

6. Social factors in literacy acquisition

In (traditional) religious education, it was said that the students had to memorize the *suras*, while it was not considered important that they understand them. . . . Here we prepare students to go into modern elementary schools. So we should teach them not only the Quran, but also how to read, write, and count, and also discuss with them the *suras* in the Quran. Otherwise, if the students memorize only the Quran, they would be blind people. (A *faqih* in al-Ksour)

The acquisition of any human skill, physical or mental, depends on the interplay among a wide variety of factors. Earlier research and our own observations of Moroccan society suggested the possibility that certain social features of children's lives would be related to literacy acquisition in school. Therefore, our research was designed so that these factors might be directly and empirically studied. It was assumed that some of the factors found to affect reading achievement in the West might be related similarly to literacy in Morocco, but we also wanted to study factors specific to Morocco, such as Quranic preschooling. In this chapter, then, we present findings concerning the impact of family socioeconomic status, level of parental education, urban or rural context, gender, and preschooling on 5 years of literacy development in the primary school sample.

Socioeconomic status

Family socioeconomic status, or SES, is often regarded as a powerful factor affecting school achievement. Whether in the United States, Europe, or the Third World, it is taken as common knowledge that children of the middle and upper classes achieve better in school than do classmates who are economically less fortunate. Probably the best known study that makes this point is the *Coleman Report* (Coleman, 1966), which found that such

factors as parents' occupation, disposable income, and years of education are more powerful predictors of their children's educational success and subsequent economic opportunity than are factors related to the schools themselves, such as teacher quality or the school district's budget. Coleman's work set a trend that is still much in evidence in Western educational research – namely, that SES, even if defined in widely different ways in disparate studies, is the major predictor of why certain children succeed in school while others do not. Even though Coleman and later researchers (such as Jencks et al., 1972) were not able to disentangle completely the various components of SES, it appears that both occupational status and parental education are the most consistent SES factors predicting of American children's success in primary and secondary school.

In a dissent from the almost universal acceptance of this proposition, Heyneman (1976) published the first of a series of papers suggesting that SES may affect school achievement more in industrialized countries than in the Third World. His in-depth investigation of schooling and achievement in Uganda found evidence that the quality of schools and the availability of textbooks were more important than the education of parents or their income. One possible reason for this difference in results is that there is more variability in SES in the United States than in many developing countries and, conversely, less variability in textbooks. Furthermore, the so-called universal effects of SES must also be examined in light of the usual problem of societal differences and other school quality factors (such as teacher training, facilities and the like) in the meaning of SES. For example, a household annual income of \$10,000 in Marrakech or Casablanca may imply a very different kind of SES value than in al-Ksour; in the latter case, the family would be considered relatively wealthy. As a second example, increments of education among the poor may have differing degrees of value than equivalent increments of education among the middle or upper class, as further discussed in chapter 11.

In Morocco, the problem of SES measurement is exacerbated by the rather sharply defined nature of social classes. With a middle and upper class making up only 15% of the population, a lower class (what the French call the *classes populaires*) as much as 75%, and the remainder being the ultrapoor (see chapter 11), life-styles, income, and educational opportunities are radically different between the first 15% and the rest of Moroccans. The middle and upper classes often possess nicely appointed houses or apartments, one or more automobiles, and many of the luxuries of the average American or European family. The popular classes, by contrast,

have little disposable income, and their main consumer possessions (as contrasted with land and animals) might include a radio and/or television.

Because we sought to study comparable families from urban and rural communities, we wondered whether urban parents might have a higher SES than rural parents. Differences in geographic and ecological context, we reasoned, might actually be due to SES differences. On the other hand, although we knew that income was higher (on the average) in urban settings, its effects might be counterbalanced by an equivalently higher cost of living. Indeed, parents in rural Morocco often told us that cheap living (*hayat arkhis*) was one of the best reasons for staying in al-Ksour. Another way to limit the confounding effects of SES is to reduce its overall variability (and therefore predictive power) by limiting the sample selection to children from the *classes populaires* in the rural town of al-Ksour and in Marrakech. This is precisely what we chose to do.

To what extent were we able to obtain roughly similar families by SES in al-Ksour and Marrakech? To answer this question, we made use of the parental interview (described in chapter 4 and shown in appendix 3). As may be seen in Table 6.1, the educational levels in both communities appear similar. For example, mothers' education levels were so low that the large majority of mothers in rural and urban families had completed few, if any, years of schooling. There was somewhat more variation in fathers' education within and across communities; whereas the percentage of fathers with Quranic and primary schooling was relatively low, there was, nonetheless, a range of years that might make a difference to the family's children. Similarly, urban families, measured by the father's job classification, also produced some variation. Overall, relatively few SES differences by rural and urban communities were found in our survey research and ethnographic observations.

Thus, by utilizing a strategy of excluding most middle- and upper-class families from the project sample, we were able to reduce but not completely eliminate the potential effects of SES. To measure remaining effects, we drew on our interview data to construct a useful measure of SES. After a number of complex statistical analyses involving factors such as education, home wealth, and so forth, we found that the occupational categorization of the employment of the child's father was both a simple and robust indicator of SES: "high," jobs in government administration or a profession; "middle," jobs in semiskilled or sales positions; and "low," unemployed, farming, or peasant.

Subsequent statistical analyses showed a clear relationship between SES

Table 6.1. Education and occupational characteristics in rural and urban families

	Rural (%)	Urban (%)
What is level of educational attainment of parents?		
a. Mother		
Preschool		
None	86	74
Quranic 1–2 years	11	29
Quranic 3 or more years	1	4
Modern preschool	1	0
Modern public school		
None	87	77
1–3 years primary	4	9
4–5 years primary	5	9
1–3 years secondary	1	3
4–7 years secondary	0	3
1–3 years postsecondary/university	0	0
4 or more years postsecondary	0	0
b. Father		
Traditional Quranic schooling		
None	70	29
1–2 years	10	27
3 or more years	6	14
Modern preschool	1	0
Modern public school		
None	77	57
1–3 years primary	4	5
4–5 years primary	7	13
1–3 years secondary	3	8
4–7 years secondary	5	7
1–3 years postsecondary/university	1	1
4 or more years postsecondary	0	1
Occupation of father		
Unemployed	3	1
Unskilled labor, farming	40	25
Semi- to skilled labor	11	25
Commerce, services	25	27
Administrative	9	6
Traditional/modern professions	5	8
Other		

Note: These data were gathered during home interviews. Mother, aunt, and grandmother accounted for 90%, 3%, and 2% of the respondents to the questions; fathers and other relatives accounted for the remaining 5% of Respondents. Children were in first grade when these data were obtained. This subsample includes 205 families of children in Cohort 1, for whom most of the relevant data were available.

and children's reading achievement that was most apparent among the high and low reading achievers (see Figure 6.1).¹ Among the middle achieving children, there was a fairly even distribution of achievement by SES. Similarly, survey data on household amenities such as access to water and electricity (the best available measures of household income and expenditures) were also predictive of Arabic reading achievement in primary school (Figure 6.2). Again, children who were poor readers in first grade were most likely to have neither running water nor electricity. These effects, too, do not appear to be completely determinant, as many children (25%) with such amenities were in the low-achieving group. Although some indication was found that SES factors play a role in school achievement in Morocco (even when such factors are constrained through sample selection), we can reject the simplistic argument that the "poorest of the poor" will necessarily become the illiterates of the next generation. On the other hand, as detailed in chapter 11, the general educational effects of poverty do tend to repeat themselves across generations.

Parental education

It has long been a truism that literate parents tend to have literate children, but social science research has told us little about how this transfer takes place. Research on the American family suggests, for example, that direct instruction (such as storybook reading) to children may increase both motivation to learn and reading skill (Heath, 1982; Teale & Sulzby, 1987). However, we know much less about the role of direct instruction in other societies and across social classes; and what we do know suggests considerable variation in the consequences of direct parental involvement. For example, among the Kaluli people of Papua, New Guinea, mothers intentionally avoid teaching their children how to read, because it is thought to be "of no purpose" (Schieffelin & Cochran-Smith, 1984). Beyond such anecdotal information, we know remarkably little about parents' instruction of children's reading in other societies. In rural Morocco and in other developing countries, there may be no one at home literate enough to instruct the child; indeed, as noted in chapter 2, primary school children themselves often become the literacy experts for the entire family.

