School-related Determinants of Female Primary School Participation and Achievement in Developing Countries: An Annotated Bibliography

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May 1987

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SCHOOL-RELATED DETERMINANTS OF FEMALE PRIMARY SCHOOL PARTICIPATION AND ACHIEVEMENT IN DEVELOPING COUNTRIES: AN ANNOTATED BIBLIOGRAPHY

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Abstract

This annotated bibliography summarizes 52 empirical studies of school-related factors and their effects on female primary school participation and performance in developing countries. The bibliography is confined to research studies published between 1970 and 1986. Twenty-one studies are from Latin America, thirteen from Asia, twelve from Africa and 5 from the Middle East. An index of countries and studies is provided. An introduction suggests that separate, high-quality girls' schools, whose teaching is consistent with cultural beliefs, would help overcome resistance to female participation.
Introduction

Women's education contributes to national economic development directly through increased productivity and indirectly through lowered fertility, increased child health and nutrition, and increased child school participation. In most developing countries, however, female education participation lags behind male participation, with fewer females than males entering, remaining in and therefore completing all levels of schooling. The consequence of these differential education participation rates is that the educational attainment of women in developing countries is lower than that of men, a disparity that is most extreme in the non-industrialized countries of East Africa, South Asia, and Southern Europe. At present, little is known about how to change schools and schooling to increase female school enrollment and retention. This annotated bibliography was commissioned to shed light on this issue.

Previous Research

Previous research on determinants of female school participation has focused primarily on two barriers to participation: (a) absence of or distance to schools and (b) direct or indirect cost of schooling to families. Policies derived from previous research have therefore concentrated on two interventions: providing schools, and lowering the costs of education by such things as reducing school fees for girls, providing school uniforms, or directly compensating families for female school attendance.

More recently, research seeking to understand differences in male and female school participation rates has examined household decision-making and the opportunity cost of schooling, particularly for rural farm households. This research has emphasized (a) the role that the demand for female child labor plays in determining school participation, (b) the absence of anticipated returns to the family for investing in female education, and, to a lesser extent (c) fears regarding negative consequences of female school participation.

Barriers to Female Participation

What is lacking in the literature about the schooling of females in developing countries is any extended consideration of how education might be reorganized if its principal objective was to reach and teach females. Such consideration would take into account: (a) the current organization of schooling, (b) its quality, and (c) attitudes and beliefs about women. We begin by addressing attitudes and beliefs.

Beliefs. An important barrier to female education can be the entire set of beliefs that define "female" as distinct from "male" in a given culture or subculture. Covered are beliefs about dress and decorum,
family and occupational roles, reproductive rights and obligations, intrinsic nature, and so forth. New institutions, such as schools that appear to operate at odds with these cultural beliefs will meet with resistance. Beliefs about the questionable value or negative consequences of educating daughters, which limit female school participation beyond primary school in many countries, may be rooted in fundamental assumptions about women's place in society: they are to be married and to bear children for their husband's family. Under such cultural conditions, parents may report that primary schooling is valuable, since it leads to literacy, but schooling beyond the age of 13 or 14 is undesirable, since it may interfere with their daughters' prospects for marriage — for example, by subjecting them to the risk of rape or pregnancy (a common concern of parents in certain countries) or by increasing their necessary dowry.

School organization. It is possible that these parental concerns could be met by restructuring education: substituting all-female schools (in which both instruction and supervision were provided by female teachers and administrators) for coeducational schools; building additional local secondary schools instead of requiring parents to send their daughters to coeducational secondary boarding schools (in which other students, teachers and administrators were male); developing high quality correspondence courses for secondary school equivalency; using radio, television and other distance learning techniques to make education available to girls in their homes. Unfortunately, there is virtually no research on the effects of such organizational change on female school participation.

School quality. Another way in which schools could respond to parental concerns is to provide an education so intrinsically valuable that it offsets any potential risks. For example, if schooling guaranteed such benefits as employment, marriage, or parental retirement insurance, then parents might be inclined to send their daughters to school despite the risks. The quality of education in many developing countries is so poor, however, that parents may not believe its benefits could compensate for anticipated losses; moreover, anecdotal evidence suggests that the quality of schools for girls may be substantially below that of schools for boys, where education is sex-segregated.

This Bibliography

This annotated bibliography examines school-related factors and their effects on female schooling in developing countries. It summarizes 52 studies dealing with the participation and achievement of primary school children, including 14 studies focused extensively on female students. Participation was operationalized as enrollment in school, years of school attained, dropping out, repetition, and attendance. Achievement was operationalized as cognitive achievement (often measured through mathematics and reading tests), self-esteem, and educational aspirations. Particular attention was paid to identifying those studies that considered how school-related factors differentially affected the participation and achievement of girls and boys.
The search was confined to empirical studies published between 1970 and 1986, encompassing the entire United Nations Decade of Women. Although 1970 preceded the UN Decade of Women, the literature already reflected a concern with documenting and understanding sex disparities in education. The studies in this review were identified through five mechanisms:

(a) computerized library searches covering books, journal articles, and national and international agency reports and documents. These searches were run using three descriptors (students in primary or primary/secondary schools, students in developing countries, and female students) and 16 key terms (dropouts, grade repetition, attrition, promotion, withdrawal, access, school leavers, equal education, attendance, persistence, attainment, achievement, enrollment, truancy, holding power, and termination). This search identified 281 sources, of which about 5% were duplicates. Approximately 15% of these sources contained information pertinent to the objectives of the review;

(b) a computerized search of U.S. dissertation abstracts. This search produced only 16 sources because of the way dissertations are currently coded for computerized searches, which detects only key terms appearing in the dissertation title, as opposed to those in the text;

(c) a manual review of the Education Index, which lists U.S. journals on education in the U.S. and other countries;

(d) review of several studies on participation and attainment produced by the World Bank; and

(e) a review of all relevant Ph.D. dissertations from the School of Education of Stanford University.

Absent from the bibliography are studies and reports prepared by national ministries or researchers in developing countries that exist only in mimeo form in the country of origin; several dissertations from universities that do not place dissertations on loan; and a few studies that were identified but could not be located.

The 52 studies chosen for inclusion in this bibliography were those that focused on developing countries, primary education, school-related variables, female students, and educational outcomes in any combination. In terms of the education level covered, approximately half (20) of the studies considered primary education as a single block; while others considered primary and secondary education together; a few studies focused only on one or more primary school grades.

The coverage of developing countries in the literature was rather even, with Latin America (21 studies) slightly better represented than Asia (13) studies and Africa (12) studies, and the Middle East represented by 5 studies only. Several studies addressed more than one country.
The coverage of gender differences was much weaker than anticipated. To categorize the studies by the degree of attention to gender, a descriptor labeled "reference to gender" appears in this review. Four ratings are used within this category: "extensive" refers to studies in which separate analyses were presented according to the sex of the students; "moderate" refers to studies in which gender was used as an independent variable and several references were made to it in the analysis; "marginal" refers to studies in which sex was used as one of many independent variables and then mentioned only once in the analysis; and "none" refers to those studies in which no reference is made to gender whatsoever. The distribution of studies according to their "reference to gender" was as follows:

Table 1: Distribution of studies according to reference to gender

<table>
<thead>
<tr>
<th>Reference to Gender</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extensive</td>
<td>14</td>
<td>27</td>
</tr>
<tr>
<td>Moderate</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>Marginal</td>
<td>14</td>
<td>27</td>
</tr>
<tr>
<td>None</td>
<td>18</td>
<td>35</td>
</tr>
</tbody>
</table>

Only 14 of the studies gave extensive attention to gender differences. Thirty-five percent of the studies on primary schools in developing countries did not treat gender differences at all, and an additional 27% referred to women only marginally. The annotations in this bibliography simply describe each study and its findings. No critiques are offered of the conceptual models used or the procedures followed to conduct the quantitative analysis.

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Country: All developing countries
Education level: Primary
Purpose of Study: To review studies on the determinants of school achievement using the educational production function
Reference to Gender: Marginal
Sources of Data: School sample surveys and student tests
Type of Study: Synthesis of research findings
Method: Description of multiple regression analyses

The study identified 17 education production function studies dealing with achievement in developing countries, but it reviewed only 11. Of these, seven dealt with either primary or primary/secondary populations (Levy, 42 countries, 1971; Epstein, St. Lucia, 1970; Thias and Carnoy, Kenya, 1969; Simmons, Tunisia, 1972; Schiefelbein and Farrell, Chile, 1973; Carnoy, Puerto Rico, 1972; Comber and Keeves, Chile, India, Iran, and Thailand, 1973). (Five of these studies are re-examined in this review.) Of the seven studies reviewed by Alexander and Simmons, only three made reference to gender but considered it as an additional independent variable among many others (percentage of male teachers in Carnoy's Puerto Rico study; percentage of girls among KPE candidates in Carnoy and Thias' Kenya study; and sex of student, sex of teacher, and sex composition of school in Comber and Keeves's study on Chile, India, Iran, and Thailand). Six studies dealt with determinants of cognitive performance and one with dropping out. The review emphasized that there is not yet an established learning theory to serve as a guide for the correct mathematical form of an educational production function. It also noted that — by not including lags or interactions in the model — most educational production functions imply that educational outcomes are simultaneously determined.


Country: Various developing nations
Education Level: Primary and Secondary
Purpose of Study: To synthesize the literature on the determinants of student achievement
Reference to Gender: Marginal
Sources of Data: Previous studies on teacher effectiveness identified by researchers in seven regions of the Third World
Type of Study: Synthesis of research findings
Method: Description

The study makes reference to a total of 48 studies dealing with primary schooling: 36 studies that linked teacher-related factors (e.g., age, sex, personality, SES, experience, qualifications, methods of teacher training, ability, knowledge, etc.) to student outcomes and 12 studies...
that linked school system variables (e.g., location, administration, teaching resources, curriculum, student/teacher ratio) to student outcomes. However, the analysis in the text does not identify clearly the studies by level of education. Of those studies that can be identified as based on primary school students, only two considered gender: a study conducted in Indonesia found that female teachers produced greater achievement at grade six; another study in India reported also that female teachers were more effective in promoting pupil gains. The school-related variables found to be statistically significant were as follows:

Teaching for understanding was more effective than teaching for problem solving in arithmetic at the fifth grade level (Jordan).

There was a positive relationship between praise and performance of children in primary school in spelling tasks (Nigeria).

The effect of praise or blame on achievement in primary school was mediated by extraversion/intraversion traits of children (Iraq).

Immediate feedback was related to math achievement in primary school children (Philippines).

The acquisition of math concepts and proficiency was not affected by language of instruction (Philippines).

The fluency of language spoken by the teacher was related to achievement (Uganda).

English and Philippino languages were equally effective in the teaching of science (Philippines).

There was a positive relationship between the student/teacher ratio and achievement in the first grade, but a negative relationship in sixth grade (Ecuador).

There was a positive relationship between teacher qualifications and achievement (India). There was a positive relationship between teacher qualifications and achievement in grades 1-4 (Thailand and Philippines).

There was a negative association between teacher qualifications and achievement in grade one but a positive association in grades four, six, and eight (Brazil).

There was no relationship between professional qualification and achievement (Malaysia)

There was no relationship between schooling of teachers and achievement (Kenya and Uganda).

There was a negative association between in-service training and student achievement (Chile).
There was no relationship between in-service training and student achievement (Peru).

There was a negative relation between teacher promotion and student achievement (Ecuador).

The review makes no reference to the type of correlation used in the above studies nor to their strength.


**Country**: All  
**Education Level**: Primary and Secondary  
**Purpose of Study**: To present an annotated bibliography of studies focusing on determinants and consequences of school drop out  
**Reference to Gender**: None  
**Sources of Data**: Previous studies on the question as reported in books, monographs, and national and international agency reports  
**Type of Study**: Synthesis of research findings  

Although almost 15 years old now, this is one of the most complete bibliographies on the question of dropouts and one of the few to present research findings on the consequences of abandoning schooling before completion of a given educational cycle. The bibliography is preceded by a section noting that most studies of educational wastage do not present a conceptual-analytical framework linking variables to each other in the context of an explanatory model. It also observes that usually variables are treated superficially, failing to differentiate immediate causes from what might be proxy variables standing for a set of other factors. The authors remark that no significant research has been done on those who leave school during the year as opposed to those who finish the school year but do not reappear for the next academic year. They also mention that the majority of studies on early leavers treat the individual as both the object of analysis and locus of the problem, failing to consider structural factors.


**Country**: Ecuador, Dahomey, Thailand  
**Education Level**: Primary  
**Purpose of Study**: To bring attention to problem of internal inefficiency in developing countries  
**Reference to Gender**: None  
**Sources of Data**: National educational statistics  
**Type of Study**: Analysis of statistical data and discussion  
**Method**: Cross-country comparison of wastage data  

This is one of the earliest journal articles to address the problem of wastage of resources in schools, even though UNESCO had devoted
attention to the problem since 1967. Using cohort analysis — a technique borrowed from demography — the author traces three paths students can take: promotion to the next grade, repetition of the same grade, and dropping out of the school cycle. He finds that in both Dahomey and Ecuador fewer than half of the students who entered school completed the primary school cycle. In the case of Thailand, there was a better survival rate but high repetition rates. The author identified a number of possible causes for student dropout, including: shortage of qualified teachers, inadequate physical and material conditions for learning, lack of attendance control, lack of comprehensive school transport, schools providing incomplete primary school cycles, irrelevant curricula, use of nonmaternal languages, mechanical examinations, and direct and indirect costs of education to parents. Though many of these causes have since become the object of research, three important ones (the use of nonmaternal languages, curriculum content, and costs to parents) have not received much attention.


