost 18 days.

Research in other countries suggests that achievement is highest when there is little teacher turnover, that is, when teachers stay in the same school year after year. The reason why this is so is not clear. One possibility is that high turnover reflects low teacher morale, which leads to poor teaching. Another possibility is that students learn better from teachers familiar with them and the school.

About 23 of every 100 teachers change schools per year, according to the respondents in this survey. This turnover is highly varied within each of the provinces, that is, some schools have very high turnover rates, while other schools have very low rates. But there are no differences between provinces.

5. Contact with Middle or High School

The limitations of the small primary school might be overcome by contact with a middle or high school, that has more physical resources, and better trained teachers.

In this sample 88 per cent of the schools are primary

schools. N.W.F.P. and the Federal District have the largest proportion (16% and 15% of middle schools), and Baluchistan the largest proportion (8%) of high schools.

The average primary school is 4.6 km. distant from a middle school and 5.5 km. distant from a high school. We asked the headmasters and headmistresses if their school had any contact with the nearest middle or high school. Schools in the Federal District had the most contact (44% of the schools), followed by those in Punjab (28%). Most of the schools (78%) say they have no contact with middle or high schools.

6. Sources and Amount of Local Funding

Some educators believe that achievement can be raised by providing students with instructional materials not currently provided by the departments of education (for example, additional charts, globes, maps, notebooks, reference books, etc.), or by improving the condition of the building. To do this, teachers and headmaster have to mobilize funds from the local community, either from the village leader, parents, or the teachers themselves.

About 10 per cent (49) of the schools in the sample report receiving any funds from the local community. On average these schools received about Rs. 770 during the year. The differences between provinces are not significant.

On the other hand, the provinces do vary significantly in terms of the collection of fees from students. All schools in the Federal District and almost all (99%) of schools in Punjab

collect fees from students. On the other hand, few schools in N.W.F.P. (18%), Baluchistan (17%) or Sind (12%) report collecting fees from students.

The amount each student is asked to pay varies considerably from school to school, but not from province to province. On the average pupils pay about Rs. 1.8 per month. Because schools differ in size across provinces, however, there are significant differences between provinces in the average amount collected per school. The 296 schools in the sample that collect fees from pupils averaged a total of Rs. 1800 at the time of the interviews in December and January, with the largest average per school in the Federal District (Rs. 6896), and in those few schools of Sind that collect fees from students (Rs. 2122).

In about half the schools in Pakistan teachers also pay some part of school expenses, in the form of materials or rent, from their own pocket. This practice is least common in N. W. F. P. where teachers in only 18 per cent of schools pay some expenses of their school. More than half the schools in the other provinces collect fees from teachers. The provinces vary considerably in the average amount teachers pay in a month, ranging from Rs. 32 in schools in Sind to Rs. 9 in those schools in N.W.F.P. that reported that teachers pay expenses.

7. Physical Facilities

Each year a large part of the total amount spent on education goes into the construction, repair and equipment of buildings. Shortage of adequate buildings is a frequent

explanation for failure to achieve universal enrollment. Most educators believe that the quality of the building, and the presence of furniture and equipment, make an important contribution to student achievement.

The interviewer asked "Does this school have any buildings?" About 16 per cent of the persons interviewed said "No," but half of these (39 of 75) were from Sind, the others were proportionately distributed across the other provinces. It is likely that the interviewees understood the question to ask whether the building was a "proper" school building. In fact, only 18 of the 471 schools in the sample were not in some kind of building.

On the other hand, many schools have more students than can be housed in the number of classrooms available in the school. This problem is least serious in Sind, where the average school has only one class not located in a classroom (recall that Sind does not include Kachi children), and most serious in Punjab, N.W.F.P. and Baluchistan, where the average school has more than two classes without a classroom.

Most of the buildings are owned by the government. Sind and Baluchistan stand out in terms of the number of buildings provided by the local community (24% and 18% respectively). Although the sample included 25 "mosque" schools, only 2 are located in mosques.