The parent interviews provided a wealth of information on the educational background of the families in the study. Using these data, it was possible to examine the relationship between parents' educational level and children's reading achievement during primary school. In these analyses, children's overall reading scores for the first year of the study were

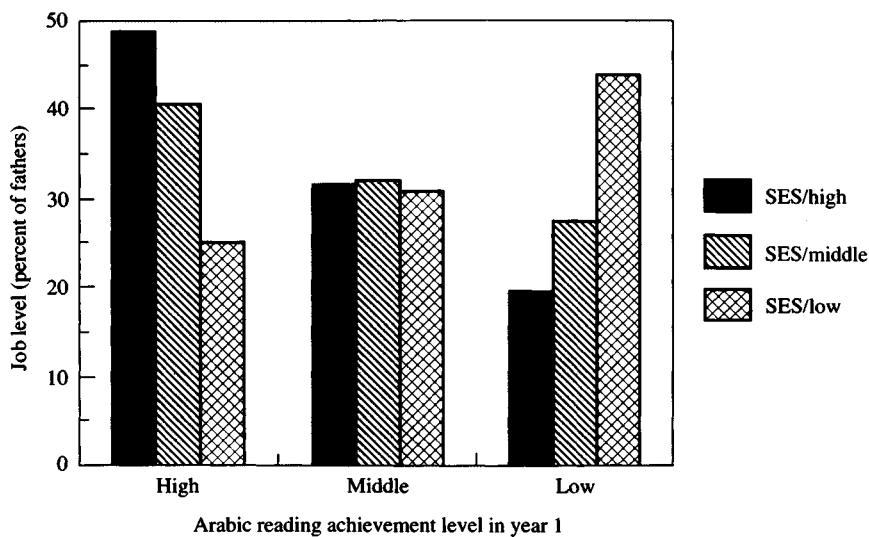


Figure 6.1. Arabic reading achievement in year 1 as a function of SES level.

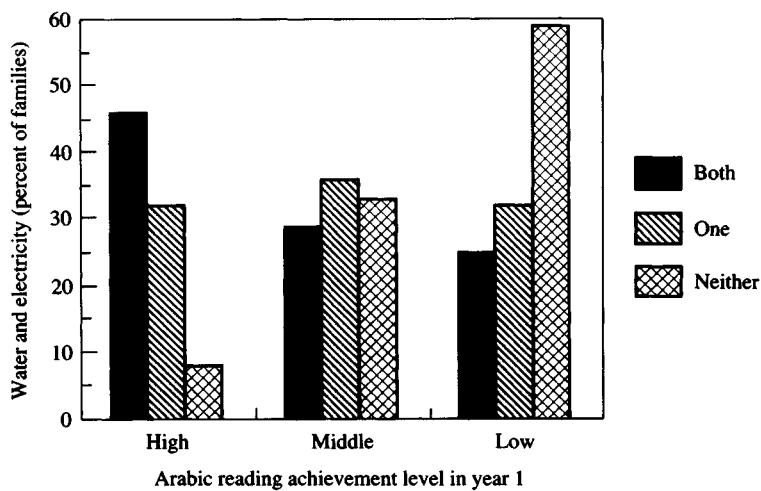


Figure 6.2. Arabic reading achievement in year 1 as a function of household amenities (water and electricity).

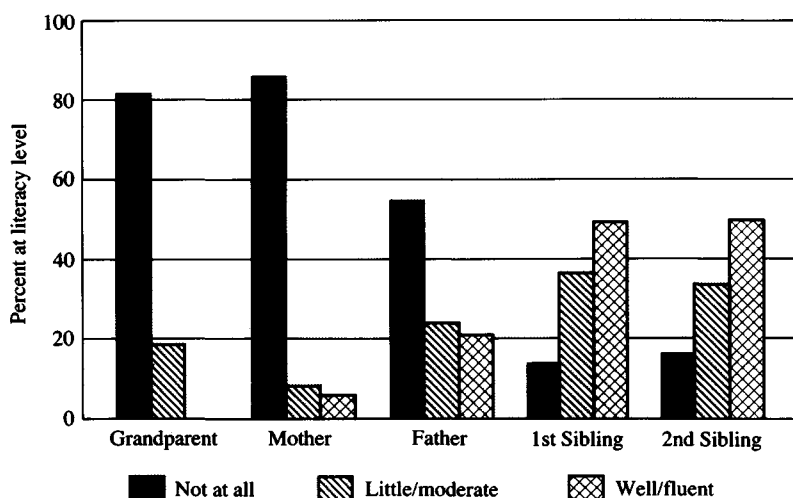


Figure 6.3. Intergenerational changes in self-assessed literacy skill among Cohort 1 children's grandparents, parents, and siblings. ("First sibling" refers to the oldest sibling of the child; "second sibling" refers to the next oldest sibling; $N = 295$.)

categorized as low, middle, or high (in terms of each third of the distribution of standard scores) and compared across the highest level of education reached by either parent of the child (no schooling, for 49% of the sample; primary schooling only, 33%; 6 years or more, 20%).

By using the interview data about the family members of the sample children in Cohort 1, we found that there had been a dramatic increase in educational attainment levels across generations, reflecting similar national statistical trends as reported by the Moroccan government (Ministry of Education, 1986; see also chapter 11). Only 19% of the Cohort 1 children had one literate grandparent (only 4% had more than one), but 9% of their mothers, 40% of their fathers, and 82% of their oldest siblings had attained at least a moderate level of self-assessed Arabic literacy (corresponding roughly, by our data, to a fourth-grade level in primary school; see Figure 6.3).² Furthermore, whereas only 1% of mothers and 12% of fathers had reached the middle of secondary school (ninth grade), 39% of eldest siblings had done so. Intergenerational change in literacy in Morocco reflects the substantial increase in the numbers of children currently attending school, a level more than double that of only one generation ago.

In addition to intergenerational changes, we found that children's reading achievement was strongly related to parental educational level across all

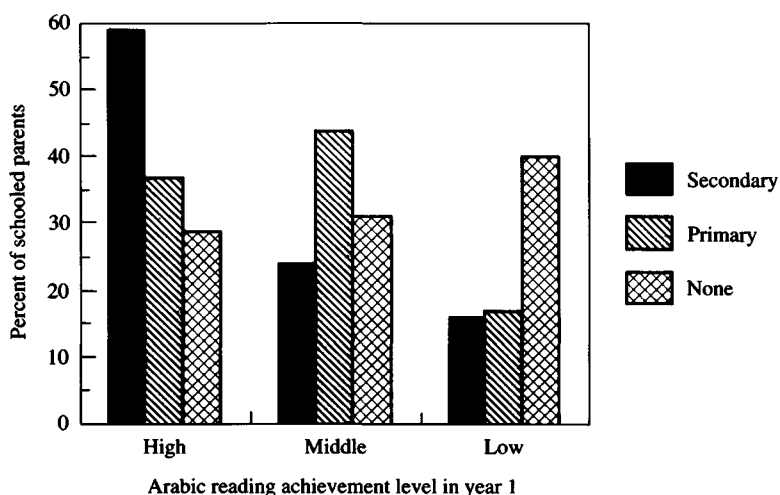


Figure 6.4. Arabic reading achievement in year 1 by parental education level.