Country: Brazil
Educational Level: Primary
Purpose of Study: To assess the effects of availability and quality of school upon school attainment
Reference to Gender: Marginal
Sources of Data: Census data and measures of teacher numbers and quality
Dependent variables: Participation, defined as number of school years completed
Type of Study: Analysis of census data
Method: OLS regression analysis

The study used a 1% sample of household data derived from the 1970 Brazilian census. In addition, measures of numbers and levels of education of school teachers were gathered from 169 different areas of Brazil, both rural and urban.

The regression model considered home background factors, student's age and sex, and two school-related variables: (a) teachers' income in the area divided by the total number of children age 7-13 in the area (whether or not attending school), a variable that was termed school "availability," and (b) the mean level of teacher's education, a variable termed school "quality." These variables were found to affect school attainment, both in rural and in urban areas. In urban areas, school availability and school quality produced beta weights of .37 and .05, respectively, on attainment. In rural areas they produced weights of .02 and .08. The author interpreted these findings to mean that greater availability and quality of school act as substitutes for parental education and income in urban areas, but as complements to parental education and income in rural areas. She also noted that under the current levels of services, improvements in the school tended to help more children from better-off rural households. The overall regression models explained
about 40% of the variance in school attainment, with school-related variables contributing 3% of the variance in urban schools and 8% of the variance in rural schools.

Within urban areas, differences in the availability and quality of public schooling became less important as parents' income and education increased. However, the effects of mother's education did not diminish until teachers had over 14 years of education, which was rare in Brazil.


Country: All  
Education Level: All  
Purpose of Study: To discuss misconceptions in the measurement of participation in schooling  
Reference to Gender: Extensive  
Sources of Data: UNESCO statistics and secondary sources  
Type of Study: Analysis of statistical data  
Method: Descriptive statistics and discussion

The authors underscore that enrollment figures can be quite misleading when they include high proportions of overage pupils. Enrollment rates under those circumstances can exceed 100%. Crude rates do not distinguish between (a) systems with high enrollment for one or two years with few pupils continuing, and (b) systems with more modest rates of entry to school but with relatively few dropouts. In addition, the computation of survival rates for elementary students by taking the ratio of grade six to grade one will yield exaggerated dropout rates if any of three conditions prevails: the numbers of those entering grade one are rising rapidly due to population growth, rates of beginning school are higher in subsequent cohorts, and the proportion of repeaters is markedly high in grade one. Sex disparities were more pronounced at higher levels of education although there were sharp differences across nations, in part because of the lack of schools in some regions and cultural selection patterns in others. It is recommended that the enrollment rate be expressed by age categories without regard to school level, and that it be stated whether overage is due mainly to late entry or to repetition of grades because these patterns are linked in diverse ways with dropout rates by sex and level of school.


Country: All  
Education Level: All  
Purpose of Study: To discuss various ways to define and examine educational wastage  
Reference to Gender: None  
Sources of Data: Survey of literature and educational statistics
Type of Study: Analysis of secondary data
Method: Discussion and cross-tabulations

Education wastage can mean failure by the school system in five different ways: in providing universal education for all children, in recruiting children into the school, in holding children within the school, in setting appropriate objectives, and in attaining its objectives efficiently. The authors note that for policy-oriented research it is essential to know the structural location of wastage: in what grades it occurs, how much it is due to dropping out and repetition, what variations does wastage show across regions, schools, and children. High dropout at the beginning of the first level may be associated with negative attitudes of the child and family toward the school; high dropout toward the end of the first level of education may be associated with acceptance by the family of a minimally sufficient literacy and numeracy for the child. The authors also recommend that policy makers distinguish between youth who dropout due to educational failure (because of exams and passing regulations) and those who leave the system voluntarily.

The authors observe that wastage should be measured at local and regional levels, and call for more uniform ways of measuring wastage.


Country: India
Education Level: Primary and Secondary
Purpose of Study: To understand parents' reasons for educating their children and to identify their practices concerning their children's education
Reference to Gender: Extensive
Sources of Data: Sample survey of rural households
Type of Study: Analysis of field study data
Method: Descriptive statistics

A 50% sample of households in nine villages was taken, focusing on intact couples with one or more children. This procedure produced 364 couples, who reported information on a total of 1294 children. Boys and girls were found to begin school at similar ages (6.0 and 6.1 years, respectively), but to leave school at different ages (12.2 and 11.6 years, respectively), with about one-fifth of the girls leaving school at the onset of puberty, usually to be married shortly afterwards or because parents felt it was a disgrace or danger for an unmarried pubescent girl to be in public. Major differentials in the age of leaving school also occurred by the socioeconomic background of parents, with children of agricultural laborers ceasing school by age 9, children of farmers by age 11.8, those from merchants by age 12.4, children of bureaucrats and professionals by age 14.3, and those of Jain and Brahmin landlords by age 16. Different calculations were used by parents for sending children to school: cost and work needs were dominant among peasants, artisans, and backward and scheduled castes; school success was important among Brahmins,
Jains, and Muslim merchants. Across all social classes, parents sought different educational benefits for sons and daughters. They tended to be critical of the educational proficiency of their sons, considering that only 12% of their sons had achieved satisfactory levels of literacy and "sophistication," but felt that 42% of their daughters had benefited. When literacy was the chief reason for schooling, satisfaction was expressed regarding 10% of the sons but almost 60% of the girls. The schooling of girls was found to be very vulnerable to the situation of other women in the household; thus, if the eldest daughter married or if the mother or grandmother became disabled, the young girls were withdrawn from school.


Country: Puerto Rico
Education Level: Primary and Secondary
Purpose of Study: To explain student outcomes as a function of individual and family characteristics, educational inputs, and characteristics of the peer group
Reference to Gender: None
Sources of Data: School survey and student tests
Dependent Variables: Student performance measured by general ability test, self-esteem, and aspirations
Type of Study: Analysis of field study data
Method: Multiple regression

The study covered one-third of the schools or approximately 182,000 students in Puerto Rico. It used the school as the unit of analysis and ran regressions for urban and rural students by grade (third and sixth) and by sex. The article, however, reports data for male students only. The regression model considered student performance as a function of the father's socioeconomic status, student characteristics such as his aspirations and self-assessment of academic ability, discussion about homework with parents, and his desire to transfer to another school. The model also considered a number of school-related factors such as the number of hours of class attended per day, class size, and the teacher's certification, education, and experience. The school-related variables found to be statistically significant in the regression of general ability were as follows:

Urban students - third grade (R square=.28)
  teacher experience - positive effect
Urban students - sixth grade (R square=.59)
  teacher certification - positive effect
  class size - negative effects
  teacher sex (being female) - negative effect
Rural student - third grade (R square=.13)
  no school-related variable found to be significant
Rural students - sixth grade (R square=.07)
  teacher's sex - negative effect
The regression on educational aspirations (the years of schooling the student wished to attain) showed the following results concerning school-related variables:

Urban students - third grade (R square=.48)
no school-related variable found to be significant

Urban students - sixth grade (R square=.68)
teacher's education - positive effect
type of contract of teacher (permanent as opposed to part-time) - positive effect
teacher's sex - negative effect

Rural students - third grade (R square=.23)
no school-related variable found to be significant

Rural students - sixth grade (R square=.25)
teacher's experience - negative effect
class size - negative effect

The regression on self-esteem (adjusted by weighing the self-esteem score by the student's performance in a standardized test in Spanish) showed the following significant results:

Rural student - third grade (R square=.16)
teacher's experience - negative effect

Rural student - sixth grade (R square=.10)
daily attendance - negative effect
teacher's experience - negative effect

Urban student - third grade (R square=.21)
no school-related variable found to be significant

Urban student - sixth grade (R square=.30)
class size - positive effect

An analysis that separated students by different socioeconomic class found some interaction between the teacher's academic preparation and experience and the student's performance. The academic preparation of the teacher affected positively the performance of students in the lowest socioeconomic stratum although the experience of the teacher produced insignificant effects on those students. Among students from the highest socioeconomic class a greater teacher preparation resulted in negative performance, while experience had positive effects.


Country: Botswana
Education level: Primary and secondary
Purpose of Study: To understand the effects of demographic and socioeconomic variables on children's level of education and attendance
Reference to Gender: Extensive
Sources of Data: Sample survey of households
Type of Study: Analysis of field study data
Method: Descriptive statistics and regressions
The sample included 6475 household members, of whom 2253 were children in the 6-18 year old group. The variable most strongly related to the children's enrollment in school was the level of education of the head of household: One year of education of the head of household increased by 23% the child's probability of enrolling in school, by 10% the probability that he would stay longer in school, and by 19% the probability that the children still enrolled in school would attain higher levels of education. Female heads of household had a slightly higher propensity to send children to school and keep them there compared to male heads of households (with the ratio of enrolled children to number of children of school age being .42 when mothers were heads of household and .47 when fathers were; the number of years of schooling reached 3.3 with fathers as heads of household and 3.4 with mothers as heads of household. A regression exploring levels of education attained by children out of school found that being female was strongly and positively related to years of schooling in the case of Botswana, although being a woman resulted in fewer hours of school attendance per day.

The study also found that out-of-school girls worked harder than those in school but not much more, as can be seen in the following table:

| Percentage time reported for girls out of school and girls enrolled |
|-------------------------|-----------------|-----------------|-----------------|
| Age                     | 7-9 years       | 10-14 years     | 15-18 years     |
|                         | out | in | out | in | out | in |
| Income-earning activities | 6.6 | 7.6 | 15.8 | 9.2 | 19.2 | 11.5 |
| Housekeeping            | 31.5 | 22.7 | 32.9 | 26.0 | 33.9 | 33.6 |
| Schooling               | -   | 20.5 | -   | 25.0 | -   | 16.2 |
| Leisure                 | 60.1 | 48.5 | 49.2 | 37.8 | 44.6 | 35.6 |
| Other activities        | 1.8 | .7 | 2.1 | 2.0 | 2.3 | 3.1 |

These findings show that out-of-school girls contributed only between 9% and 12% more time than in-school girls to income-earning and housekeeping activities, which suggests that parental statements regarding the need to keep the girls at home may be masking other reasons.

Country: Indonesia
Education Level: Primary and Secondary
Purpose of Study: To show effect of parental attitudes and socioeconomic characteristics on school enrollment
Reference to Gender: Moderate
Sources of Data: National socioeconomic survey and village facilities survey
Type of Study: Analysis of field study data
Method: Multiple regression (logit)

The study included 6000 households chosen to be representative of the geographical distribution of the Indonesian population. It was complemented by data from an undetermined number of households from a village survey. Incomes and prices (which included distance to school in the construction of this variable) were reported as important obstacles to school enrollment for about half of the children who had left primary school, but there were no appreciable differences by sex. The study found that a junior high school available in the community had a positive and significant effect on attendance. The presence of a junior high school also had a positive and significant effect on increasing the probability of children aged 10-15 completing primary school.


Country: Guatemala
Education Level: Primary
Purpose of Study: To identify the extent to which income-earning and housekeeping activities explain non-attendance
Reference to Gender: Extensive
Sources of Data: Interviews with mothers about their time use and that of their children
Type of Study: Analysis of field study data
Method: Descriptive statistics

The study is based on a sub-analysis of time-used data gathered by the Institute for Nutrition of Central America and Panama in 1975. The study presented indirect data (reported by mothers) from four rural villages on 369 children, of whom 178 were female. Mothers were asked to identify their own and their children's activities during the preceding day. The author found that among children 11-14 years of age, 66% of the non-attenders worked seven or more hours a day while 96% of the schoolgoers worked less than seven hours. However 43% of the non-attending boys in the 7-10 year old group reported to have done no work and 18% to have worked less than three hours. In the case of girls, the study found that 12% of the non-attending girls engaged in no activities, while 10% reported less than three hours of work per day. The author noted that during the pretesting mothers could not specify the amount of time spent on child caring and meals because they did them all day. In consequence, mothers may have underestimated their work and that of their children, particularly that of girls, who conduct tasks similar to their mothers'.

Country: Thailand
Education Level: Primary
Purpose of Study: To identify the determinants of educational attainment and participation in school for three age groups, one of which was between 5 and 13 years old
Reference to Gender: Extensive
Sources of Data: Survey of parents in households
Dependent Variables: Attainment, defined as years of school completed, and participation, defined as child enrolled or not in school
Type of Study: Analysis of field study data
Method: Linear and probit regressions

The sample included 400 farm households in 22 villages. The regressions for educational attainment and participation controlled for family background, including parents' ability and educational aspirations regarding their children. The only school-related variable in the models was distance to school. The regression analyses were conducted for different age groups and by gender. Distance to a lower primary school did not affect the educational attainment of male or female students but distance to upper primary school did, producing beta weights of -.064 in the case of girls and -.068 in the case of boys. The total variance explained by the model was higher when the sample included boys and girls (R square = .61) than when it included girls only (R square = .51).