The interviewers visited all the rooms in the school in order to make judgments on the physical facilities. The

provinces do not differ in terms of the adequacy of ventilation in the schools. Interviewers rated ventilation as "good" in 49 per cent of the sample schools, "poor" in only 13 per cent. They rated illumination as "good" in 43 per cent of the schools, "poor" in 13 per cent.

The provinces did, however, differ, in terms of ratings of cleanliness of the schools. Overall only 14 per cent of the schools were rated as "very clean", while 21 per cent were rated as "not clean." Interviewers in Punjab and Baluchistan were most critical in their ratings.

Interviewers reported a teacher's desk in most or all classrooms in 89 per cent of the schools in N.W.F.P., but in only 43 per cent in Sind. In Baluchistan 49 per cent of schools had desks for teachers, 59 per cent in Punjab, and 62 per cent in the Federal District. Reports on the presence of chairs were similar.

Less than one-eighth of schools in the sample have desks for their students. The proportion is highest in the Federal District and Sind (39% and 28%), and lowest in N.W.F.P., Baluchistan and Punjab (20%, 15%, and 6%). Similar relationships exist for student chairs.

In some schools (about 33%), students have neither chairs nor mats. In N. W. F. P. students in 95 per cent of schools have either a chair or a mat, compared to 75 per cent of schools in Sind, and 50 per cent in Punjab.

There is considerable variation across provinces in terms of

the presence of almarah. In Sind 80 per cent of schools do not have an almarah, compared to 60 per cent in Baluchistan, 51 per cent in Punjab, 46 per cent in the Federal District, and 23 per cent of schools in N.W.F.P. Most schools (82%) have blackboards in most or all classrooms. Slightly less than half the schools have maps or charts on the walls, but there are no differences across provinces.

Most schools (73%) do not have toilet facilities for their students. Toilets are most common in Sind (43%), and least common in Baluchistan (22%). Toilets, when they exist, are rated as "clean" about 60 per cent of the time.

Only 3 of the 471 schools included in the sample have a telephone. On the other hand, about 29 per cent of the schools have electricity. There are no differences across provinces for this factor.

Finally, 60 per cent of the schools in this sample had a teaching kit. Teaching kits were most common in Punjab, N.W.F.P., and the Federal District (over 60%), fairly common in Sind (52%) and least common in Baluchistan (27%).

We have combined the questions about the physical facilities of the school into an index, presented in Figure 1 below. We can count the number of items found in each school, to make a facilities score. The differences between provinces on this score are relative γ small. Differences between schools within provinces however are large (the lowest score is 3, the largest 12).

Figure 1
Index of Factors Combined
to Create a Facilities Index
Percent Score + by Province

| Item | Score + if Answer is: | Federal | Baluch | N.W.F.P. | Punjab | Sind |
|-------------------------|--------------------------|---------|--------|----------|--------|------|
| Ventilation | Good | 50 | 44 | 46 | 47 | 61 |
| Illumination | Good | 46 | 42 | 47 | 40 | 51 |
| Cleanliness | Very, moderate | 85 | 75 | 85 | 74 | 95 |
| Teacher chair | Yes | 89 | 81 | 91 | 76 | 46 |
| Student chair or mat | Yes | 76 | 71 | 95 | 50 | 67 |
| Almarah | Yes | 54 | 40 | 78 | 49 | 20 |
| Blackboard | Yes | 89 | 82 | 95 | 81 | 74 |
| Charts | Yes | 65 | 44 | 54 | 43 | 47 |
| Toilets | Yes | 31 | 22 | 33 | 21 | 43 |
| Drinkable water | Yes | 82 | 74 | 85 | 71 | 85 |
| Electricity | Yes | 50 | 32 | 36 | 27 | 30 |
| Teaching kit | Yes | 65 | 27 | 64 | 64 | 52 |

Conclusion

The schools in this sample vary significantly both within and between provinces on a number of factors that are commonly understood as components of the "quality" of a school. Factors such as condition of buildings, pupil/teacher ratio, presence of teaching kits, blackboards, charts, may contribute to the overall effectiveness of the school in terms of student achievement. The objective of the analyses that will follow is to assess the impact of these factors on achievement outcomes. If there are strong relationships between the presence or absence of these factors and achievement outcomes, then policy makers may wish to take steps to reduce differences between and within provinces.