5 years of the project (see Figure 6.4).³ However, even with this clear relationship, we cannot assume that children with unschooled parents are necessarily at risk (in the American sense of the term) of failure and school dropout. Additional analyses revealed that a substantial number of children from families with unschooled, illiterate parents achieved reading scores in the high reading category. In Morocco, probably more often than in contemporary America, it is quite possible to be an excellent achiever with illiterate parents or a poor to midlevel reader from a relatively literate and educated family. Similar cross-generational changes in education and literacy were also common in the United States in the first quarter of the twentieth century where disparities between home and school often existed (Kaestle, 1991). In other words, these findings on intergenerational change probably reflect a transitional period in Moroccan contemporary history, analogous to periods decades ago in Western societies.

Environment, gender, and preschooling

The design of the longitudinal study of Cohort 1 provided an opportunity to compare subsamples that differed markedly by environment, gender, and preschooling experience. Before exploring the results in terms of literacy outcomes, it is useful to review briefly earlier work on these same

issues and to consider a few methodological problems that confront such studies.

Rural and urban environments

In the Western research literature, remarkably little attention has been devoted to the rural-urban dimension of educational achievement in general or of literacy in particular. In the United States, most attention has been concentrated on the nature of the urban underclass (Mincy, Sawhill, & Wolf, 1990), largely consisting of Afro-American, Hispanic, or Asian minorities. But beyond this focus on ethnicity in urban America, are there other differences between urban and rural life that might affect educational achievement? Surprisingly, little effort has been made to explore this issue, perhaps due to a judgment that, in industrialized countries with great population mobility and a pervasive communication infrastructure, such differences are likely to be minimal. In the Third World, by contrast, there has long been serious interest in the study of rural environments, from schooling issues to agriculture, as would be expected by the often clear cut differences to be found between rural and urban life in these countries.⁴

Among Moroccans, whether schooled or not, there is a tendency to call someone a *baladi* (literally, from the countryside) who is behind the times or even backward. Rural Moroccans make jokes about their *baladi* ways, though it must be said that they make jokes about their urban compatriots as well! As noted earlier, there are some important differences between urban and rural contexts that go beyond differences in educational level and jokes made by amiable protagonists. Well into the 1980s (when this study was carried out), these differences included the lack of printed media in al-Ksour, as well as no cinema, no magazine store, no newspaper kiosk, and no library. Other differences in print ecology were described in chapter 3 in our vignettes of Moroccan life and society.

Yet there is more to such distinctions in the literacy ecology than the casual observer might see *en passant*. The fact that the numbers of literate individuals and literate materials are so dramatically different between al-Ksour and Marrakech led us to conclude that such ecological differences might be significant predictors of literacy acquisition. Of course, trying to quantify these differences in the literacy ecology is not an easy chore, and we had little prior research upon which to base our efforts. What distinguishes one literacy ecology from the other? As mentioned earlier,

there were clear differences between al-Ksour and Marrakech in terms of geography, population size, historical traditions, modes of income generation and the like. There were also differences in parents' education, for public schooling arrived a generation earlier (at least for our sample) in urban Morocco.

To understand better the literacy ecology of our two field sites, we used ethnographic observations in addition to questions in the home interviews. We found, for example, that the amount of print in the ambient environment in Marrakech – such as on cinema posters, advertising publicity, newspaper kiosks, and so forth – is radically different from that in al-Ksour, where the primary source of print is on the labels of certain store-bought goods and in the Quran. Our survey data support this contrast, showing that more than half of the urban sample families had four or more books and magazines in their homes, compared to about a third of the rural families (Table 6.2). As expected, the urban families also had more contact with French written materials than their rural counterparts. Television watching is another important indicator of contact with the literacy ecology, because it provides access not only to spoken Standard Arabic but also to Arabic and French print that appears on the screen (see also chapter 2). Self-assessed estimates of television watching indicated that urban families are almost twice as likely as rural families to watch television on a daily basis. More significantly, more than a third of rural families never watch television, compared to only 13% of urban families, a difference largely due to the lack of TV sets and electricity in rural al-Ksour.

An additional indicator of the literacy ecology may be seen in the types of literacy help – what we termed more generically literacy mediators in chapter 2 – that are available to the families of the sample children in al-Ksour and Marrakech. Although both samples of families tended to seek help most of the time within the household, almost a third of the rural families sought aid outside the family, but only 13% of urban families did so. When literacy mediation was sought inside the household, the mother most often asked a more literate son or daughter for assistance, supporting our conclusions (discussed previously) about intergenerational change. When help was sought outside the family household, as happened more often in rural al-Ksour, most families in each community sought the advice of a literate neighbor or friend. Only a small percentage of the sample families relied on the traditional *fqiḥ* as a mediator – another consequence of the increased level of schooling in much of contemporary Morocco. This observation is in contrast to traditional forms of literacy

Table 6.2. Literacy ecology in rural and urban families

	Rural (%)	Urban (%)
1. Literacy and media use in the home		
a. Number of types of Arabic written matter in the home (e.g., books and magazines = 2 types)		
1	4 ^a	9
2	40	22
3	21	15
4 or more	36	54
b. Number of types of French written matter in the home		
0	33	21
1	37	29
2	17	21
3	7	20
4 or more	5	7
c. Child's use of television		
Never	35	13
1-3 times a week	5	6
Everyday	39	79
d. Mother's use of television		
Never	39	18
1-3 times a week	6	6
Everyday	37	71
2. When necessary, whom do you ask for help in reading and writing?		
a. Choice of inside vs. outside of family		
Inside only	54	65
Outside only	32	13
Both inside and outside	8	13
Never ask/no need	2	6
b. Inside family		
Son/daughter	41	37
Brother/sister	9	7
Spouse	8	15
Never ask/no need	36	27
c. Outside family		
<i>Fqih</i> (traditional Quranic teacher)	6	2
Government worker	0	2
Literate neighbor/friend	36	22
Never ask/no need	50	71

^aPercentage of responses within rural or urban field site. Some columns add to less than 100% due to missing data or other responses.

mediation described to us by community elders (see chapter 3; see also Wagner, Messick, & Spratt, 1986).

Another potential difference between the rural and urban communities, we surmised, might pertain to the quality of the training of the teachers. We had heard that Moroccan public school teachers in urban communities are more likely to be from urban (and educated) families and tend to be native Arabic speakers as well as conversant in French. On the other hand, we knew that the younger and (presumably) better trained teachers are obliged to work in rural areas before they can eventually transfer to urban schools, which many teachers seek to do for family and professional reasons. The data collected on the sample teachers' study showed that urban teachers were substantially older on average (40 versus 29 years) and more experienced (16 versus 6 years) than their rural colleagues (Table 6.3). However, urban and rural teachers were roughly comparable on educational level attained (4.9 and 5.7 years, respectively) and in the small amount of formal training received (2.7 and 1.4 years).

Other interesting differences were apparent in teachers' attitudes concerning learning and pedagogy. For example, rural teachers were much more likely to say that Berber-speaking children learn differently from Arabic-speaking children, which suggests a greater sensitivity to the context of multilingual al-Ksour. On the other hand, the rural (and younger) teachers claimed to emphasize Standard Arabic when working directly with individual children, whereas urban teachers reverted to dialectal Arabic. The tendency of the young rural teachers to be cognizant of (and obedient to) the government-mandated pedagogy is also evidenced by their much greater insistence on children following the teacher's exact instructions, as opposed to the more flexible learning-by-doing attitude favored by many urban teachers. Finally, it should be noted that urban teachers were more likely to say that boys needed more education than girls. This is counterintuitive when one considers the increased professionalization of women in urban areas, but it may be more reflective of the fact that urban teachers come from an older and probably more socially conservative generation.