The regression for participation (a probit model) explained about 24% of the variance in enrollment, but distance, to either a lower or upper primary school, was found to have no significant effects for either gender. Sex was not a significant constraint to educational participation of children.


Country: Egypt
Education Level: Primary and Secondary
Purpose of Study: To understand the effects of economic conditions and parental attitudes on children's school enrollment and years of schooling
Reference to Gender: Extensive
Sources of Data: Part of a sample survey of households
Type of Study: Analysis of field study data
Method: Multiple regression (linear and logit)

The sample included 1700 husbands and wives in urban and rural areas, reporting on practices for 4300 children. The regression model considered student outcomes as a function of the educational aspirations for the child held by the mother and the father, the parents' education,
age, and per capita income. A school-related variable, distance to school, was also considered. Parental education was found to affect their educational aspirations for both sons and daughters. The most consistent factor affecting the student's participation was the husband's educational aspirations for his sons and daughter, and the second most important one was the mother's educational aspirations for her children. In rural areas, distance to a preparatory or secondary school was significantly and negatively related to the enrollment of girls. The regression for years of school attended found no effects for distance to preparatory school but negative effects between distance to a secondary school and the level of schooling attained by girls.


**Country:** Four developing countries: Chile, India, Iran, and Thailand  
**Education Level:** Primary and Secondary  
**Purpose of Study:** To identify the school and out-of-school determinants of science achievement between countries  
**Reference to Gender:** Marginal  
**Dependent Variable:** Standardized test in science  
**Sources of Data:** Survey of school and family characteristics and student tests  
**Type of Study:** Analysis of field study data  
**Method:** Stepwise regression using block approach, with only variables associated with F values greater than 2 permitted in the equation

Schools were selected with a probability proportional to their size. The schools sampled ranged from 27 to 176, and the number of students sampled ranged from 1268 to 2848. The regression model categorized numerous variables in four blocks. The student sex was considered together with variables related to the family's socioeconomic background in a block that was termed "school handicap." The second block referred to structural features of the school, such as the type of program (whether academic, vocational, or general course), and school type (whether public/private and/or single sex/coeducational). The third block, called "learning conditions," contained many school-related factors such as the percentage of male teachers, the number of laboratory assistants, the sex of science teachers, the opportunity to learn, the study of science by the student. The fourth block, termed "kindred variables," considered the student's science interests and activities, his expected education and occupation, and the student's own reading in science. Stepwise regression procedures were used to identify the statistically significant variables. These regressions were run separately for students aged 10 and aged 14. Also regressions were run using first schools and then students as units of analysis.

Regressions run at the school level of analysis reported the following contribution to explained variance by gender and school-related variables:
Regressions runs at the student level of analysis found the following contribution to explained variance by student gender and school-related variables:

<table>
<thead>
<tr>
<th>10-year-old students</th>
<th>Chile</th>
<th>India</th>
<th>Iran</th>
</tr>
</thead>
<tbody>
<tr>
<td>sex of student</td>
<td>5</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>school type</td>
<td>8</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>program type</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>learning conditions</td>
<td>15</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Total variance</td>
<td>52</td>
<td>37</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14-year-old students</th>
<th>India</th>
<th>Chile</th>
<th>Iran</th>
</tr>
</thead>
<tbody>
<tr>
<td>sex of student</td>
<td>3</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>school type</td>
<td>0</td>
<td>0</td>
<td>17</td>
</tr>
<tr>
<td>program type</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>learning conditions</td>
<td>36</td>
<td>28</td>
<td>13</td>
</tr>
<tr>
<td>Total variance</td>
<td>51</td>
<td>44</td>
<td>65</td>
</tr>
</tbody>
</table>

The individual and collective contribution of the variables to the explained variance in the between-student analyses were consistently lower than that explained by the between-school analyses, due to the fact that school mean scores (in the between-school regressions) smooth strong differences between students and allow other variables to show their strength. However, in both cases school-related variables were found to make significant contributions.

The correlations between science achievement and the student's sex were negative in all four countries (−.21 for Chile, −.05 for India, −.11 for Iran, and −.03 for Thailand). The correlations between science achievement and the teacher's sex were found to be negative in three of the four countries (−.23 for Chile, −.09 for India, +.08 for Iran, and −.07 for Thailand). A negative effect of sex also emerged between science achievement and the nature of the school (single sex or coeducational), the gender composition of the total staff, and the sex of science teachers, leading the authors to conclude that "in almost every case the male influence tends to bring better achievement results" (p. 295). It could be maintained, however, that these findings might reflect conditions of social
inequality faced by female students and teachers rather than women's inherent incompetence in science.


**Country:** Brazil  
**Education Level:** Primary  
**Purpose of Study:** To explain the contribution of individual, family, and school-related variables on student achievement  
**Reference to Gender:** None  
**Source of Data:** Survey of teachers and principals, student tests in math and reading  
**Dependent Variables:** Achievement measured by math and reading comprehension, and self-esteem and aspirations  
**Type of Study:** Analysis of field study data  
**Method:** Linear and simultaneous equations

The sample included 16 schools stratified by level of literacy of their district in Sao Paulo; data was obtained from approximately 1658 students in the eighth grade. The regression models controlled for home background variables (SES, family size, parental encouragement) and other variables such as self-esteem, nonverbal intelligence, repetitions, attendance at other schools, study at home, and educational aspirations. The models included five school-related variables: teacher's education, teacher's experience, library utilization, school size, and whether the teacher held another job.

The regression analysis on reading found only two school-related variables that had statistically significant beta weights:

- teacher's education = .136  
- teacher's holding another job = -.060

The regression analysis on math found five school-related variables that were statistically significant:

- school size = .051  
- teacher's experience = .134  
- library utilization = -.055  
- teacher's holding another job = -.087  
- teacher's education = .059

In both reading and math achievement, repetition was found to have a negative effect of performance, producing statistically significant beta coefficients of -.072 and -.057, respectively.

A two-stage least squares regression to assess the determinants of self-esteem found a negative effect for teacher's education (beta = -.120) and a positive effect for school size (beta = .072). A similar regression to
identify the determinants of student aspirations found no school-related variables to have a statistically significant influence. Both regressions showed very weak explanatory powers.

A regression of subsamples by socioeconomic status examined whether the influence of school resource is stronger for pupils who come from a less advantaged home environment than for those who are socially and economically advantaged. It found that, in the case of reading, the influence of school factors was greater than that of the home environment both for economically advantaged and disadvantaged students. In the case of math, the influence of school and home factors was less clear.


Country: Brazil
Education Level: Primary
Purpose of Study: To identify external and in-school factors linked to school wastage
Reference to Gender: None
Sources of Data: Interviews and questionnaires with administrators, principals and teachers, observations of schools and classrooms, official documents
Type of Study: Analysis of field study data
Procedure: Descriptive statistics

The study focused on two cities of Brazil located in distinct economic regions: Belem in the northeast and Porto Alegre in the south. Four schools were selected in each city: two schools characterized by relatively high dropout and repetition rates and two schools characterized by low dropout and repetition rates. The study proceeded by asking principals and teachers to identify the causes of repetition and dropout. Unfortunately the study lumps together the causes for repetition and dropping out; it also combines in one single response the perceptions of administrators and teachers.

In Belem, a poor city with scant educational resources, administrators and teachers ranked out-of-school factors (i.e., family SES, home environment, childhood experiences, nutrition, crowding at home) as the main cause of school wastage and rated as second and third in importance the large number of students per teacher and the lack of preschool education. Administrators and teachers in Porto Alegre, a much better endowed city, also ranked out-of-school factors as the main cause for school wastage but ranked as second and third unrealistic learning objectives and the alienation of the school from the socioeconomic context it served. The difference in the attribution of causes between the two cities was marked and statistically significant. The author interpreted these findings as due to the fact that under conditions in extreme crowdedness and poverty such as Belem teachers did not have the
time to be concerned with the adequacy of learning objectives. Belem was found to have much higher rates of repetition and dropping out than Porto Alegre. The author also found that 71% of the interviewees in both cities did not identify the dropout and repeater phenomenon as an important one in the elementary school. The major problems as they saw them were teacher training and selection, working conditions at school, the lack of family support for the students (parental neglect, working parents, broken homes, family mobility) and socioeconomic factors (malnutrition, general poverty, unstable economic conditions).


Country: Colombia
Education Level: Primary
Purpose of Study: To examine systematic differences between dropout and nondropout students
Reference to Gender: None
Sources of Data: Questionnaire and tests administered to students (achievement and intelligence)
Dependent Variable: Math, social science, and natural science test developed by a Colombian teacher's training college
Type of Study: Analysis of field study data
Method: Cross-tabulations, t-tests, and multivariate and discriminate analysis

The sample included 435 students in a rural municipality. The study contrasted students in grades four and five with those who dropped out earlier. Most independent variables referred to socioeconomic conditions of the family, including access to electricity and books. There was, however, one school-related variable: distance to school. The study found statistically significant differences due to distance to school between students in early grades (first and second) and those in later grades (fourth and fifth), between those who dropped out in later grades and "stayers," and between those who left the school at any point of the cycle and those attending fourth or fifth grade.

There were no statistically significant differences among these populations in intelligence, but there was an association between performance and retention and school attainment, and between days of absence and school attainment and retention. The multivariate discriminant analysis could predict 78% of the dropouts and 83% of the stayers using 10 variables: home conditions, father's education, average education of parents, reading materials at home, percentage of children in household not attending school, health (average weight, height, and type of breakfast), attendance rate per month, popularity, and distance to school. The most important discriminating factors were the percentage of children of school age not in school (beta=-.76), distance to school (beta=-.32), availability of reading materials at home (calendar, prayer book, daily newspaper, and magazines, beta=-.38). School performance was found to have small but still significant discriminatory powers among dropouts and stayers until at least fourth grade (beta=-.09).
Country: All developing countries
Education Level: Primary and Secondary
Purpose of Study: To determine the effect of class size upon pupil achievement, and educational and social environment
Reference to Gender: None
Sources of Data: Previous studies on the question
Dependent Variable: Achievement, measured most often in subjects such as arithmetic and reading, but also including English, biology, chemistry, and physics
Type of Study: Synthesis of research findings
Method: Discussion

The review did not distinguish studies by levels of education and age of student — two factors which could mediate the effects of class size. The findings regarding the effects of class size on student achievement did not provide details on the sample size, age or grade of students, or statistical tests used. Four studies reported that smaller classes produce greater achievement, five reported that larger classes lead to better achievement, seven other studies reported no significant effects.

Regarding the effects on the educational environment, some inverse relationships between class size and scores on educational environment (e.g., discussion, individualization of teaching, interpersonal regard, creativity, and group activity) were noted. But these relationships did not show a smooth continuum; rather, "breaking points" or optimal sizes for primary and secondary school seemed to operate. In primary education, the quality of the educational environment went down after 16 or more students, but moved drastically down after 26 or more. In secondary education, the quality of the educational environment went down after 16 or more students but oscillated moderately after that.

The analysis regarding the effect of class size upon the social environment (e.g., behavior of students, bureaucratization, impersonal role of teacher) showed mixed results: Two studies reported a positive relationship, two others a negative relationship. The author observed that it was difficult to aggregate the findings because different studies used different definitions and measures for class size. He concluded that class size by itself was not the key factor but rather "what the teacher does with the opportunities the size of the class offers for learning," noting that several effective ways of teaching in larger classes — using diverse instructional materials, conceptual teaching, classroom interaction, motivation, and reinforcement — had not been fully exploited.

Country: All
Education Level: All
Purpose of Study: To present some basic facts about promotion and repetition
Reference to Gender: None
Sources of Data: Secondary sources
Type of Study: Synthesis of research findings
Method: Discussion

Although educational systems regard repetition as caused by academic failure and as a necessary step for pupil recovery, the author found no evidence that grade retention was more effective than grade promotion. Repetition does not lead to better academic standards and automatic promotion does not lead to lowering of such standards. Grade retention had negative effects on pupils self-concept, attitudes towards learning, peer relations, and parental attitudes of repeaters. The author concluded that promotion policies should be revised so that repetition rates are not unreasonably high. Also, repeaters should be given special curriculum and instructional materials and methods so that in fact they benefit from remedial education.