B. Are there Differences between School Administrators from Province to Province?

There is a growing persuasion, based on research being conducted in both early-industrialized and developing countries, of the importance of headmasters and headmistresses (also called principals, directors) in the achievement of students in primary schools.⁷ The research identifies as "good schools" those that have high average levels of student achievement. Compared to other schools, the "good schools" are those in which teachers hold high expectations for student achievement, teacher morale is high, attendance rates are high, and the school is orderly, that is, well-disciplined. The research states that it is the

leadership of the headmaster or headmistress that results in these characteristics that make for a "good school."

The purpose of this section of the paper is to describe headmasters and headmistresses in primary schools in Pakistan. Are there differences between these school leaders similar to those that research in other countries has shown to be related to high levels of student achievement? Because management of primary education is largely a responsibility of the provincial departments of education, this section presents characteristics of heads of schools in each of the provinces and the Federal District. A later paper will examine the extent to which the differences between heads of schools are related to student achievement.

This section is divided into the following parts:

1. How many schools have headmasters and headmistresses?
 2. Who are the heads of schools?
 3. What do the Heads of schools do?
1. How many schools have headmasters and headmistresses?

Although all schools may have some one person designated as responsible for administration, provinces differ in terms of use of the title "headmaster/headmistress" and the term "headteacher." The design of this survey does not permit us to estimate the exact percentages of each category of person across the provinces. Interviewers were instructed to talk with the person "in charge" of the school. In 15 per cent of the cases the head of the school was absent on the day of the survey. As a

consequence, the interview was carried out with someone else, either a senior teacher, another teacher, or some other person. As we did not ask at the time, we cannot tell now whether the absent head was a headmaster/headmistress, or a headteacher.

If we assume that the two types of school heads were proportionately absent, we can estimate that overall 80 per cent of primary schools in Pakistan have headmasters or headmistresses, and 20 per cent have headteachers. The provinces differ in the title given to the school head. N.W.F.P. most often designates a headteacher (82% of schools in that province). About half the school heads in Baluchistan have the title "headteacher" and half are headmasters or headmistresses. Over 75 per cent of schools in the Federal district (79%), Punjab (90%) and Sind (94%) use the title "headmaster" or "headmistress" for their school heads.

In the analysis that follows we will talk only about the 398 persons interviewed who are either headmasters, headmistresses, or headteachers, who were present on the day of the survey. We will refer to these persons as the school heads.

2. Who are they?

Some 39 per cent of the school heads are women, and 61 per cent are men. There are no differences in terms of assignment (as headmaster/headmistress vs. headteacher) according to gender of the school head. Nor are there differences between the provinces in terms of the relative proportion of heads who are men or women.

Men and women are equally likely to be heads of mixed gender (boys and girls) schools (about 25% each). In most but not all cases (less than 2% in each case) the heads of boys schools are men, and the heads of girls schools are women.

The average school head has been in the current school about 6 years, and has had this title for at least 9 years. About 42 per cent of the current heads have held that title in at least one other school prior to the current school. The average head is, therefore, reasonably experienced in the position. There are no differences between provinces in terms of experience of the head. but there are considerable differences from school to school. Some schools have heads with few or no years of experience, while others have heads with as many as 30 years of experience as a school head.

The average school head lives about 6.4 km. from the school, about the same distance attributed by the respondents to teachers, and the time to come to school is about the same. There are no differences between provinces in terms of distance of residence from school.