Overall, we expected that even if specific environmental effects could not be pinpointed (because so many other factors covary across the two Moroccan contexts), the cluster of factors that distinguish urban Marrakech from rural al-Ksour would likely lead to major differences in literacy development. We were supported in this view by numerous comments made by our urban Moroccan university colleagues, who simply "knew"

Table 6.3. Characteristics of teachers in urban and rural field sites

	Urban	Rural
1. Number of teachers interviewed	23	33
2. Description of teacher's background		
a. Gender		
Male	11	17
Female	12	16
b. Teacher in what type of school		
Quranic preschool	5	5
Modern preschool	3	0
Primary school (first or second grade)	15	28
c. Average age	40	29
d. Percentage of sample married	69	59
e. Maternal language		
Berber	6	8
Moroccan Arabic	17	25
f. Average level of spoken Moroccan Arabic (6-pt. scale)	5.7	5.8
g. Average level of spoken Berber (6-pt. scale)	3.5	3.7
h. Average level of spoken French (6-pt. scale)	3.0	4.2
i. Average level of reading Standard Arabic (6-pt. scale)	5.8	5.7
j. Average level of writing Standard Arabic (6-pt. scale)	5.7	5.6
k. Average level of reading French (6-pt. scale)	3.2	4.6
l. Average level of writing French (6-pt. scale)	3.4	4.3
m. Average years of attendance at Quranic school	4.9	2.8
n. Average grade level of public schooling	4.9	7.9
o. How often do you watch TV each week? (times)	2-3	2-3
p. In what language do you usually watch TV?	Arabic	French
q. Have you traveled abroad?	76	18
r. In travels, to what country did you go (modal response)	France	France
3. Teacher's professional experience		
a. Years of teacher training	2.7	1.4
b. Average number of years as teacher	16	6.3
c. Average years of teacher's public education	4.9	5.7
d. Are you satisfied being a teacher? (% yes)	100	72

Table 6.3. (cont.)

	Urban	Rural
4. Teacher's values concerning learning and pedagogy		
a. Do Berber-speaking children learn differently from Arabic-speaking children? (% yes)	45	73
b. How often do you use Standard Arabic (and not Moroccan Arabic) for individualized instruction? (% time for Standard Arabic)	56	90
c. Do you help your children outside of class? (% yes)	87	78
d. What is best age to teach children to read? (average response in years)	5.5	6.2
e. What is main reason for child to be literate? (modal response)	everyday life	<i>baraka</i> (blessing or "cultural capital")
f. In addition to reading by comprehension, how important is memorization? (% responding "memorization")	13	15
g. Which is more important, the child's experience or following the teacher's instructions? (% responding "experience")	2	37
h. To succeed in school, which is more important: native ability or hard work? (% responding "hard work")	19	7
i. Are some children ready to start schooling earlier than others? (% responding "yes")	95	97
j. What makes a good teacher? (modal response)	understanding children	religious dedication
k. Whose responsibility is it to teach a child to read: the teacher or the parents? (% responding "teacher")	79	82
l. Who needs more schooling: boys or girls, or do they need the same? (% responding "boys more")	65	15

Note: Levels of language and literacy skill are self-described and part of the interview format.

that life in the countryside was a significant impediment in promoting literacy for rural schoolchildren. What we did not know was the size of the effect, nor whether we could determine particular aspects of the environment that might make a difference.

Gender

In the United States, the study of gender and educational achievement has assumed considerable importance in recent years. One of the best known findings is that boys tend to be superior in math and science, whereas girls excel in reading and writing. These differences, based on both standardized tests and school grades, are statistically reliable, even though the actual differences by gender represent only a few percentage points in the large samples studied (Huston, 1983). In the Third World, gender differences in educational attainment are often seen to be quite large overall: Girls attain lower grade levels, repeat grades more frequently, perform more poorly on standardized tests, and have fewer postschooling job opportunities (Charlton, 1984). The underlying causes of these gender differences, which have been documented in many parts of Asia, Latin America, and Africa, are the subject of considerable debate. Some specialists, like Stromquist (1990), argue that traditional societies are, for the most part, sexist in the way girls and women are treated and that this treatment affects many dimensions of their lives (such as the "overproduction" of children and the inordinate amount of time spent on menial household tasks), that school texts reinforce traditional sex-role stereotypes, and that these factors cumulatively result in continued female subordination and denied access to education in male-dominated traditional societies.

Male and female differences in socialization have also been the focus of a number of Moroccan research studies in recent years (e.g., Davis & Davis, 1989; Mernissi, 1975). Several generalizations follow from this work, and these were confirmed by our own observations of Moroccan school-age girls and various questions posed in the student interview to the sample children in year 5 (when they were about 12 years old). From Table 6.4, it may be seen that the distribution of home environmental factors varies little by gender across the sample (e.g., language use, electricity and running water, distance to school).

However, a closer look at the data suggests certain key differences by gender in the features of literacy behavior in the home. For example, boys reportedly read more frequently in the home than girls do, yet girls were nearly four times more likely to have written a letter than boys (a gender difference that probably could be replicated in the United States as well). In terms of language preference, boys were much more likely than girls to report that they preferred television programs in French, though this finding is confounded with the nature of programming in each language

Table 6.4. Characteristics of boys and girls in Cohort 1

	Boys	Girls
1. Sample size	109	130
2. Description of children's home environment		
a. Language use in home, Berber or Moroccan Arabic (% Berber monolingual)	37	38
b. Is there running water in your house? (% yes)	69	77
c. Is there electricity in your house? (% yes)	69	79
d. Does your family own a car? (% yes)	11	12
e. Does your family own a TV? (% yes)	70	85
f. Does your family own a refrigerator? (% yes)	35	48
g. How long does it take you to get to school? (modal response in minutes)	15–30	15–30
3. Features of literacy in the home (% yes)		
a. Do you spend time reading at home?	82	75
b. How often do you watch TV? (modal response)	everyday	everyday
c. What is the language of your favorite TV program? (% chosen)		
Standard Arabic	37	45
Egyptian Arabic	10	21
French	36	18
d. Does anyone bring a regular newspaper into the home? (% yes)	35	35
e. What kinds of materials do you most like to read at home? (% per item type)		
Nothing	18	25
Newspaper/magazine	21	14
Quran	13	8
<i>Cineroman</i>	0	1
Comics	0	3
Novels/storybooks	46	48
f. Have you ever written a letter? (% yes)	26	82
g. What language did you write in most recently, Arabic or French? (modal response)	Standard Arabic	Standard Arabic
h. How many Arabic language newspapers can you name?		
None	52	59
One or more	30	20
i. How many French language newspapers can you name?		
None	94	98
One or more	2	0

Table 6.4. (cont.)

	Boys	Girls
j. Do you ever read <i>cinéromans</i> ? (% yes) (Note: These are almost always in French)	64	58
k. What language do you most enjoy reading in?		
Arabic	50	50
French	14	12
Both	36	38
l. Which language of literacy (Arabic or French) is most important in Morocco? (% French)	31	24
m. When you help other people to read things, what do you most often help them to read?		
Nothing	56	62
Newspaper/magazine	0	0
Quran	1	5
Comics/ <i>bandes dessinées</i>	1	0
Novels/storybooks	6	8
Letters	26	18
Forms and papers	9	4
n. When you help other people to write things, what do you most often help them to write?		
Nothing	77	82
Letters	7	8
Form-filling	1	2
Keep diary	4	1
Math	4	2
4. Attitudes and values		
a. Do you like school a lot or a little? (% a lot)	90	95
b. What do you like most about school?		
Friends	9	5
Specific subject matter	27	27
Job prospects	1	1
General knowledge	25	36
Your teacher	16	20
c. What do you dislike most about school?		
Difficult	2	2
Teacher too strict	5	6
Social problems with children	30	23
d. Who usually gets better grades in school, boys or girls?		
Girls	6	20
Boys	12	5
Same	81	74

Table 6.4. (cont.)