Country: Egypt
Education Level: Primary
Purpose: To identify the determinants of dropping out and academic achievement, and to assess whether dropouts lose command over literacy and numeracy skills
Reference to Gender: Moderate
Sources of Data: Questionnaires to teachers and principals on school characteristics, questionnaires by field workers on child and family characteristics, tests to children (cognitive achievement and intelligence)
Dependent Variables: achievement, measured in terms of literacy (reading and writing) and numeracy skills, or the (binary) decision to drop out
Type of Study: Analysis of field study data
Method: ANOVA, ANCOVA, multiple tobit and probit regressions

This is a very detailed study that took seven years to complete and document (1977-1984). The sample covered students in grades three through six and dropouts who attended the same grades during school years 74-75 through 79-80. The sample was stratified by both urban and rural schools, and produced a total of 8570 students from complete primary schools and about 1808 dropouts. The sample, however, undersampled rural schools by 22% and oversampled urban schools by 41%. The "core sample", used for the longitudinal analyses, included 1976 students that were both enrolled in grades three to five in 78-79 and relocated in 79-80, as well as about 1600 dropouts. The research design used a "panel data" design, which allowed cohort observations, which preserve the identity of each sample member at the various stages of schooling. The authors assumed that
the length of the longest "decision chain" regarding staying in/leaving school was one year, so that two years would suffice to collect the necessary data. As a consequence, the panel data model employs at most two observations on each individual, even though the dropout retention curves for each of the specific grades are based on six points.

The study found that family and individual characteristics play an important role in affecting the probability of dropping out. A probit regression with 12 school-related variables as determinants of the school dropout decision (not controlling for family and personal characteristics) produced a relatively poor fit of the data—even for cross-section samples, with an $R^2 = 12.9\%$. The probit regression showed, however, that the existence of prevocational training for girls had some influence in reducing overall dropout rates. A survey of reasons for quitting school among dropouts found more similarities than differences among the sexes. Girls, however, were more vulnerable to illness in the family: 13% of the girls identified the presence of illness in the family as a reason for leaving school, compared to 7% of the boys. In contrast, more boys than girls left school because of "antipathy to school" (a variable that referred mostly to beatings by teachers): 21% of the boys identified this reason compared to 15% of the girls. Both girls and boys reported having to work as the most frequent reason for leaving school.

An ANCOVA analysis, investigating school and teacher characteristics as potential determinants of achievement levels (while controlling for sex, community location, and previous testing) found results to be "...less consistent than prior expectations" and "more difficult to interpret than those obtained using the personal and family characteristic covariates." The only measure of school facilities found to have a consistent and significant effect on skill levels was "school facilities" (i.e., better equipped schools), yet the effect was not large—possibly due to the centralized allocation of school supplies proportional to enrollments. The benefits were estimated to equal 4.5 points on the literacy test and 2.3 points on the numeracy test—both measured on a percentile scale. Classroom size was found to be positively associated with performance but these effects were nonlinear and seemed to decrease for literacy skills when the number of pupils exceeded 77 and for numeracy skills when the numbers reached 45.

The same ANCOVA analysis, focusing on student performance, found that having multiple shifts in a school did not have an important effect on educational achievement. The teacher's years of experience was never significantly related to literacy and numeracy skills. The teacher's educational level had a positive and significant effect only on literacy skills. In-service training appeared to have positive effects: the average teacher had taken slightly more than two training classes, which produced a net gain of four points in both tests over untrained teachers. Also positively associated with performance was receiving homework and completing the assignments. Repeaters were found to do worse in the year following grade repetition than during the year in which they repeated. Children who repeated tended to lag behind those who did not.
The authors concluded that the contribution of personal and family characteristics for the acquisition of literacy and numeracy skills was about three times that of the school and teacher characteristics. Yet, the proportion of added variance shown in the pertinent table (and reproduced below), suggests a less dramatic conclusion since both family and personal characteristics (as well as school-related variables) were found to make modest contributions.

<table>
<thead>
<tr>
<th>Total Explained Variation for Student Performance</th>
<th>R-square</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Literacy</td>
<td>Numeracy</td>
</tr>
<tr>
<td>Regression considering grade, enrollment status, sex, pretesting</td>
<td>0.37</td>
<td>0.40</td>
<td></td>
</tr>
<tr>
<td>Regression considering grade, enrollment status, sex, pretesting, and including family and personal variables</td>
<td>0.44</td>
<td>0.45</td>
<td></td>
</tr>
<tr>
<td>Regression considering grade, enrollment status, sex, pretesting, and including school and teacher variables</td>
<td>0.40</td>
<td>0.42</td>
<td></td>
</tr>
</tbody>
</table>

The comparison of skills between dropouts and continuees found that, contrary to prior beliefs, dropouts did not experience serious losses in cognitive skills. The retention curves for dropouts were rather flat, denying the existence of possible thresholds for literacy or numeracy skills. The researchers found large disparities between the skills of continuing students and those of dropouts but observed that these disparities largely occurred prior to dropping out and not afterward. The average skill level of a sixth grade dropout was generally no better than that of a continuing fourth grade student with the same characteristics, and on writing tests below even that of a continuing third grader. Dropouts were also found to have lower intelligence scores.

In addition, the study examined learning curves controlling for sex. Small and statistically insignificant differences were observed between the sexes.
An important policy recommendation suggested by the authors was that, as a first priority, governments should not press for extending compulsory schooling beyond the present primary cycle, but, rather, "determine what are the appropriate standards of skills, particularly for functional literacy." The study found that dropouts have not generally obtained functional skill levels (as determined by a panel of Egyptian educators) before leaving school and the authors suggest that more attention should be paid to curriculum-related issues — for example, remedial and compensatory education — in the early primary stage.


Country: Uganda
Education Level: Primary
Purpose of Study: To identify school-related factors that affect student achievement
Reference to Gender: Marginal
Sources of Data: Questionnaires for pupils and staff, inventory of school facilities, student tests
Dependent Variable: National primary leaving examination measuring English, mathematics, science, and social studies
Type of Study: Analysis of field study data
Method: Correlations and regression analysis using block approach

The study is based on a 1972 sample of 67 primary schools located in five rural districts and in all three urban areas of the country. The final sample contained 10.7% of the schools randomly selected and 13.1% of the pupils in grade seven. The regression model was run at the school level of analysis and consisted of three blocks: (1) pre-school influences, such as sex, age, SES; (2) school influences; and (3) teacher's characteristics. The study considered six teacher characteristics (years of schooling, salary, status grade, frequency of English in the childhood home, teaching experience, and parental education). Of these, only one, English language competency as inferred from use of English as a child, had a statistically significant correlation with academic performance ($r = .31$). There was a consistent and statistically significant association between written materials (workbooks, reference books, textbooks, and teacher's books) and academic performance ($r = .24$). Physical facilities (a combination of items referring to the presence of duplicating machines, football field, staff room, electricity, school farm) produced positive correlations with achievement ($r = .29$). All together, the regression model explained 10% of the variance in achievement. The study found that 31.7% of the explained variance was attributable to three school variables: materials, English quality of teacher, and the index of school facilities.

Country: Uganda
Education Level: Primary
Purpose of Study: To present a more rigorous attempt to measure the impact of written materials on student achievement
Reference to Gender: None
Sources of Data: Questionnaires for pupils and staff, inventory of school facilities, student tests
Type of Study: Analysis of field base data
Method: Multiple regression

Same data as in previous study. The authors used a regression model that considered as independent variables teacher's English, school textbook availability, local enrollment ratio, and school physical facilities. Variables controlled were SES, a nonverbal intelligence test, and pupil health. Three of the school-related variables: teacher's English quality, physical facilities of the school, and textbook availability, had a considerable statistically significant impact on total student achievement. The model was found to account for 19% of the variance in pupil achievement when conducting a school-level analysis and 27% of the variance when running an individual-level analysis. The researchers then put together school-related variables and averaged the absolute value of the coefficients to create something like a "good" and a "bad" school, a variable that they called "school affiliation." A regression, measuring the influence of "school affiliation" controlling for individual characteristics produced an R square equal to .39. School affiliation (being in a good or bad school) was found to affect the student's total achievement by 15 points and to account for 39% of the total explained variance.


Country: Nicaragua
Education Level: Primary
Purpose of Study: To identify some determinants of repetition and attendance
Reference to Gender: Marginal
Sources of Data: Experimental project evaluation comparing control and treatment students on a number of family and school characteristics, and student tests
Type of Study: Analysis of field study data
Method: Multiple linear and logit regressions

This study was not based on a random sample but included urban and rural schools. The experimental and control students were similar although students in experimental classes were more likely to come from agricultural families, to be in larger classes and to have lower pretest scores. A preliminary regression examining the determinants of pretest achievement found that both the student's age and the number of times the
student repeated first grade affected pretest scores positively. A regression on posttest scores, controlling for the pretest and thus presenting a better estimation of the effect of various teacher and school variables, was run. The model explained 40% of the variance in achievement scores. When controlling for pretest, repetition was no longer related to achievement. Larger classes and frequent attendance resulted in better performance, but these coefficients increased posttest scores only marginally (.23 and .68 points in a posttest whose mean was 58 points). Teacher's education had negative effects and teacher's experience positive effects but the coefficients were very small even if significant.

A logit equation to predict the probability of failure (repeating a grade or not) showed that low posttest scores were strong determinants of the likelihood to fail. Males were found less likely to fail. Regular attendance decreased the student's probably of failure but the coefficient was not statistically significant. Also not significant were the number of previous repetitions, class size, exposure to radio, and teacher's experience and education.

Another regression probing within-year dropout propensity found that a more frequent attendance increased the likelihood that a child would drop out, a finding the researchers did not explain. Students with higher pretest scores were less likely to drop out but the effect was only marginally significant.


Country: Nepal
Education Level: Primary and Secondary
Purpose of Study: To examine the influence of out-of-school variables and school availability upon the child's enrollment in school
Reference to Gender: Marginal
Sources of Data: Interviews with household members
Dependent Variable: School participation, defined as the percentage of 6-16-year old children in a household with at least one year of schooling
Type of Study: Analysis of field study data
Method: Multiple regression

The study was based on a sample of 795 households surveyed for a research project on the effects of education and agricultural extension on rural development. It covered two Nepali districts in the Terai region of Nepal.

The regression model used to explain participation controlled for family background and socioeconomic conditions as well as for school availability (measured in terms of distance to school). Several of the family variables related to the home ecology, i.e., included information about the number of children 0-6 years old in the household, the percentage of female school age children, and an interaction term that considered the
percentage of girls in the household multiplied by the number of young children to determine if female participation was affected by taking care of siblings.

The model had a relatively strong explanatory power, with an $R^2 = .41$. The percentage of female school age children was found to have negative effects on school participation. The interaction variable also had a negative effect on participation. This effect was found to persist after controlling for school availability. Distance to school or school availability was found to affect school participation negatively, but the coefficients did not reach statistical significance. The authors found that school availability, holding household characteristics constant, does not affect school participation. A related finding was that school availability has no independent effect upon participation after controlling for parental demand for schooling.


Country: Philippines
Education Level: Primary, Secondary, Post-Secondary
Purpose of the Study: To identify factors affecting completed years of schooling and the decision to enroll
Reference to Gender: Extensive
Source of Data: Household survey of families with school-age children
Type of Study: Analysis of field study data
Method: Multivariate analysis using maximum likelihood estimates of a polytomous probit model

The study comprised 1903 randomly selected households in the Bicol region whose composition was 75% rural, 15% urban, and the rest semi-urban. The sample of children included those who were at least five years of age, but excluded children younger than 9 who never went to school, producing a total sample of 7464 children. The study used "relevant-time" rather than survey-time measurements, i.e., the regressors were assigned values they had at the time the child was going to school as opposed to values observed during the survey. The authors point out that schooling attainment is not a continuous variable and that it should be more appropriately treated as a discrete and non-normally distributed variable. Their regression used a host of family characteristics, such as mother's and father's education and aspirations, but it included school-related variables measuring the cost of attending school. These variables include whether the schools were available in the village, when they became available, and distance to school. Distance to school was found to have a negative impact on schooling attainment for both boys and girls. If an elementary school were available to everyone in the rural sample at a distance of half a kilometer, the enrollment rate as well as the continuation probabilities would increase at all levels in the elementary school, and would even have favorable repercussions in high school and college.
The researchers also found that certain variables behaved differently across gender. Variables such as school availability, father's education, and family land ownership affected male and female schooling in a similar way, but other factors such as sibling order, farming, and mother's education affected male and female children differently. This finding led the researchers to advise that the schooling of male and female children should be treated as two distinct family choices.

The study used counterfactual simulation, a technique by which one or more explanatory variables are assigned values that are not necessarily equal to their actual values, to illustrate the effects implied by their estimates of the schooling model. The simulations show that the availability of an elementary school within a short distance raises enrollment rates at all school grades as well as the levels of schooling completed. Minor decreases in school distance also affect enrollment: if the distance is reduced from .5 to .1 km, there is a gain of 2.5% points in the elementary school enrollment. This reduction also affects positively the continuation possibilities. These effects were shown to be slightly greater for females than males.