The average head of a school is 38 years of age, but ages range from 19 years, to 76 years. The youngest school heads (average age 33.7 years) are in Baluchistan, and the oldest in Punjab (average age 40 years). The average head has spent about 22 years in the educational service (range from 52 maximum to 14 minimum).

There is no difference between headmasters/headmistresses

and headteachers in terms of years of service--the difference in titles does not, apparently, correspond to differences in years of service. The career pattern is common across the provinces. Persons who become heads of schools began as teachers immediately after finishing school--they held no other full-time jobs--and have remained in teacher service continuously.

About 60 per cent of the heads finished their school at the matric level or lower (see Table 3). Another 18 per cent finished with an FA or FSc diploma, and the rest (17%) continued on to higher levels. Levels of schooling of heads are higher in the Federal District and the Sind than in the other provinces. More than half of the school heads in Sind had schooling beyond the matric level, compared to 35 per cent in N.W.F.P., 31 per cent in Baluchistan, and 26 per cent in Punjab.

Table 3. Level of education of headmasters by province.

| | Federal District | Baluchistan | N.W.F.P. | Punjab | Sind | Total |
|----------------|------------------|-------------|-----------|------------|-----------|-------------|
| Middle or less | 11% | 2% | 3 7% | 36 15% | 16 18% | 56 14% |
| Matric | | 11 67% | 27 58% | 141 59% | 23 27% | 203 52% |
| FA or FSc | 16% | 2 13% | 6 12% | 36 15% | 25 29% | 70 18% |
| BA-Higher | 1 74% | 3 18% | 11 23% | 27 11% | 23 27% | 65 17% |
| Total | 1 .3% | 17 4% | 47 12% | 240 61% | 88 22% | 394 100% |

These differences may be the result of differences in the average age of the heads. Those who are older are more likely to

have completed fewer years of schooling. It is also the case the female heads have lower levels of education (only 26% went beyond matric compared to 39% of men).

About half of the school heads hold a PTC, and 43 per cent hold a higher level certificate (see Table 4). It will be noted, by comparing Table 3 and Table 4, that Baluchistan and Sind have the largest proportion of heads who hold no certificate, even though they also have higher levels of schooling completed.

Table 4. Level of certification of headmasters by province.

| | Federal District | Baluchistan | N.W.F.P. | Punjab | Sind | Total |
|--------------|------------------|-------------|-----------|------------|-----------|-------------|
| None | | 3 18% | 3 6% | 9 4% | 11 13% | 25 7% |
| PTC | 11% | 8 53% | 25 54% | 120 50% | 42 50% | 196 51% |
| JV-SV-OT-CT | 21% | 2 11% | 11 24% | 87 36% | 26 31% | 127 33% |
| BEd Higher 1 | 68% | 3 19% | 7 16% | 24 10% | 5 6% | 40 10% |
| Total | .3% | 16 4% | 45 12% | 240 62% | 85 22% | 388 100% |

Very few of the heads report receiving any special training for their administrative position. Only 6 per cent of the respondents took any kind of training for their position as headmaster, headmistress or headteacher. And for most, that training lasted no more than one week. This pattern, of no training for administrators, is common across the provinces.

Most of the heads of schools come from modest backgrounds. About 60 per cent of the fathers of heads are literate, but only

22 per cent of the mothers. Mothers of school heads are more likely to be literate in Sind (34%) and the Federal District (58%), than elsewhere. Less than half (39%) of fathers of heads went beyond primary schooling, and only 7 per cent of the heads' mothers went beyond primary school (76% had no schooling at all). There are no differences between the provinces in terms of levels of education received by parents of school heads. On the other hand, mothers of women heads had more schooling than did mothers of men heads of schools. Whereas 89 per cent of the men's mothers never went to school, only 58 per cent of the women's mothers never went.

About 80 per cent of the heads are married. More (90%) of the men headmasters or headteachers are married, than are the women headmistresses or headteachers (67%).