	Boys	Girls
e. How far do you hope to go in school?		
Primary certificate	13	14
Middle school certificate	14	17
Secondary (BAC) certificate	33	30
University degree	19	9
f. Why do you think you were promoted in school last year?		
Hard work	94	99
Innate ability	2	1
Easy test	0	0
Good luck	0	0
Good teacher	0	0
God's will	2	0
g. Why do you think you were failed in school last year?		
Did not work hard	58	52
Lack of ability	10	20
Difficult test	10	4
Bad luck	0	0
Bad teacher	4	4
God's will	0	4
h. Do you usually study alone or with friends? (% responding "alone")	72	75

Note: All data taken from the student interviews of Cohort 1. Out of an original sample of 350 children in year 1, 239 student interviews were collected in year 5 of the study. All values are in percentages unless otherwise specified.

medium. For example, French language programs, often dubbed from American Westerns and the like, tend to be more violent than their Arabic language counterparts, and thus more attractive to adolescent boys. Though the sample adolescents reported watching television regularly (at least two to three times a week), more than half of the boys and girls could not accurately name a single Arabic language newspaper, and virtually none could name one in French. This statistic becomes even more striking when compared with the large share of the sample, almost 60% of all boys and girls, who had read *cineromans* (photographic novels) in French.

We also sought to determine the language and literacy preferences of the boys and girls in the sample. One of our hypotheses, based on eth-

nographic data, concerns the tendency for girls to be more interested in the French language than boys. The data from the student interview, however, showed little of this trend. Indeed, Moroccan youth seem to have a fairly general view that Arabic is the most enjoyable language to read (not surprising, as their skills are far superior in Arabic), but they also feel that Arabic is the most important language to learn. In this latter view, however, boys showed a stronger belief in the importance of the French language for job prospects. It may be, as we shall see in chapter 10, that girls have a more subjective sense of the importance of French and how it affects self-esteem and not simply job opportunities.

Finally, gender differences concerning beliefs about learning and school success are worth noting, and will be explored in greater depth in chapter 7. Here we can observe in Table 6.4 (e.g., item 4g) that though both boys and girls tend to attribute the lack of success to a failure to work hard, girls are about twice as likely as boys to attribute failure to a lack of native ability. The tendency for females to consider themselves perhaps not quite as talented as boys fits with the overall male dominance in Moroccan society. Yet it also contrasts with girls' beliefs that they are more likely to get good grades in school than boys (item 4d). Overall, with respect to attitudes about schooling, one could conclude from our data that there are more similarities than differences among boys and girls. This conclusion is reflected as well in our subsequent analyses of achievement outcomes.

Preschooling

Ever since the growth of the Head Start program in the United States in the 1960s (Zigler & Valentine, 1979), the effects of preschooling on subsequent school achievement have seen a substantial increase in research interest and financial investment. Research on American and European preschool programs has suggested the value of such experience, particularly among disadvantaged groups in society (Woodhead, 1988). In Third World countries, preschools are typically less widespread and empirical research on them far less frequent. Nonetheless, it appears that the effects of preschooling in developing countries are mostly positive (Myers, 1992; Myers & Hertenberg, 1987). However, because such preschooling programs may compete for scarce educational resources in developing countries, research reflects the biases (both positive and negative) that are inherent in the competition for funding.

For this latter reason, and because preschooling (particularly traditional

Quranic preschooling) is so common in Morocco, its study has particular appeal. Our work involved no external intervention however, because all Quranic and modern preschools existed before and after our research was conducted, and we made no effort to intervene in the ongoing nature of the instruction or curriculum. Furthermore, we knew a great deal about the composition of the families that sent their children to preschools, and thus were able to avoid, as described earlier, any obvious confounding of variables such as socioeconomic class with preschooling experience. Our goal in this part of the study was to measure the effects of preschooling (modern, traditional Quranic, or none) on literacy acquisition.

As described in chapter 3, Quranic and modern preschool experience may begin when children are as young as 3 or 4 years of age and continue until they reach age 6, and represents an important introduction to the learning activities, organized curriculum, and strict discipline found in primary school settings. Also, both Quranic and modern preschools provide a first opportunity for intensive exposure to Standard Arabic. For the purposes of the present analysis, there were two major comparisons of interest: First, we sought to understand the long-term impact of Quranic preschooling (by comparing it with no preschooling) on children's literacy and primary school achievement, and second, we wished to compare the potential differences in literacy acquisition between Quranic and modern preschool experience.⁵

An analysis of the effects of environment, gender, and preschooling

In order to address the questions raised in this chapter, children's Arabic reading achievement scores were compared across the varying subsamples of children. In the first major analysis, we observed that the effects of environment appear to be substantial over time (see Figure 6.5). Regardless of age, gender, and preschooling experience, those children attending school in urban areas consistently outperformed their rural counterparts throughout the primary school years, as confirmed by a comprehensive analysis of variance (Table 6.5).

The finding of environmental differences is further confirmed by a comparison of urban and rural subgroups by reading achievement level (see Figure 6.6). Although the largest differences appear in year 1, as expected, the gap remains well into year 5. One interesting aspect of this figure is that the percentage of low (or poor) readers in each region is

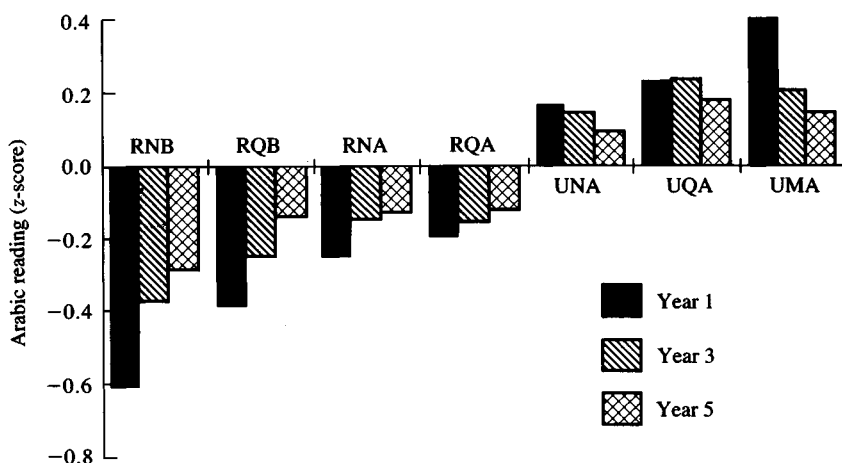


Figure 6.5. Arabic reading achievement scores for seven subgroups of Cohort 1 over years 1, 3, and 5.

roughly the same; such a finding is consistent with cross-national studies and seems to indicate that a combination of psychophysical limitations and common environmental features leads to a substantial number of poor readers in almost every country in the world. One result is the relatively high rate of functional illiteracy in the developing world, even among individuals who have attended primary school.

Of course, low reading achievement in the early years, even in grade 1, has consequences for subsequent reading attainment and for staying in school – as reading in Arabic is the primary measured skill that school authorities use in the selection of students who advance and those who are held back or drop out. Such consequences may be seen in Figure 6.7; first-year Arabic reading scores are quite good predictors of reading level in year 3 and on into year 5, with relatively small numbers of students changing their general level of achievement. Similarly, grade promotion (staying in-grade versus falling behind or dropping out) is directly related to reading achievement in the early grades (see Figure 6.8). In Figure 6.8c, it is clear that children who were high achievers in year 1 are four times more likely to stay in-grade (i.e., fifth grade) by year 5 of the study. Even so, as pointed out in chapter 3, many children – the majority – in our sample fall behind grade level or drop out, as shown on a larger scale in Moroccan national educational statistics.

Table 6.5. Comparisons of reading test scores by sex, region, and preschooling

Test	Sex <i>F</i>	Region <i>F</i>		Preschool (Q vs. NQ) <i>F</i>
<i>Year 1</i>				
LK/1	0.16	20.13 ^a	U>R	2.06
WPM/1	0.70	15.94 ^a	U>R	0.29
WD/1	0.00	33.49 ^a	U>R	0.21
AR/1	0.07	29.83 ^a	U>R	0.90
<i>Year 3</i>				
WPM/3	1.23	11.72 ^a	U>R	2.99 ^d
WD/3	2.46	0.00		1.13
SM/3	0.83	3.70 ^c	U>R	0.13
PC/3	0.26	4.36 ^c	U>R	0.05
AR/3	1.58	4.85 ^c	U>R	1.09
<i>Year 5</i>				
WPM/5	0.44	0.54		0.63
SM/5	0.74	3.91 ^c	U>R	0.02
PC/5	2.25	6.26 ^b	U>R	0.32
AR/5	1.22	3.63 ^d	U>R	0.00

^a*p* < .001.^b*p* < .01.^c*p* < .05.^d*p* < .10.