Country: Kenya  
Education Level: Primary  
Purpose of Study: To examine the incidence and causes of dropping out and repetitions  
Reference to Gender: Extensive  
Sources of Data: Longitudinal survey of primary school flows using questionnaires with district educational officers, headmasters, and teachers, and interviews with parents and pupils.  
Type of Study: Analysis of field study data  
Method: Descriptive statistics comparing repeaters and non-repeaters, and dropouts and non-dropouts

The study conducted a longitudinal analysis of the primary school flow from 1976 to 1982 in five representative schools, from a universe of 292 primary schools. This approach permitted tracing about 1800 youths from grade one through seven. Unfortunately, the study limited itself to presenting the perceptions of various actors about the reasons for repeating and leaving school. Interviews with parents of dropouts found that parental ignorance and disinterest in education, pregnancies, and low SES of families ranked high among the factors associated with dropping out. Other factors, such as the family's inability to provide a school uniform, early marriages, the cost of school fees, migration, lack of discipline, and illness were also important. Although no statistics are presented about the relative importance of these factors, the researcher's foremost recommendation was that sex education should be emphasized in the
schools to prevent girls from dropping out due to unwanted pregnancies or early marriages. The study found that in areas with vast acreages of land and abundant heads of cattle, a greater percentage of boys than of girls dropped out of school at lower primary levels (between 15% and 22% of the boys compared to 7 and 15% for the girls). A higher percentage of girls was found to repeat school compared to boys (60% to 66% of the boys compared to 70% to 88% of the girls). This latter finding was interpreted by the researcher as being linked to passivity toward girls: if the girls did not qualify to go to secondary school and, in some cases, even before they attempted to take exams for the CPE, parents would make girls repeat primary school in the hope of securing a husband. Interviews with pupils indicated that the youngsters equated dropping out most frequently with early marriage and premarital pregnancies in the case of girls, and for both boys and girls with the lack of school uniform, sickness, cultural norms, the lack of interest in academic endeavour on the part of parents, and lastly the lack of interest in academic endeavour by the children.

Interviews with teachers tended to attribute reasons for dropping out to parental ignorance and disinterest in education, pregnancies, and the economic status of parents. Less important factors were said to be school uniforms, early marriage, school fees in schools of higher level learning, migration, indisciplined children, sickness, and over age. An interesting finding of this study was that "sickness" was often used as an excuse by girls who came back to school after having a baby. The monotony of repeating classes was found in part responsible for pregnancy among girls. When parents resorted to child labor, the students were often absent from school, which then leads parents to ask their children to repeat the grade. Very small percentages of girls and boys completed standard four and seven within the required period. The percentage of girls completing grade four within the expected age ranged from 5.2% to 17.2% and was better than that of boys. But the girls' percentage worsened by grade seven, at which time there were between 0 to 1.2% girls completing this grade within the expected age.

School transfers, a problem that often renders difficult the measuring of dropouts, was found to have a smaller incidence than repetition and dropping out; it ranged from 10% to 16% for boys and from 4% to 17% for girls.


Country: Ethiopia
Education Level: Primary
Purpose of Study: To identify characteristics of dropout students
Reference to Gender: None
Sources of Data: Interviews with teachers, dropouts, continuing students and adult informants for dropouts
Type of Study: Analysis of field study data
Method: Descriptive statistics and correlations
The study focused on one community having complete and well-established primary schools and between 1000 and 3000 inhabitants. The town selected was inhabited by Amhara-Christians, to control for the effects of tribalism and religion. Information was obtained regarding 745 students attending school in 1968-69 and 164 dropouts who had left school the previous year (or about 59% of the presumed dropouts).

The study examined a number of correlations dealing mostly with family environment factors (about 45 of them) but included one school-related variable, repetition. The study reported only on the statistical significance of the correlations.

Lower grade stayers were found more likely to repeat grades one and two. Lower grade dropouts, in contrast, had the lowest proportion of repeaters in relation to all other sub-groups. Upper grade dropouts had the highest proportion of repeaters, a finding that led the author to conclude that "repeaters who eventually dropped out of school did so because they failed in their efforts to stay in school through grade repetition."

Of some 45 variables dealing with the home environment, parental economic status and educational background had the strongest impacts on the child's continuing school or leaving it. The dropouts at all levels were less likely to have educated mothers. The lower grade stayers were more likely to have educated mothers. In contrast, the educational level of parents did not discriminate between repeaters and stayers.


Country: Cameroun
Education Level: Primary
Purpose of Study: To describe school wastage and to discuss probable causes
Reference to Gender: None
Sources of Data: General knowledge of Cameroun
Type of Study: Discussion

The study note that wastage rates for primary education (a six-year cycle) were very high in Cameroun, reaching 66%. Only 31.8% of those who enter primary obtained the CEP (certificat d'études primaires).

Identified as the main reasons for dropping out were health factors and malnutrition. Also identified as important were a number of school-related factors. Among these was the number of pupils per class. First grade classes were said to be extremely large, often with more than 100 students, a situation aggravated by the inadequacies of the building and the primitive nature or absence of furniture. Other important factors were said to be the insignificant training of primary school teachers, and the age disparities of school children in the classroom produced by a large number of students 14 years old and over.

**Country:** Mexico  
**Education Level:** Primary  
**Purpose of Study:** To examine the relationship between mothers' beliefs (expectations and attributions) and children's school performance, promotion, and dropout.  
**Reference to Gender:** Extensive  
**Sources of Data:** Interviews with mothers, student tests  
**Type of Study:** Analysis of field study data  
**Method:** Comparisons between parents of stayers and dropout children using ANOVA, chi-squares, Pearson correlations, and Discriminant Analysis.

A sample of 60 low SES children and their mothers in the northern part of Mexico City was used. The sample included 20 high performing students, 20 low performing students, and 20 dropout children, all of whom had attended first grade and should then be in second grade. Each group included 10 males and 10 females. The students and dropouts were selected from schools similar in geographical location, types of classroom, physical facilities, and SES.

The study found that the parents of high performing students had the highest levels of literacy and that the parents of the dropout students had the lowest levels of literacy. For most of the child development variables, the high performance group had a head start compared with the other two groups. Children in the high performance group had significantly more pre-school experience than children in low performing groups and more than dropout children, with a mean of 2.2 years of preschool for high performing students and a mean of 1.3 for dropouts. Statistically significant correlations were found between the child's reading performance and mother's stimulation at home (i.e., playing with child, telling stories, teaching colors, sending child to preschool, r=.48), and mother's expectations about the child's performance (r=.63), mother's behaviors to influence her child's reading performance (r=.59), and mother's expectations about the child's schooling (r=.30). Also, mothers of high performing children tended to use much more "approach attributions." Approach was defined as invoking positive reasons for going to school (to learn, to be well educated, to have good grades, to be able to read and write). Avoidance was defined as a negative rationale for attending school (to avoid falling behind, to avoid being ignorant, to avoid getting bad grades).

An analysis by gender of the students in the sample found that mothers of dropouts believed that boys should stay longer in school than girls. Mothers in general tended to think that boys needed literacy to get jobs and "be somebody," and that girls needed literacy for less important tasks such as crossing streets and reading bus destinations.
The data strongly suggests that mothers of the three groups hold different beliefs, expectations, and attributions; and that these are associated with their children's reading performance and promotion or dropout.

Since mothers were found to play such an important role in their children's performance, promotion or dropout, the author recommends that prevention and remedial programs for children should also include mothers.


Countries: 42, of which 15 from Latin America, 14 from Africa and the Middle East, and 13 from Asia
Education Level: Primary
Purpose of Study: To identify similarities across countries in patterns of school dropping out
Reference to Gender: None
Sources of Data: Enrollment and repetition rates from published and unpublished government and international agency reports
Dependent Variable: Dropout rates, defined as the ratio of dropouts to grade one enrollment adjusted for repeater
Type of Study: Analysis of educational statistics
Method: Stepwise linear regression

The study considered four types of independent variables: social (cultural attitudes toward education and the extent education may be related to social mobility), political (degree of governmental interest in and control of the educational system), economic (private and social costs and returns to education), and educational (the quality and availability of schools). Nine educational indicators were used to characterize the educational system: annual expenditures per pupil at the primary level, average annual salary of primary teacher, average annual growth rate of the total primary enrollment, enrollment ratio, pupil-teacher ratio, average repetition rate, repetition rate for grade one, first-year enrollment in secondary education as a percentage of primary school completion, and the level of teacher training.

High levels of primary school dropout can be explained primarily by six socioeconomic factors. The only educational variable significantly related to the dropout rate was the average rate of repetition. A one percent increase in the average repetition rate was associated with almost a one percent increase in the cumulative dropout rate. It should be remarked that the research calculated the dropout rate net of repeaters so that the two variables were not alternative measures of the same phenomenon. A regression model containing 10 variables explained 79% of the variance; the repetition rate variable in this model showed a beta coefficient of .67. A conclusion from this was that school systems with rigid examination and promotion procedures which lead to high repetition rates also deter children from finishing primary school.
Economic factors played a more important role in explaining later dropouts while factors reflecting differences between home and school environment and rigidities in the school system were more important in explaining early dropouts (those who leave right after grade one). Early dropouts were affected negatively by the enrollment ratio, indicating that perhaps less motivated children enter the schools as the enrollment raises and that these children make the classrooms less appealing.

One weakness of this study was that the data were aggregated at the national level. In consequence, the variation of teacher and school facilities at the school and classroom levels were diminished by aggregation and, therefore, so was their ability to explain the dropout rate.


Country: South Africa
Education Level: Primary
Purpose of Study: To describe the education system in KwaZulu and identify inefficiencies in the system.
Reference to Gender: None
Sources of Data: Questionnaires given to all principals asking them to report on repeaters, causes for repetition, and general information about teachers.
Type of Study: Analysis of field study data
Method: Descriptive statistics

This study, conducted as part of an in-house evaluation, had a response rate of about 96%. Principals were asked to rank the reasons for student repetition by order of decreasing importance. Their answers regarding school-related variables were as follows:

<table>
<thead>
<tr>
<th>School-related Variables</th>
<th>Rank Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understaffing or a high pupil-teacher ratio</td>
<td>1</td>
</tr>
<tr>
<td>Insufficient textbooks</td>
<td>2</td>
</tr>
<tr>
<td>Inadequate accommodations (desk, classrooms, schools)</td>
<td>3</td>
</tr>
<tr>
<td>Irregular attendance of students</td>
<td>4</td>
</tr>
<tr>
<td>Inadequate teacher aids</td>
<td>5</td>
</tr>
<tr>
<td>Underqualified teachers</td>
<td>6</td>
</tr>
<tr>
<td>Automatic promotion in some classes</td>
<td>8</td>
</tr>
<tr>
<td>Fatigue caused by long distance to school</td>
<td>11</td>
</tr>
<tr>
<td>Syllabus too long</td>
<td>12</td>
</tr>
<tr>
<td>Teacher's lack of motivation to work</td>
<td>14</td>
</tr>
</tbody>
</table>

The study found that the percentage of repeaters tended to be greater when schools were taught by qualified teachers than when taught by
unqualified ones: for standard one and two, teachers with a standard 10 education had more repeaters than teachers with a standard 6 or 8 education. On the other hand, teachers with about 14 years of experience had the least pupil repetition in their classes. The author asserted that a high percentage of repeaters does not always mean that there are deficiencies within the educational system. In fact, he argues, it may even be an indication to the contrary if pupils are made to repeat because they fail to meet standards set by the educational authorities.


Country: Mexico
Education Level: Primary
Purpose of Study: To identify correlates and determinants of student achievement
Reference to Gender: None
Sources of Data: Questionnaire with school principals and teachers, student tests
Dependent Variable: Student achievement in arithmetic, geometry, and language
Type of Study: Analysis of field study data
Method: Linear correlations and stepwise regressions

The sample consisted of 20 primary schools in Mexico City randomly selected from among 133 low-middle class schools. Thirty students, 10 each from grades four, five, and six, were sampled from each school, producing a total sample of 519 students.

The independent variables concentrated on school-related variables and included: hygienic and physical conditions of the school, quality of educational resources in the classroom, teacher's years of education, abilities of teacher (e.g., singing, dancing, sports), teacher's experience, teacher's punctuality and attendance, teacher's collaboration with others, teacher's planning and organizing academic activities, teacher's performance in the classroom, her evaluation of student work, and related school and extra-school activities. Only three of these variables had positive associations with student achievement: hygienic and physical conditions of the school (r=.22), teacher's experience (r=.11), and related school and extra-curricular activities (r=.15).

The stepwise regression was able to explain 11% of the variance in student achievement (although the standard error was close to 25% of the mean of the dependent variable). In this regression, three school-related variables had statistically significant effects (measured in beta weights). These were: teacher's schooling (beta=.11), teacher's abilities (beta=.08), and teacher's attendance and punctuality (beta=.06). The authors found substantial collinearity between better school facilities and teachers with greater abilities and years of experience. The teacher's education was also strongly associated with ability and experience.

Country: India  
Education Level: Primary  
Purpose of Study: To describe state of education in the Tumkur District of India  
Reference to Gender: Marginal  
Sources of Data: Interviews with parents  
Type of Study: Analysis of field study data  
Method: Descriptive statistics and correlations

The study involved a 2% sample of rural households in the Tumkur District, which were canvassed to gain information about nonenrollment, attendance, repetition, and dropping out.

Dropout rates were higher among girls. The majority of dropout families were found to report no reading habits (77% of them). The dropout rate in illiterate families was three times that of literate families among scheduled castes and scheduled tribes. Parents reported withdrawing girls from school so that they could take care of siblings at home or because education would conflict with marriage.

The study found a correlation between dropping out and repetition in standards one to four (r = .37).