3. What do the heads of schools do?

According to current research in other countries, heads of schools exert influence on student achievement indirectly, that is, not by teaching but by their leadership. School heads can set standards of achievement and by motivating teachers and students to strive to attain them can raise achievement levels. School heads can exert considerable influence on school discipline, thereby reducing the amount of time that teachers have to take away from direct instruction. School heads can contribute to the improvement of teaching by supervising teachers' work in classrooms, and by calling teacher meetings in which teachers discuss their instructional problems and

solutions.

Almost all (98%) of the school heads say they regularly check student attendance, and a slightly smaller (94%) proportion say they regularly check teacher attendance. Similarly, a very large proportion (97%) say that they observe students' performance. A smaller proportion, however (88%) observe teachers' performance. Supervision of teachers by heads is most common in the Federal District (100%) and Punjab (99%), and lowest in Sind (76%).

Three of every 4 school heads (75%) regularly call meetings of their teachers. There are no reliable differences across provinces. Men are more likely (82%) to say that they call meetings than are women (63%). Headmasters and headmistresses are more likely to call meetings (77%) than are headteachers (66%). The school heads say that on average they hold 12 meetings per year.

Almost all the school heads devote full-time to their position. The heads were asked if they had any other job outside of education which provided income. Only 12 per cent said that they had additional work. The average number of hours worked by those few heads with outside jobs is 11 hours per week.

We asked the school heads how they spend an average week. Table 5 presents the average number of hours spent per week on school leadership in activities such as office work, supervision, enforcing discipline, and raising funds for the school; and on teaching activities such as teaching their own classes, teaching

as a substitute for another teacher, teaching combined classes (their own class plus those of another teacher), and preparing lesson plans. The total school heads' work week averages 40 hours. Of these about 67% (27 hours) are spent on teaching; 81 per cent of all heads have regular teaching responsibilities. On average, school heads spend 13 hours per week (about 2 hours per day) as school leaders, compared to 27 hours on teaching. Their impact as school leaders can not, therefore, be expected to be very large.

Table 5. How School Heads Say They Spend Their Time During an Average Week

| <u>Average Number of Hours per week by Province</u> | | | | | |
|---|---------|---------|----------|--------|------|
| <u>ACTIVITY</u> | FEDERAL | BALUCHI | N.W.F.P. | PUNJAB | SIND |
| Office work | 12.4 | 3.8 | 3.0 | 5.9 | 5.2 |
| Supervision | 5.8 | 3.3 | 2.5 | 2.9 | 3.1 |
| Discipline | 4.6 | 2.9 | 3.1 | 4.3 | 3.6 |
| Fund raising | .1 | .5 | .1 | 1.1 | 1.0 |
| Teaching own class | 12.2 | 19.1 | 17.1 | 19.8 | 12.9 |
| Substituting | 2.8 | 2.9 | 1.9 | 3.0 | 2.3 |
| Teaching combined | 1.2 | 6.1 | 1.9 | 5.0 | 3.5 |
| Lesson planning | 3.3 | 1.9 | 2.5 | 2.5 | 1.4 |

C. Summary

There are differences between schools, and school administrators, in the public primary schools of Pakistan. Some of these difference are in factors that some educators believe are related to student achievement. For example, there are differences between schools in terms of the average length of school day, the size of schools, the student/teacher ratio,

average levels of student and of teacher attendance, contact with middle schools, involvement of the community as reflected in amounts of funding of the school from the community, and the quality and quantity of physical facilities.

There are also differences between schools in terms of the background of their administrators, the level of formal schooling and training of the administrators, their years of service and age, the way they distribute their time across a variety of tasks, and their frequency of meetings with teachers. All these factors are believed by some educators to contribute to student achievement.

On the basis of this information, therefore, one can conclude that, if characteristics of schools, and of school administrators actually are important determinants of the level of achievement of students in primary grades, then there are many ways in which schools and school administration in Pakistan could be changed to improve student achievement. What is required now is the demonstration that these aspects of schools do in fact contribute to differences in student achievement. That is the subject of a companion paper, "Do Differences between Schools contribute to Differences in Student Achievement?"