Although we undertook complex statistical analyses to compare contrasting groups, it was useful again to compare children categorized into the three categories of reading achievement.⁶ As shown in Figure 6.9, both the numbers of children and the shape of the distribution confirm that there were no gender differences over the 5 years of the study in terms of reading achievement. However, there was a modest trend for high-achieving girls to be overrepresented in this group in year 3, but substantially less than boys in year 5. Even though this latter difference was not statistically significant, the general contention that gender discrimination in Morocco increases over the primary school years is supported. Because girls are less likely than boys to go on to secondary school, we have some evidence from these results that substantiate claims that bias toward lower female achievement may begin in the latter part of primary school.

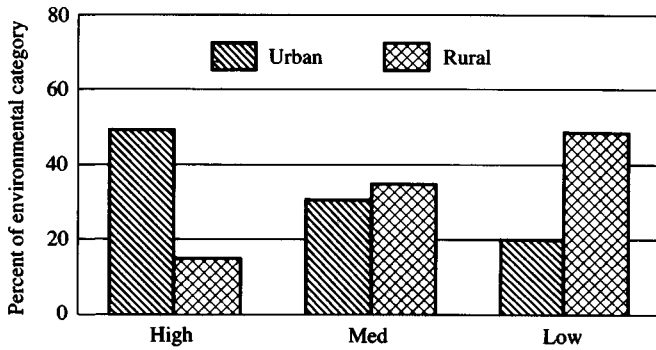


Figure 6.6a. Arabic reading achievement levels in year 1 by environment.

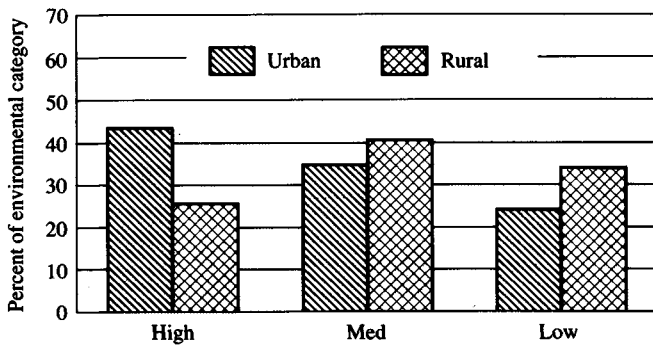


Figure 6.6b. Arabic reading achievement levels in year 3 by environment.

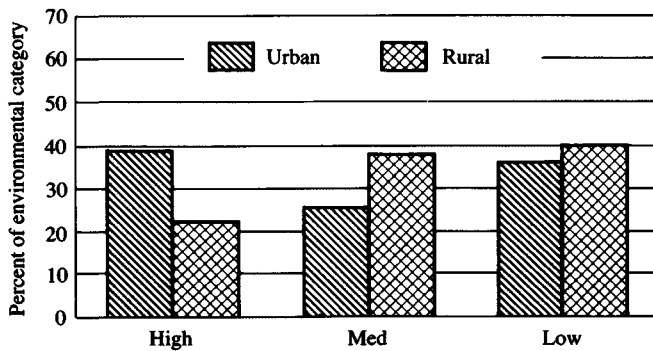


Figure 6.6c. Arabic reading achievement levels in year 5 by environment.

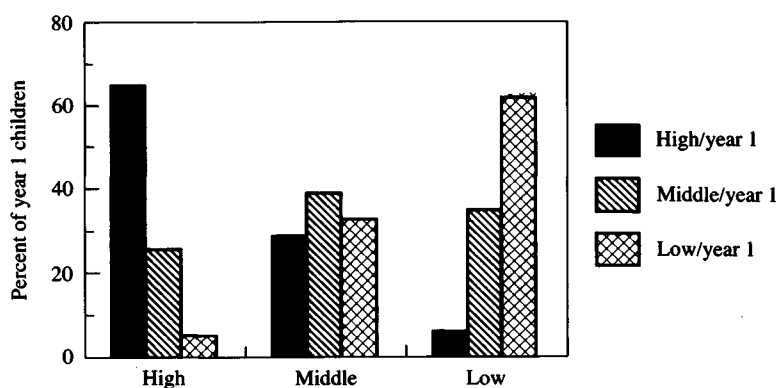


Figure 6.7a. Arabic reading achievement levels in year 3 by year 1 reading level.

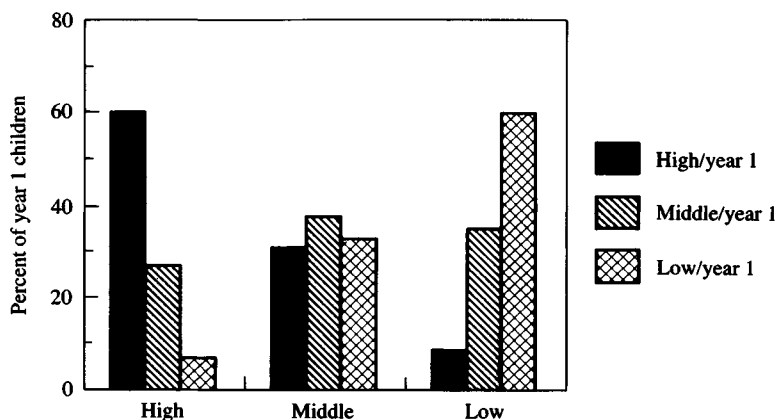


Figure 6.7b. Arabic reading achievement levels in year 5 by year 1 reading level.

Based on the earlier discussion, we might also expect effects of family's socioeconomic background mixed with the three main contrasts of this chapter. In such an analytic context, multiple regression techniques are particularly helpful. However, as with other studies in complex and difficult-to-measure societies (which is most of the world), the actual level of variance predicted in the dependent variables may be quite modest. In this case, gender, region, language, and preschooling predicted (using the measure of R^2) about 16% of Arabic reading achievement in year 1, but this decreased to less than 2% in year 5, with only environment as a significant predictor across all years (see Table 6.6a).⁷

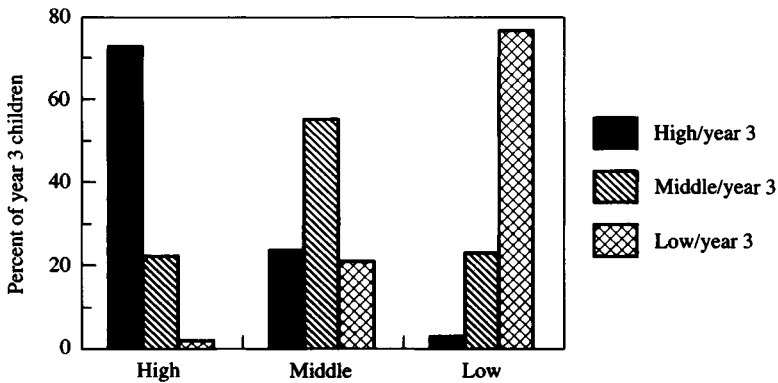


Figure 6.7c. Arabic reading achievement levels in year 5 by year 3 reading level.

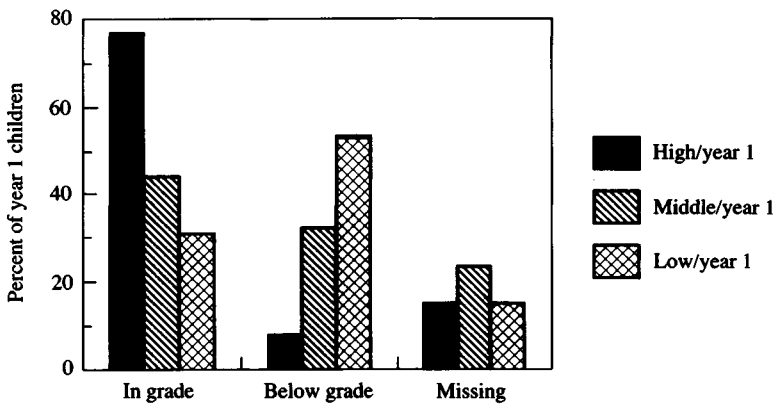


Figure 6.8a. Grade promotion into grade 2 as a function of reading level in year 1. (Note: Missing data represent both school dropouts and children who moved away.)