Country: Côte d' Ivoire  
Education Level: Primary  
Purpose of Study: To identify determinants of student cognitive outcomes  
Reference to Gender: Marginal  
Sources of Data: Teacher's and student's questionnaires, student tests  
Dependent Variables: For cognitive outcomes, scores on the CM2 national examination (a sixth grade test); for affective outcomes, a questionnaire on internal-external expectations and educational and occupational aspirations  
Type of Study: Analysis of field study data  
Method: OLS regression model

The study covered urban students in 10 cities in grade six, selected through a cluster sample. This produced a total of 73 classrooms and 3316 students, of whom 2586 were in a new educational TV program and the rest in the traditional program. The students were between 10 and 15 years of age, and 58% were male.

The descriptive part of the study found that the most equally distributed educational inputs were class size and physical conditions of classrooms. The greatest inequalities emerged in the distribution of textbooks. Girls were slightly at a disadvantage in the distribution of
textbooks but slightly advantaged in their underpresentation in more crowded classrooms. All sixth grade teachers were found to be male because the performance of students at grade six affected the reputation of the school and administrators thought male teachers would be more effective.

The regression model controlled for differences in regional affiliation, sex, and SES. It was run both at the student and at the classroom levels. The school-related variables in the equation were: teacher characteristics (e.g., commitment, level of formal education, knowledge of subject, experience, attitude toward students), instructional materials and expenditures (per pupil expenditures, per pupil availability of textbooks, class size), and general learning environment (noise interference, classroom cleanliness, condition of the blackboard).

The school-related variable associated with most cognitive outcomes was found to be textbook availability. This was true for both student- and classroom-level data and for students in ETV and those in traditional programs. The number of French, geography, history, and science textbooks appeared to have a consistent, statistically significant, and positive relationship with most tests in French, math, and reasoning. The standardized regression weights ranged from .06 to .16 for students in ETV, and from .09 to .11 for students in the traditional program.

Another characteristic associated with student achievement in both ETV and traditional programs was the teacher's attitude toward students (i.e., being happy with the students, believing that they will succeed). For ETV, the coefficients had values between .07 and .10; for the traditional program the coefficients oscillated between .14 and .06. Another school-related variable found to have statistical significance was class size. Being in a class with fewer than 50 students provided ETV students with a gain of about two points in the math test compared to a student in a class with more than 50 students. These gains were greater for students in the traditional program, producing gains of about six points for the French test. The author found that if the class size was fewer than 45 there was also a positive association but that the significance level decreased from .05 (when the class had 46-50 students) to .10. The regression model used in the study, which focused mainly on school-related variables, explained 11% to 16% of the variance in student outcomes in the case of ETV students and .09% to .11% in the case of students in the traditional program.


Country: Kenya
Education Level: Primary
Purpose of Study: To identify school-related determinants of repetition, dropping out, and attendance
Reference to Gender: Moderate
Sources of Data: Questionnaire to teachers, interviews with students, student tests
Dependent Variables: Repetition and dropout rates, with the latter adjusted for repeaters and transfers when known
Type of Study: Analysis of field study data
Method: Chi squares, eta correlations, and regressions

The sample included 3090 students from four Kenyan urban and rural districts. About 47% of the students in the sample were female. The study explored the effects of school environment (i.e., pupil/teacher interaction, pupil motivation, and pupil participation in class and extra-curricular activities), and school quality (i.e., type of school buildings and facilities, equipment and teaching materials), and educational level and experience of teachers.

Rates of promotion, repetition, and dropping out showed strong and statistically significant differences by socioeconomic status. At the lower primary level — standards one through four — about 16% of children from low SES families dropped out compared to 0% of children in high SES. Repetitions were found to affect 7% of the children in low SES but only 1% of the children from high SES. At the higher primary level — standards five to seven — 22% of the low-income children dropped out compared to .08% of the high SES children. Repetition rates at that level were 13% for the low-income students and 2.8% for the high SES students. Dropouts peaked at the beginning of primary school for their inability to pay school fees and at the upper primary because of their failure to gain access to secondary school.

Although primary schools are supposed to be free in Kenya, students must pay fees for the "building fund," to help schools provide emergency facilities while the government comes up with a permanent solution. School practices were such that children were expelled if they did not pay their school fees on time. Teachers were found to keep students in standard 6 or 7 even if they did not pay their fees but to send home the siblings of the nonpaying children who were in lower grades. If parents could not pay the school fees, girls were usually sacrificed even though no significant differences were found in educational achievement between girls and boys in the study. Repeaters and dropouts in standards 6 and 7 were found to have more brothers who repeated and more sisters who dropped out when compared to students in the same standards who were promoted. These differences were strong and statistically significant.

An analysis of attendance rates showed large differences between rural and urban areas, with rural children missing 23.5 days per year contrasted to 11.8 days in the case of urban children. Large differences were also observed by SES, with low-income children missing 22.1 days and high-income children missing 8.7 days. Attendance in turn was highly correlated with educational outcomes. Promoted students missed school 12.8% of the time, compared to repeaters, who missed 22.1% of the time, and dropouts, who missed school 43.6% of the time. In the lower primary,
repetition was largely the result of poor attendance and problems with school fees. In upper primary, repetition was caused mainly by the pressure to gain access to secondary school (i.e., pass the entrance exam). Regressions run to predict school attendance found that SES, urban/rural residence, and type of school facilities explained 24% of the variance in annual school attendance.


Country: South Africa  
Education Level: Primary  
Purpose of Study: To identify factors that contribute to repetition  
Reference to Gender: Marginal  
Sources of Data: Educational statistics and questionnaires to principals  
Type of Study: Analysis of field study data  
Method: Descriptive statistics and cross-tabulations  

The study included all the primary schools in Ciskei in the years 1977 and 1981. Statistics aggregated at the school level showed that slightly more boys than girls (about 3% more) repeated. The cross-tabulations found no connection between size of the school and percentage of repeaters. No association was found either between the pupil/teacher ratio and the percentage of repeaters.

According to the principals, the main causes of repetition were: irregular attendance (indicated by 216 of the 500 respondents), pupil/teacher ratio (44 respondents), lack of exercise books (28 respondents) and distance to school (6 respondents). The most frequent explanation given by principals regarding the irregular attendance of boys was that they had to work in the fields herding cattle, ploughing or reaping the fields. Regarding girls, the majority of principals said they had to stay home looking after younger siblings.


Country: Argentina  
Education Level: Primary  
Purpose: To identify reasons for dropping out at the primary level  
Reference to Gender: None  
Sources of Data: Interviews with parents and teachers  
Type of Study: Analysis of field study data  
Method: Cross-tabulations  

The sample covered 37 schools in one province (13 urban and 24 rural schools). The study followed a cohort group from 1965 to 1971, from the beginning to the end of the primary cycle. The study neither controlled for home background characteristics nor used statistical analysis, but some strong relationships were observed. There was an
association between the age of admission and dropping out rates, with 84% of those who stayed in schools entering between 5 and 9 years of age, in contrast with 43% of the dropouts entering at age 10 or older. Many students were found to repeat (62%), but the proportion of those who repeated and left compared to those who repeated and stayed was not very different (64% vs. 59%). Dropout rates went up for students who were 13 or older, with more than 50% of the dropouts leaving at that age threshold. The main problem with dropping out seem related to late admission to the school, and late admission was linked to low SES.

Attendance patterns were found not linked to repetition but were linked to dropping out. Most of those who eventually left school had an irregular attendance compared to those did not drop out (75% vs. 25%). There were many students with regular attendance who left but the proportion of those who attended and stayed was also high (56% vs. 44%).

Parents of dropouts reported that 56% of their children were working in remunerated jobs, 17% were working at home, and 6% helped their families. Parents of children attending school reported less work by their children, with 22% working in remunerated jobs, 13% working at home, and 3% helping their families. Regarding the causes for dropping out, parents and teachers agreed about the three most important factors: the need to work, family transfers, and the child's dislike of the school. Only parents (7% of them) identified distance to school as a cause for dropping out.

Interviews with parents about the causes for absenteeism of the children to school blamed illness (51% of the respondents), bad weather (38%), work (31%), lack of clothing, shoes (26%), lack of educational materials (12%), distance to school (9%), taking care of siblings (9%), other reasons (12%). Teachers, in their interviews, placed the blame on child's work (51% of the respondents); bad weather (39%); lack of parental interest (30%); lack of food/shoes (22%); distance to school (16%), malnutrition (8%); and other (9%).


Country: Iran
Education Level: Primary
Purpose of Study: To identify the impact of family, school, and teacher variables upon achievement and educational aspirations
Reference to Gender: Marginal
Sources of Data: Teacher's evaluations, interviews with students, student tests, interviews with parents
Dependent Variables: Achievement as measured by a test in math and reading, and aspirations measured as the level of schooling the student wishes to attain
Type of Study: Analysis of field study data
Method: Multiple regression
The study was based on a survey conducted in 1970. The sample covered 66 schools and 797 students in regions of contrasting geographic and economic character. Between 10 and 15 students were selected at random from each second grade classroom.

The regression on achievement considered a total of 11 family, community, and school variables. The school-related variables included the student/teacher ratio, the number of grades per teacher, student absences per month, and school enrollment; the teacher-related variables included the teacher's average on a government secondary exam, quality of high school attended by the teacher, and teacher's rating of the helpfulness of the supervisor. The regression explained 30% of the variance, with the following contributions by the school and the teacher variables:

<table>
<thead>
<tr>
<th>School variables</th>
<th>Beta Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>student/teacher ratio</td>
<td>-.135</td>
</tr>
<tr>
<td>grades per teacher</td>
<td>-.255</td>
</tr>
<tr>
<td>student's absences</td>
<td>-.159</td>
</tr>
<tr>
<td>size of school enrollment</td>
<td>.261</td>
</tr>
<tr>
<td>Teacher variables</td>
<td></td>
</tr>
<tr>
<td>teacher's frankness</td>
<td>.121</td>
</tr>
<tr>
<td>quality of teacher's secondary school</td>
<td>.167</td>
</tr>
</tbody>
</table>

(no statistical levels of significance were given)

The study found that the unique contribution of the school-teacher cluster exceeded that of the home-community cluster, since the former explained 16% of the variance while the latter 14%. The author interpreted this finding to mean that in very poor rural environments the school becomes one of the few sources of knowledge.

The study also found a very low correlation between teacher's rating of student school achievement and the mean school examination score (r=.095).

A regression run to identify the determinants of the student's educational aspirations focused on four school-related variables and the student's sex, while controlling for the father's occupation, possession of radio, and use of home language. The regression was able to explain 21% of the variance, with the following contributions by the independent variables:

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Beta Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>teacher's grade level expectation for student</td>
<td>.125</td>
</tr>
<tr>
<td>student/teacher ratio</td>
<td>-.135</td>
</tr>
<tr>
<td>grades per room</td>
<td>-.143</td>
</tr>
<tr>
<td>attendance on survey day</td>
<td>.100</td>
</tr>
<tr>
<td>sex of student</td>
<td>-.285</td>
</tr>
</tbody>
</table>

(no levels of statistical significance were given)
An interesting finding here was that even at grade two, female students manifested more modest educational aspirations than boys.


Countries: Bolivia, Brazil, Colombia, Mexico, Paraguay, Peru
Education Level: Primary
Purpose of Study: To identify school and out-of-school effects upon attainment
Reference to Gender: Extensive
Sources of Data: Questionnaires and tests with students, interviews with teachers
Dependent Variables: Achievement in reading (comprehension) and natural science
Type of Study: Analysis of field study data
Method: Multiple regression

This study was based on a school survey conducted in 1975-76 in the seven Latin American countries above mentioned. The sample included rural and urban schools in some countries, but in others the sample was urban only. Students were in fourth and sixth grade in the primary school. The regression model followed the pattern of previous IEA models, i.e., it included family background factors (e.g., size, parental occupation and education, characteristics of the household), student characteristics (e.g., educational aspirations, proxies for nutritional development, quality of eyesight) and school-related variables. This last set of variables included teacher's education, teacher's experience, teacher's work per week, expenses per student, and teacher's satisfaction with the profession.

The study presented regressions for each of the individual countries and, within each grade, it presented regressions for boys and girls. The model explained from .02 to .32 of the variance in reading among fourth grade students, and from .02 to .37 in the variance in reading among sixth grade students. It explained from .02 to .42 of the variance in science among fourth grade students, and from .04 to .48 of the variance in science among sixth grade students.

While family factors were found to influence academic achievement, school-related variables showed erratic and infrequent effects of achievement. Most of the time, the school-related coefficients showed statistically insignificant effects. The comparison between sexes did not show any discernable patterns; there were, however, differences in achievement scores between the sexes, with the differentials favoring boys systematically.

The only stable factor, which the author could not explain, was that the level of the correlation between educational achievement and father's occupation was higher for girls than for boys.
The author felt that the school-related variables failed to explain achievement because they had not been conceptualized properly; for example, the teacher variables were weak and did not capture the capability of teachers and processes within the classroom. Another reason was that there was a strong multicollinearity between school and family factors. He did not find a level of multicollinearity high enough to maintain that this obscured school-related effects, but advised to use better instruments in future investigations, particularly to make sure that the student questionnaire considered the parent's decision with respect to choice of school.