1. The research reported in this paper was carried out as part of the BRIDGES Project, a Cooperative Agreement between the Harvard Institute for International Development and the Office of Education, Bureau of Science and Technology, United States Agency for International Development. Comments made in this paper are the responsibility of the authors and not of USAID.

This research could not have been carried out without the participation of a number of persons. The study is a joint project of BRIDGES and the Academy of Educational Planning and

Management, Ministry of Education, Pakistan. Professor Laeeq Ahmed Khan, Director of the Academy, provided much help in carrying out this research. Dr. Sarfraz Khawaja of the Academy participated in the design of the study and solved many administrative problems in Pakistan. Aslam Bhatti was the field coordinator for research in the Federal District and supervised the production and distribution of questionnaires. Syed Fazl-Qadir was field coordinator in North West Frontier Province, Ghaffar Siddiqui and M. A. Meher in Sind, Chaudry Anwar Hussain in Punjab, and Kursheed Ahmed and Ijaz Ahmad in Baluchistan. Our deepest appreciation also goes to the more than 100 interviewers, too many to name, who provided hard work, enthusiasm and care in collecting the data. Coding of the data was the responsibility of Haroona Jatoi and Habib Khan of the Academy. Joseph Tham contributed his computer expertise to data entry and data analysis.

2. This study is based on a sample of all public schools with 4th and 5th grades in the four provinces and Federal district of Pakistan. In total there are 90 school districts across the four provinces. Within each province, a sample of at least four districts was chosen using a random selection procedure. Within each of the districts chosen all eligible schools were listed and a sample drawn using a procedure that insured proportional inclusion of urban and rural and male and female schools.

3. Where possible, interviews were carried out with the headmaster or headmistress of the school, or if the school did not have a headmaster or headmistress, the head teacher. As is shown in Table 1, most schools in the sample have a headmaster or headmistress but those in Sind are much more likely than those in other provinces to have a headmaster or headmistress (88%). Schools in N.W.F.P. are more likely to have a head teacher (75%).

On the average, the persons interviewed had been in the present school for at least 9 years. The headmasters/headmistresses with least tenure in their current school were those in the Federal District and Baluchistan (about 4.5 years as head in the present school), compared to more than 8 years on average in N.W.F.P., Sind and Punjab. We believe, therefore, that we can have confidence in the information given.

Most (88%) schools in Pakistan that have 4th and 5th classes are primary schools (that is, have only primary grades); another 4.5 per cent are middle schools (grades 1 through 8) and 1.6 per cent are high schools (grades 1-11). About 80 per cent of schools are classified (by the Departments of Education) as rural. About 5 per cent are classified as "mosque" schools, but of the 25 schools in the sample with this designation, only 2 hold classes in mosques.

4. Information about gender of the school was not used in choosing schools. The obtained results are indicative, therefore, of the distribution of schools by province in terms of gender.

5. The provinces do differ, however, in terms of whether they include Kachi children in the enrolment figures. In Sind 74 per cent of the schools said they did not include Kachi children, compared to 41 per cent in Punjab, and less than 5 per cent in the other provinces and the Federal District. Sind reports much smaller Kachi classes (only 19 per school) than do the other provinces (each between 45 and 50 Kachi children per school).

6. The provinces also vary in terms of the number of other staff that work in the school. For the most part "other staff" includes watchman and clerks. Other staff are common in the Federal District and N. W. F. P. (more than 90% of the schools), infrequent in Baluchistan and Sind (about half the schools) and less common in Punjab (only 25% of the schools report staff other than headmaster/headmistress and teachers). Schools in the Federal District average 2.7 other staff, while Punjab reports an average of .5 other staff per school.

Educators are not clear whether the presence of these staff actually increase student achievement, although they may be essential to the smooth operation of the school.

7. For example see:

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