In a separate regression analysis individual background variables, such as parental education, SES, and literacy materials in the home were used instead of the main categorical variables (Table 6.6b). The results indicate that individual home variables, though they only explain about 7% of the variance after 5 years, have more staying power in predicting future achievement than such usually important factors as gender and environment. Parental education was most important in year 1, while the

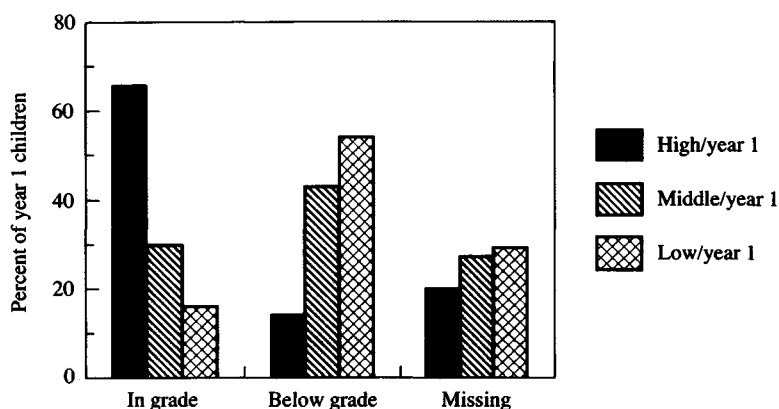


Figure 6.8b. Grade promotion into grade 3 as a function of reading level in year 1. (Note: Missing data represent both school dropouts and children who moved away.)

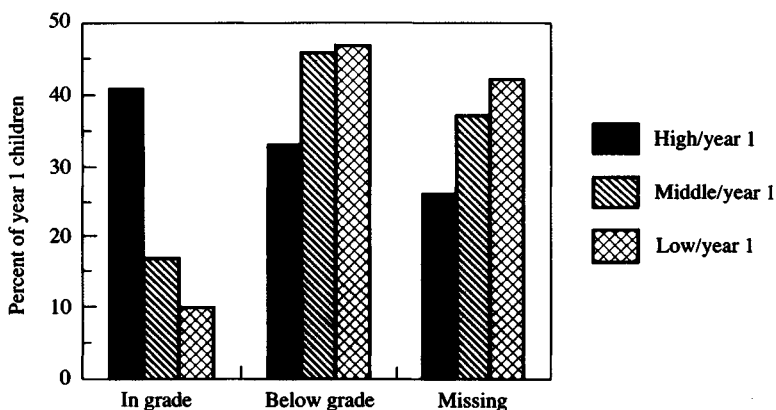


Figure 6.8c. Grade promotion into grade 5 as a function of reading level in year 1. (Note: Missing data represent both school dropouts and children who moved away.)

composite variable for measuring literacy materials in the home (highly correlated with environment and SES factors) tended to predominate in year 5. Finally, when we put both categorical and individual variables into the equation, we found that environment and literacy materials together account for most of the significant statistical effects (Table 6.6c).

As noted in chapter 1, one of our early interests was to investigate the consequences of Quranic preschooling on Moroccan children. The evi-

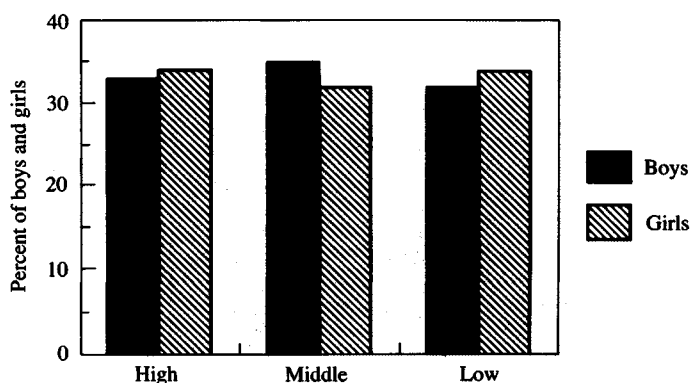


Figure 6.9a. Arabic reading achievement levels in year 1 by gender.

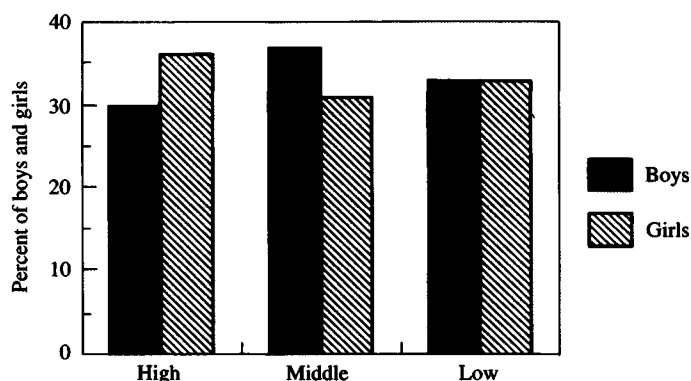


Figure 6.9b. Arabic reading achievement levels in year 3 by gender.

dence from the tests of academic skills showed that, other factors held constant, differences in reading achievement between no preschooling and Quranic and modern preschooling are relatively small, with statistical differences found only among the urban contrasting subsamples (UQA vs. UMA) in year 1.⁸ As is discussed in chapter 8, Quranic preschooling is an important mediating factor in bilingual contexts for literacy acquisition.

In addition to academic achievement, the project sought to discover whether there were cognitive consequences to learning in Quranic

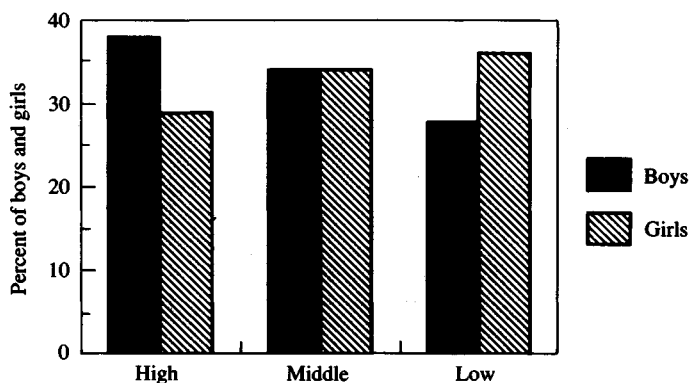


Figure 6.9c. Arabic reading achievement levels in year 5 by gender.

Table 6.6. Regression models predicting reading in Years 1, 3, and 5

(a) Predicting Arabic reading achievement by categorical variables (gender, environment, language, preschooling)

Arabic (AR)	1st year	3rd year	5th year
<i>Predictor</i>			
Constant	0.175	0.125	0.438
Gender	0.013	0.070	-0.119
Environment	-0.499 ^a	-0.357 ^b	-0.275 ^c
Language	0.241 ^c	0.137	0.064
Preschool	0.150	0.072	0.058
	Adj. R ² : .158	Adj. R ² : .057	Adj. R ² : .017
	F(4,345) = 17.37	F(4,257) = 4.978	F(4,223) = 1.974

^a*p* < .001.^b*p* < .01.^c*p* < .05.

schools, as Scribner and Cole (1981) had found in Liberia. Thus, as part of the general investigation into the effects of preschooling, we developed a subproject on this topic. The results confirmed certain specific effects of Quranic school experience, namely in the area of memory skills; detailed summary of our findings in this area is presented in appendix 1.

Table 6.6. (cont.)