Country: Chile  
Education Level: Primary  
Purpose of Study: To identify associations between school-related and socioeconomic variables and student achievement  
Reference to Gender: Moderate  
Sources of Data: Questionnaires to students, student tests  
Dependent variable: Cognitive achievement in math and verbal ability  
Type of Study: Analysis of field study data  
Method: Kendall's tau correlations

The sample consisted of eighth grade students (the last year of primary school) in all 25 provinces of Chile, and comprised between 10% and 20% of the students in that grade within each province. Results for two consecutive years, 1969 and 1970, were presented. The total sample of students reached 16,218 for 1969 and 3190 for 1970.

Correlations were presented at the province level and for the nation as a whole. The correlation between sex of student and math achievement in 1969 showed statistically significant associations in the case of 16 provinces, with women doing better than men in 14 of the provinces and worse in two of them. The same correlations for 1970 found women doing better than men in 8 provinces, worse in none. The correlation between sex of student and verbal achievement found statistically significant coefficients in 11 provinces, with women doing better than men in 10 and worse in one during 1969, and better in four provinces and worse in two during 1970. The total correlation for achievement and sex for a small subsample was found to be .12 in favor of women for 1969 but .19 in favor of men for 1970; these conflicting results may be explained by the small size of the subsample used for total correlation. The association between sex and verbal score was low, at about .05 in favor of men.

For the country as a whole, there was a lack of correlation between classroom size and total achievement. The correlation was .017 for 1969 and .031 for 1970; actual classroom size varied considerably, from 22 to 69 students in 1969 and from 28 to 49 in 1970. The association between
achievement and the proportion of retention in the primary school was positive and statistically significant, with .30 for 1969 and .23 for 1970.

The authors found very low correlations between the grades given by teachers to students and the students' scores in national objective tests. They also found very low correlations between student grades from one year to the next. The authors noted that if we assume that student abilities do not change much from year to year, the correlations should be greater. Hence, they concluded that teacher's grades were not reliable indicators of student performance.


Country: Chile
Education Level: Primary/secondary
Purpose of Study: To identify differences in educational equality between girls and boys
Reference to Gender: Extensive
Sources of Data: Student questionnaire and test
Type of Study: Analysis of field study data
Method: Multiple regression

The study covered all 353 eighth-grade classrooms (the last year of primary school) in the country. Ten students were randomly selected in each classroom, producing a sample of 3469 students. A subsample was tracked seven years later, at which time 1205 were found.

Gender equality in schooling was defined to include four different dimensions: access, survival (completing a cycle), output (learning as much as males), and outcome (receiving equal incomes or having jobs with similar status).

No significant differences were found by sex in terms of equality of survival. The sex disparities were smaller when the parents had high levels of education. Sex was found to have no significant effect on achievement at the end of primary school. However, it was a significant predictor of test performance for admission to university, a test taken at the end of secondary schooling. Sex by itself was not a predictor for actual university entrance. The authors explained the poor performance of women in the test for university admission as a result of "anticipatory socialization" — the perceived low need to achieve high scores to be admitted to those university programs in which most women enroll. They found that two-thirds of the women entered education and nursing programs, which require the lowest minimal scores within the university.

Women's occupational aspirations varied less than those of men. For women the length of schooling explained only .05% of the variance in educational aspirations; for men, it was much stronger, about 21%. The
authors concluded from this that there was no systematic discrimination 
against women within the educational system, but in the labour market and 
in the society as a whole. Actually, the findings suggest that females may 
receive little occupational encouragement and guidance during their school 
experience, whereas males do receive these messages, perhaps mainly through 
informal practices or in the family and the community, because there is 
little counselling in Chilean schools, but in a few selected schools.

The study also found that a woman's schooling had a powerful 
effect on her probability of acquiring an "appropriate" job (i.e., non 
manual); this actually meant that if a woman did not complete secondary 
education, she had a greater probability of becoming a manual worker than 
males primary graduates overall. The authors also noted that "schooling is 
a more powerful determinant of high-level occupational access among women 
than it is among men." This statement, though correct, means that women 
need higher levels of education than men to obtain non-manual occupations. 
Although two-thirds of the women in the study were found to have jobs as 
office workers or sales personnel compared to 39.4% of the men, it is not 
clear how these figures have changed over time and there is still a 
question on whether education in Chile has played a role in breaking a 
gender-based occupational segregation.


Country: India 
Education Level: Primary 
Purpose of Study: To diagnose problems of school participation in the 
context of age, sex, regional, ecological, and family backgrounds, and 
school variables 
Reference to Gender: Moderate 
Sources of Data: Document analysis and interviews with parents 
Type of Study: Analysis of field study data 
Method: Descriptions and bivariate distributions 

The study focused on dropouts and covered 62 villages and 80 
schools in five different regions in Karnataka. It sought to characterize 
schools in areas having low and high dropout rates. The low dropout areas 
were found to have more schools located on the main road or the village 
itself. No differences were observed with respect to the nature of the 
school building. The schools with low dropout rates had a higher 
proportion of young and relatively less experienced teachers than schools 
with high dropout rates.

Cultural practices negatively affected the education of girls. 
The amount of dowry demanded by the bridegroom depended on his educational 
and occupational background, so that the higher these are, the more dowry 
parents of daughters must pay. Poor parents, therefore, prefer to have 
uneducated daughters because they will tend to marry less educated men and 
thus these girls will be cheaper to marry than educated daughters. Nearly 
two-thirds of the girls leaving the school in high dropout rate areas were 
withdrawn by parents due to dowry and related reasons.

Country: Pakistan
Education Level: Primary
Purpose of Study: To explore reasons for dropping out and nonattendance
Reference to Gender: Moderate
Sources of Data: Interviews with administrators, teachers, parents, students, and dropouts
Type of Study: Analysis of field study data
Method: Discussion

The study involved a national sample comprising 25 districts and 416 villages selected through a stratified sample on the basis of the village's distance to district headquarters (the rationale for this criterion is unclear). In each village, a group of four local educators conducted 30 interviews with teachers, parents, primary school pupils, dropouts and nonattenders. Despite this interesting research design, the study is incomplete and confusing.

The study found that one-third of primary school age children were attending schools and that only one in four girls was doing so. Teachers and administrators saw the major reasons for dropping out and nonattendance was poverty (the expenses needed for education), parents' illiteracy, and parents' negative attitudes toward schooling. Parents reported poverty, illness, and lack of parental interest in school as the major reasons for withdrawing their sons from school. For their daughters, parents reported negative attitudes toward schooling, lack of parental interest in the school, and poverty (in that order). Reasons identified by parents in the case of girls only were inadequate school buildings (it is unclear to what this refers), purdah, and distance to school.

The study also compared dropout students with those who stayed in school. Reportedly this match was done on the basis of "ability, SES, achievement, etc." The dropout youngsters were found to rate lower on personality and temperament (a measure that combined health, intelligence, peer relations, social class/caste, self concept, and work attitudes). They also were said to rate lower on attendance, achievement, aspirations, relations with teacher, and skills and knowledge in Urdu, Arabic, and the four basic arithmetical operations. Parents of dropouts were said to rate lower in their attitudes toward education, income, and economic stability. Unfortunately, no numerical or qualitative evidence was presented to back these findings.

The study found no association between the quality of school buildings and attendance, or between attendance and the quality of the school curriculum; however, no data were presented for these assertions.

On-site visits by the researcher showed him that one of the reasons for which school facilities did not make a difference upon attendance is that teachers and students preferred to stay outside, unless it rained or was an extremely hot day. Since schools had neither ways to
regulate the temperature nor artificial illumination, principals used school buildings to store and keep papers and materials in safe places. The author concluded that new school designs are needed.


Country: Nepal
Education Level: Primary/Secondary
Purpose of Study: To identify the effect of school-related variables upon student enrollment and attendance
Reference to Gender: Extensive
Dependent Variable: Student participation, defined as the number of students enrolled in a given school
Sources of Data: Interviews with teachers and observation of school conditions
Type of Study: Analysis of field study data
Method: Correlation and multiple regression analysis

The sample covered 23 village panchayats, producing 120 rural schools in nine districts. A total of 4613 children in primary and secondary schools (in equal proportions), both in and out of school were included in the study. The children in the primary school subsample numbered 2860.

The regression model that examined student enrollment in both primary and secondary schools contained only 13 school-related variables and had a very poor explanatory power. The total explained variance was .061 for the entire country, and ranged from .021 to .093 for the analysis done with regional populations. However, all teacher-related variables affected enrollment. The strongest factor was the proportion of ethnic similarity between students and teachers (a statistically significant beta weight of .14 for the overall sample, but it ranged from .126 for the mountain region to -.86 for the Terai region). The qualifications (academic degrees) of teachers contributed .09 toward school enrollment; teacher's training contributed .083, but the teacher's experience had a negative effect of -.103 for the entire country and two of the regions. The study also found a weak but positive effect of female teachers on student enrollment (.058).

A regression examining enrollment just with primary school students had equally low explanatory powers (R square=.061), but a different set of school-related factors was found to have statistically significant effects on student enrollment. These were: the ethnic similarity between teacher and student (.157), grades available in the school (-.161), library (.093), percentage of educated teachers (.086), and the distance to a lower secondary school (-.066). Available classroom space was found to show negative effects (-.045) with educational enrollment, a fact that the researchers attributed to a measurement artifact since possibly the higher number of students enrolled the lower the space available.
Regressions that were run separately by student sex found small effects but in the same direction for boys and girls regarding the effects of the ethnic status of the teacher, the proportion of qualified teachers, the library, available classroom space per student, and distance to a lower secondary school, although the last two did not reach statistical significance for girls.

The regression for attendance at the primary level used eight school-related characteristics as independent variables. The model showed a higher explanatory power than the one for student enrollment; it produced an R square of .134. The following results in standardized coefficients were observed:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>playground presence</td>
<td>.148**</td>
</tr>
<tr>
<td>library presence</td>
<td>.131**</td>
</tr>
<tr>
<td>percent of local teachers</td>
<td>.143**</td>
</tr>
<tr>
<td>percent of trained teachers</td>
<td>-.043*</td>
</tr>
<tr>
<td>student/teacher ratio</td>
<td>-.285**</td>
</tr>
<tr>
<td>student experience</td>
<td>.098*</td>
</tr>
</tbody>
</table>

Thus, a significant deterrent to attendance was found to be the student/teacher ratio, while the presence of local teachers, and facilities such as a playground and a library were found to encourage attendance. A contradictory finding in the study, however, was that there was a negative association between the type of school (i.e., better built schools) and school attendance at the primary level (r=-.053).


Country: Kenya
Education Level: Primary
Purpose of Study: One aspect examined the effect of school-related variables upon achievement
Reference to Gender: Marginal
Sources of Data: Teacher data from county records and student tests
Dependent Variable: Achievement as measured by Kenyan Preliminary Exam in English, math, and general subjects
Type of Study: Analysis of field study data
Method: Multiple regression

The study used a random sample of 20% of all primary schools in two rural counties having candidates to the KPE in 1967. The sample totalled 3405 students at the end of their seventh grade. The data was aggregated at the school level.

The regression model used nine school-related variables: average teacher salary, teacher/student ratio, average formal qualification of teachers, average teaching experience, number of students in the school, percentage of students sitting for the KPE, average age of KPE candidates,
percentage of students repeating the KPE, and the percentage of girls among the KPE candidates. The model was able to explain 15% of the variance in achievement. Only four variables were found to have statistically significant effects: a smaller number of students in the school, a smaller percent of KPE candidates, younger KPE candidate, and higher average teacher salary. The lack of impact due to the percentage of girls among the KPE candidates was said to be the result of the conflict during a girl's education between the negative attitudes on the part of society and the positive ability and motivation on the part of the individual.

Another regression on achievement using four independent variables (share of KPE candidates, average age of KPE candidates, number of students, and average teacher salary) explained 17% of the variance. In this model, the size of school (measured by the number of students) was found to have a negative impact on achievement, which the authors attributed to the fact that as enrollment expands less capable students come into the school.

This study did not control for socioeconomic and personality variables. Because of this it is likely that the effect of school-related variables may have been exaggerated.

The student-level analysis also found consistently positive correlations between reading achievement and the student's liking school for both student age groups:

<table>
<thead>
<tr>
<th></th>
<th>Chile</th>
<th>India</th>
<th>Iran</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-year old students</td>
<td>0.38</td>
<td>0.44</td>
<td>0.34</td>
</tr>
<tr>
<td>14-year old students</td>
<td>0.12</td>
<td>0.30</td>
<td>0.03</td>
</tr>
</tbody>
</table>

It also found consistently positive associations between reading achievement and the student's school motivation (measured by questions such as "how important is it for you to do well at school?")