(b) Predicting Arabic reading achievement by individual background variables (parental education, SES, literacy materials in the home)

Arabic (AR)	1st year	3rd year	5th year
<i>Predictor</i>			
Constant	-0.429 ^a	-0.435	-0.173
Literacy materials	—	—	0.269 ^a
Parental education	0.200 ^b	0.092	0.052
SES	0.183 ^b	0.214 ^b	0.061
	Adj. R ² : .070 F(3,290) = 14.24	Adj. R ² : .037 F(3,244) = 9.709	Adj. R ² : .071 F(3,212) = 6.508

Note: Literacy materials in the home is a variable that was assessed only late in year 3, and therefore is regressed on Arabic reading achievement only in year 5.

^a $p < .001$.

^b $p < .01$.

(c) Predicting Arabic reading by using both categorical and individual variables

Arabic (AR)	1st year	3rd year	5th year
<i>Predictor</i>			
Constant	-0.043	-0.202	0.217
Gender	-0.017	0.057	-0.112
Environment	-0.480 ^a	-0.324 ^b	-0.181
Language	0.246 ^c	0.150	0.034
Preschool	0.036	0.131	0.008
Literacy materials	—	—	0.249 ^a
Parental education	0.086	0.073	0.022
SES	0.168 ^c	0.084	0.069
	Adj. R ² : .187 F(6,287) = 13.86	Adj. R ² : .075 F(6,241) = 6.405	Adj. R ² : .067 F(7,208) = 3.651

^a $p < .001$.

^b $p < .01$.

^c $p < .05$.

Table 6.7. Math performance by rural and urban field sites

Year of Testing	Average Math Score		
	Rural	Urban	Range
Year 1			
Total	7.7	6.7	(0–10)
Year 2			
Total	5.6	5.2	(0–12)
Year 3			
Oral	2.9	2.6	(0–6)
Written	3.8	4.2	(0–12)
Year 5			
Written	6.3	7.2	(0–12)

Note: Urban *N* over years 1, 2, 3, 5 is 171, 143, 130, 115, respectively; rural *N* over years 1, 2, 3, 5 is 162, 142, 130, 128, respectively.

Math achievement

Based on the analysis of reading achievement, one might be tempted to hypothesize that urban teachers, urban schools, and the urban children themselves are somehow superior to their rural counterparts. However, this contention is contradicted by a pattern of results that favored rural children's early performance in mathematics achievement.⁹ In math skills, rural groups outperformed the urban groups (see Table 6.7) in the first 2 years of the study, with urban children catching up in year 3 and surpassing only in year 5. A potential explanation for the early rural advantage comes from studies that have found that nonschooled children may be quite skilled in arithmetic as a function of practice in the market and elsewhere (Ginsburg, Posner, & Russell, 1981; Saxe, 1985). In Morocco, it is possible that rural children, especially before schooled math instruction begins in earnest (up to age 8), are given more financial responsibility than urban children, and might go more often to the market for household purchases. It has been reported by Stevenson, Lee, and Stigler (1986) that young Japanese children outperform same-age American children in early math skills, with the favored explanation drawing on parental motivation and school factors (e.g., time on task). In Morocco, this explanation does not seem to apply during the early school years, as reading and math scores are affected in an opposite manner by environment: urban children have high

reading and low math, whereas rural children have low reading and high math.

Context and literacy acquisition

What may be concluded from our conjectures about literacy acquisition in countries like Morocco? First, urban environment, independent of SES, had a significant and long-term effect on Moroccan children's learning in school; other factors, such as gender, parental education, and language, tended to dissipate over the years of primary schooling. Second, the positive (though modest) effects of preschooling were roughly equivalent for those for children who had attended modern or traditional Quranic preschools for the same time period. This similarity of effects was likely due to the partial overlap in the nature of curriculum and instruction between these two types of preschooling (as described in chapter 3). Third, we found evidence that individual differences, such as literacy materials in the home, could have important and longlasting effects on reading achievement in school children.

Also impressive were the effects of early reading in primary school on subsequent reading achievement and on staying in school. The data indicate that children who succeeded early in first grade had the best chance of becoming good readers and remaining in-grade. Furthermore, children who are seen as poor readers in the early years seem to become stuck in that category, whether they are from urban or rural environments. This category of low-level readers may have numerous origins, including learning disabilities and the like. In a country like Morocco, where few specialists are available to public school children, the risk of reading and school failure is particularly high.

Nonetheless, as shown in the regression analyses, there is much that we were not able to account for in children's learning of literacy, even though early literacy skills were highly predictive of later literacy skills and of grade promotion. It appears that literacy begets more literacy, but literacy is not simply a matter of the kinds or categories of social and economic background factors so easily invoked in the United States or Europe. What seems more important in the development of literacy is its actual use by children.

But what influences the child's use of literacy? Western research over the last decade indicates that there are important differences in use that stem

from beliefs and attitudes about reading and writing. We attempt to explore similar terrain in chapter 7.

Notes

- 1 The scores utilized for Arabic reading (AR) achievement were described in chapter 5. These groups were created by dividing Cohort 1 into three roughly equal subgroups according to AR performance, as follows: high ($N = 117, 87, 77$), medium ($N = 117, 88, 77$), and low ($N = 116, 87, 74$) for years 1, 3, and 5, respectively. Thus, total sample sizes were 350, 262, and 228 across years, respectively. Thus, in Figure 6.6a, for example, the data indicate that roughly 33% of the total sample of girls was in each of the three subgroups; in Figure 6.9c, by contrast, about 28% of girls were in the high subgroup.
- 2 Self-assessment refers to the subjective answer given by the respondent in the home (usually the mother) as to the literacy skills of herself and other family members. This measure is clearly less reliable than direct measurement, but testing in the home would have created social dynamics that might have jeopardized other parts of our research, as well as taken too much time away from other issues. It can be noted, however, that the correlation between our self-assessed measures of literacy and years of schooling for family members was uniformly high and statistically significant. In addition, the interviewers on the project staff spent considerable time explaining the need for the respondent to think substantively before attempting an answer. For a further discussion of the pros and cons of literacy self-assessment, see Wagner (1990).
- 3 Differences across years 1, 3, and 5 were all significant ($\chi^2 \geq 10.19, p \leq .05$), with the year 1 effect the strongest ($\chi^2 = 27.62, p < .01$).
- 4 However, see the work of Heath (1983) on literacy use in rural South Carolina. Also, in cross-cultural psychology, there is a research tradition in visual perception that compares individuals' skills who live in so-called "carpentered" (i.e., urban) environments with those who do not. Increased susceptibility to visual illusions has often been found as one consequence of residence in such urban contexts; see Wagner (1982a) for research on environment and perception conducted in Morocco. In the international development literature, one of the major claims in support of primary schooling in developing countries is that rural farmers with even a few years of schooling tend to be more efficient (Jamison & Lau, 1982). This work and other studies supported by the World Bank have had a major impact on national and international policymakers (World Bank, 1988; Berstecher, 1985).
- 5 This latter comparison could only be made in urban Marrakech (where numerous modern preschools exist among the *classes populaires*).
- 6 The high-, middle-, and low-achieving groups are described in note 1.

-
- 7 The negative value associated with environment simply indicates that urban environment is the direction of the effect.
 - 8 The statistics favoring modern preschooling were significant $p < .05$ only in year 1, for reading achievement AR/1 ($t = 1.32$), as well as for two reading subtests, LK/1 ($t = 2.07$) and WD/1 ($t = 1.67$).
 - 9 In the case of math, the tests over the years of the study typically consisted of two types: notational questions, such as $2 + 3 = ?$, where the child had to supply the correct answer, and story problems, which were read to the child, such as "Jamil had three eggs and gave one to his grandmother. How many eggs did he have left?" These problems varied in difficulty over the years of the study. In the first year, children were also asked two counting problems, in which they had to count outloud the number of stars printed on a page, designed to put children at ease. Mental calculation skill (oral math) was analyzed separately in year 3, but the small number of task items limited useful statistical analyses.