<table>
<thead>
<tr>
<th></th>
<th>Chile</th>
<th>India</th>
<th>Iran</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-year old students</td>
<td>0.32</td>
<td>0.29</td>
<td>0.29</td>
</tr>
<tr>
<td>14-year old students</td>
<td>0.16</td>
<td>0.12</td>
<td>0.09</td>
</tr>
</tbody>
</table>

The correlations between reading comprehension and the school environment (measured through items that examined whether the classroom was run in an authoritarian and subject-centered mode as opposed to a democratic and student-centered approach) found no consistent results:

<table>
<thead>
<tr>
<th></th>
<th>Chile</th>
<th>India</th>
<th>Iran</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-year old students</td>
<td>-0.14</td>
<td>0.05</td>
<td>-0.21</td>
</tr>
<tr>
<td>14-year old students</td>
<td>-0.3</td>
<td>0.05</td>
<td>0.02</td>
</tr>
</tbody>
</table>

The school-level analysis did not present the explained variance for the school variables as a block, nor did it indicate the total variance explained. Rather, it gave standardized regression weights for selected
school variables. The coefficients for some of the potentially manipulable school variables were as follows:

<table>
<thead>
<tr>
<th></th>
<th>Chile</th>
<th>India</th>
<th>Iran</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-year old students</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>school environment</td>
<td>-.26</td>
<td>-.02</td>
<td>.21</td>
</tr>
<tr>
<td>library in the classroom</td>
<td>-.02</td>
<td>.14</td>
<td>-.18</td>
</tr>
<tr>
<td>student reads out-loud</td>
<td>.09</td>
<td>.16</td>
<td>-.31</td>
</tr>
</tbody>
</table>

| 14-year old students |       |       |      |
| school environment   |       |       |      |
| hours of homework per week | .09   |       |      |
| sex of teacher       |       |       |      |

The author concluded that, "in general, the factors that it was possible to identify in the school are at best minimally related to achievement, and a relationship that is found in any country rarely appears consistently in the others." However, a re-analysis of his data shows that in the case of developing countries, there are some rather consistent effects for some of the school-related variables. And although these explain only a small proportion of the variance, the contribution made by home background variables is also small as measured by the regression model.


Country: Syria  
Education Level: Primary and Secondary  
Purpose of Study: To describe causes for student dropout as perceived by teachers, parents, students, and the dropouts themselves  
Reference to Gender: Extensive  
Sources of Data: Questionnaires with the above respondents  
Type of Study: Analysis of field study data  
Method: Discussion

This is the only study focusing on a developing country that materialized from an effort by UNESCO in 1979 to conduct research on female dropouts. The sample included four rural and urban villages and followed the students for six years, until the end of the primary cycle. It did not follow up on those who transferred, although their numbers were known.

By the end of the sixth year, 100 boys and 165 girls had left school among the 1079 students in the primary school sample. Among the 265 dropouts, there were 185 repeaters (74 boys and 111 girls). Those who dropped out but had not been repeaters included 26 boys and 54 girls. One conclusion drawn from this was that school repetition contributes to dropping out and that this effect was stronger among girls. The study
found that dropping out was higher among girls (31% girls vs. 18% boys), and that it is slightly stronger in rural areas.

The information about perceived causes for dropping out, although interesting, unfortunately does not differentiate by level of schooling (primary, secondary, technical, and normal education). The reasons given by teachers and administrators, by descending order of importance, were school distance, transportation costs, and lack of boarding schools. Surprisingly, the urban sample emphasized school distance and transportation costs more than the rural sample. The reasons for dropping out by girls were said to be as follows:

**home-related reasons:**
- to help the mother in domestic work (identified by 8% of the respondents in the urban sample and by 14% in the rural sample)
- student costs, i.e., parents did not see girls' education as being worth the cost

**school-program related reasons:**
- lack of motivation on the part of the girls
- conflicts between values taught at school and traditional values

**teacher-related reasons:**
- lack of qualifications
- frequent teacher transfers (thus bringing much discontinuity)
- teacher punishment of students
- not enough attention paid by teacher to weak students

The responses by parents regarding the causes for girls' dropping out were as follows: It was more important to provide boys with education because men are responsible for their families while the women's role is at home. The occupational aspirations parents had for girls were modest (seamstresses, housewives). Finally, parents preferred girls to drop out if they must repeat, but in the case of boys they preferred them to repeat rather than drop out. As much as 50% of the parents expressed the latter preference. They study also found out that parents in rural areas considered school dropout as a normal event; parents in cities tended to worry about it.

Interviews with girl dropouts about their reasons for leaving the school were as follows:

- 50% indicated that their parents prefer them to marry early
- 60% in the rural areas and 33% in the urban areas indicated their families had been unable to cover school costs
- 50% reported problems with the school program — either irrelevant to their needs or too difficult
- 36% mentioned school distance and lack of transportation

In addition, 50% said they had made the decision to leave school, 25% said that their parents had made the decision, and the remaining 25% said it was a joint decision.

Countries: As above
Education Level: Primary
Purpose of Study: To describe patterns of student drop out and identify some of its causes
Reference to Gender: Moderate
Sources of Data: Educational statistics, interviews with teachers and administrators
Type of Study: Analysis of field study data
Method: Descriptive statistics and discussion

Countries with high dropout rates were also countries with high repetition rates, inadequate school provision, low female enrollment, and disparities among urban and rural children in the dropout rates. Wastage problems tend to increase as an educational system expands its enrollment beyond 70% of the age cohort because it is "drawing now on children from vulnerable sections."

The case study for China found a very low dropout rate in its survey of 313 primary schools examining grades one to four. The dropout rate raised increased from .63 to 1.45 for grade five and was slightly higher for girls. Altogether the dropout rate for primary school was 1.04%. But some interesting regional disparities were observed, with the dropout rate in the mountain areas being about 7% compared to .93% in plains districts. The main reasons for dropping out ranked by order of decreasing importance factors such as illness, serving as auxiliary labor, looking for a job or learning a trade, and lack of intelligence.

The case study for India covered 13 states. It found that the rate of repetition was considerably higher among those who left the school prematurely. In grade one both sexes dropped out evenly but by grade five more girls than boys left school. The case study does not identify reasons for dropping out but suggests interesting student incentives to promote retention, such as providing midday meal, free uniforms and clothes, free textbooks, attendance scholarships for girls, and no repetition policies.

The Malaysian case study found a strong relationship between poverty and school leaving, since only one tenth of the poorest children were enrolled in school by age 15 or more in contrast with nine-tenths of the better-off students. The dropout problem was found to be negligible at primary but significant at lower secondary and particularly during the transition between primary and secondary.

The Vietnamese case study reported large numbers of dropouts in schools where the teaching quality was poor.
The Sri Lanka study found that more males drop out from grades one to nine and that the proportion of male dropouts is even greater in higher grades. The main reason for leaving school was economic, with 88% of the dropouts coming from families with annual incomes smaller than $250.

The Thai study covered provinces in central, eastern, and northeastern regions of the country. It found that 65% of the dropouts had been repeaters before. It found a negative relationship between distance to school and attendance rates. Identified as school-related causes for dropping out were the poor maintenance of small primary schools and the lack of teachers. The author proposed that primary schools adopt an "alternate intake for small primary schools" that would take first grades every two years, and consequently schools would operate with fewer grades and fewer teachers—a solution that promises fewer expenditures per school but more crowdedness and teacher attention. The author also proposed that students should be provided bicycles.


Countries: 34 in Africa, 23 in Latin America, 26 in Asia and Oceania
Education Level: Primary and Secondary
Purpose of Study: To examine correlation between repetition and dropping out and selected education, economic, and demographic variables
Reference to Gender: None
Sources of Data: Educational statistics at country level
Type of Study: Aggregation of statistical data
Method: Non-parametric and parametric correlational analysis

The study used UNESCO statistics collected around 1977. It found the following rank correlation between the percentage of repeaters in primary school and various school-related variables:

<table>
<thead>
<tr>
<th></th>
<th>Africa</th>
<th>Latin Am.</th>
<th>Asia/Ocean.</th>
</tr>
</thead>
<tbody>
<tr>
<td>pupil/teacher ratio</td>
<td>.46*</td>
<td>.04</td>
<td>.19</td>
</tr>
<tr>
<td>gross enrollment ratio in primary school</td>
<td>-.12</td>
<td>-.23</td>
<td>-.43</td>
</tr>
<tr>
<td>apparent intake to grade one</td>
<td>-.18</td>
<td>.01</td>
<td>-.19</td>
</tr>
<tr>
<td>percentage of cohort reaching grade four</td>
<td>-.47*</td>
<td>-.58*</td>
<td>-.61*</td>
</tr>
<tr>
<td>percentage of GNP spent on education</td>
<td>-.21</td>
<td>-.69*</td>
<td>-.48</td>
</tr>
</tbody>
</table>

(*=statistically significant at .01)

According to these findings there was a strong association between repetition and the pupil/teacher ratio for Africa but it did not achieve statistical significance in the case of Latin America and Asia/Oceania. These findings also suggest that a large number of repeaters leave before grade four and that this occurs across all three Third World regions.
A second correlational analysis, employing parametric statistics, found that the association between repeaters and the pupil/teacher ratio for Africa was also strong (r=.54). It found that across regions the level of dropout in primary education was "better" correlated with economic aggregates than was the case for the level of repetition. It noted that repetition depended more on factors internal to the education system, "particularly regarding the concept of learning prevalent in the country and the teacher and evaluation methods used."

The authors observed that the differences between regions were caused by the large dispersions between and within regions. Therefore, they advised avoiding overall analysis and instead calculating correlations for smaller and more homogeneous groups of countries.


**Country:** Thailand  
**Education Level:** Primary  
**Purpose of Study:** To examine the relationship between family and teacher factors and dropping out  
**Reference to Gender:** None  
**Sources of Data:** Interviews with students, parents, and teachers  
**Type of Study:** Analysis of field base data  
**Method:** Longitudinal analysis using cross-tabulations and chi squares.

The study covered a sample of 15 rural schools in five districts. The sample was not random as access to schools depended on the agreement of educational administrators. It was a longitudinal study by which the same group of students interviewed in grade one was later interviewed in grade four. A total of 79 pupils, including 36 girls, took part in the study.

School-related variables included the teacher's support of the student (measured through questions asking if the student or parent asked the teacher for assistance), and student attitude toward the school experience. The findings regarding both variables did not show statistically significant differences between dropouts and stayers.

While this study does not say much about school-related variables, it is interesting for the number of findings contrary to those in the literature that it reports. The study found no statistical relationship between dropping out and the number of books owned by the student, although it did find a correlation between staying in school until grade five and reading newspapers. No differences were observed between the continuing and the dropout students in self-perception of school ability or ability during free time compared to children their age. The parent's years of schooling were not significantly related to the students' attaining fifth grade, but the schooling of siblings was significantly related to the child's continuation: the greater the number of years of
schooling completed by the siblings, the more likely the student would be to enter fifth grade.

Distance to school was not measured, but distance to a source of fresh water during the dry season related significantly to dropping out. Unfortunately, no gender analysis was presented.


Country: Papua New Guinea
Education Level: Primary
Purpose of Study: To identify reasons for enrollment and dropping out between girls and boys
Reference to Gender: Extensive
Sources of Data: Interviews with parents, teachers, principals, and dropouts
Type of Study: Analysis of field study data
Method: Descriptive statistics

This is one of the few studies focusing extensively on female students. The study covered 16 provinces and interviewed a total of 685 people both individually and in small groups, although no precise breakdown of their composition was given. In addition, the study obtained information on 185 male and 115 female dropouts through tracer studies by teachers.

The respondents gave different reasons for poor enrollment of girls and boys. Regarding girls, headmaster and teachers identified as important reasons for nonenrollment the attitudes of parents, the geographic limitations restricting entry to high schools, and family labor requirements. Parents emphasized their "disillusionment" with schooling (the belief that since the high school offers limited places and the girls faced limited employment prospects, there was no incentive for greater schooling), geographical limitations, and fear of sexual harassment by teachers. The female dropouts themselves alluded to laziness and boredom, lack of concern of parents and teachers, restricted entry to high school, and sexual harassment.

Regarding dropping out, the two main reasons given by the dropouts themselves were "laziness, boredom, and lack of interest" and "school too far away." These two reasons were given by 50% of the male dropouts and 42% of the female dropouts. The female dropouts felt that teachers gave less attention to girls (asked them fewer questions, gave them fewer positions of responsibility, had less eye contact, and let them get away with lower standards of work than boys). On the other hand, many girls felt that male teachers were more supportive than female teachers.
The study categorized the reasons given for dropping out between out-of-school factors and in-school factors. Classified as out-of-school factors were reasons related to cultural-historical conditions, geographic factors, attitudes of parents, disillusion with schooling, family labor requirements, marriage, and tribal fighting. In-school factors included age of entry, supply of teaching materials, school fees, sexual liaison/harassment, and quality of the learning environment. It found that in-school factors were no less important than out-of-school factors, since 49% of the male and 44% of the female dropouts declared in-school factors as their reasons for leaving the school.
INDEX OF STUDIES ACCORDING TO GENDER AND COUNTRY

**Gender Reference**

<table>
<thead>
<tr>
<th>Extensive</th>
<th>Moderate</th>
<th>Marginal</th>
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**Country Reference**

<table>
<thead>
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<th>Country</th>
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<td>Argentina</td>
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