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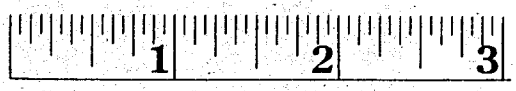

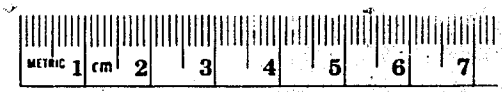

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INFLUENCES ON ACADEMIC ACHIEVEMENT IN UGANDA
A 'COLEMAN REPORT' FROM A NON-INDUSTRIAL SOCIETY

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THE FACULTY OF THE DIVISION OF SOCIAL SCIENCES

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BY

STEPHEN P. HEYNEMAN

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cultural information but who somehow easily filled the divergent roles of scientific colleagues and intimate friends. Lastly however, I would like to take note of the sincere gratitude that I feel toward my friend Jack Maas who, as advisor and colleague singly did more than anyone else to insure the safety of this study through very troubled times.

But this dissertation would not have been possible without feeling the effects of my father's strong sense of determination and my mother's sincere form of consolation in the face of adversity. This work is dedicated to my two parents who passed to me a gift of their self-esteem--a sense so important an influence on academic achievement.

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Each child is like all other children.

Each child is like some other children.

Each child is like no other child.

In the following pages, I will be discussing the first two.

PROLOGUE

The Primary Leaving Examination: The Focus of the Study

Every year, during the first week of December, more than one hundred thousand Ugandan Grade Seven school children go to their usual school and sit down to an examination which will take them two hours to complete. Sealed in red wax with a crested crane insignia, the size 1" x 14" test envelopes have been personally delivered from the District Education Office with a hired vehicle that same morning. In rural areas the envelopes may be dropped off at two or three schools by a headman who may still be weraing a pith helmet issued originally by Her Majesty's Government. In urban areas the envelopes could be delivered by Vespa or by taxi. Those who deliver them have received a favor from the District Education Officer; they are paid a minimum of three-fourths of a shilling per mile for their travel on tarmac and 1.5 shillings per mile for dirt roads.

In 2,615 classroom test centers the envelopes are ceremonially opened simultaneously at eight A.M. by a headmaster from another school. In the classroom the children sit silently. They exchange no sideward glances. They will finger their newly-issued thick lead pencils and listen as the instructions are read by an "elder," a man selected by the District Education Officer from a parent's committee representing the nearest three primary schools.

No teacher or headmaster is allowed near his own pupils during the time of the test. Other classes may proceed, but on this day they will be very quiet. They will be given work to do by themselves while their teachers gather in the shade and nervously wait out the morning.

Test instructions are read aloud in English, but though English comprehension varies considerably, no child is confused as to what to do. Each has been preparing for this day for at least a year. The instructions have been read by their own teachers on other occasions, and mock examinations, identical in format, have been administered by their districts only six weeks previously. An average of thirteen percent of the children even admit to having taken the examination before.

After the instructions are read, the examination booklets and computerized answer sheets are distributed. On the first day the exam might be mathematics, but it isn't until the instructions are read that the children know it isn't English Language or the General Paper (a mix of science, history, geography, and civics). The children have been prepared for any of the three. The seals on the booklets are broken and each pupil writes his name, his district, his school examination center number and his pupil identification number on both the booklet and the answer sheet. Plastic "red star" alarm clocks, purchased in bulk from Communist China during the Obote government, are synchronized with the official timekeeper's watch. The test begins.

Two hours later the booklets and answer sheets are collected by the visiting headmaster and local elder. They are placed in a

plain brown 16" x 20" envelope, the seal is licked, and the envelopes are given to the carrier who had delivered them that morning. The carrier then returns the envelopes to the District Education Officer and if he has travelled a long way, he will go to bed early. On the second day he must appear at the District Education Officer's office at dawn in order to deliver the next exam to the same schools by 7:30A.M. ; on the third day he will distribute and collect the last exam in the same way.

At times courier vehicles have been stuck or have broken down. On occasion, tests have arrived late. There have been complaints of wrongdoing, but they have generally centered around minor infractions. In the 1971 report to the Minister of Education, the Assistant Examination Secretary stated that the Ministry had received

> . . . reports of assistance allegedly being given to individuals. But in many cases these letters were not signed. In cases where a report sounded genuine, the case was passed on to the District Education Officer for investigation. Reports were received from East Buganda and Busoga [districts], but none seemed to have much evidence to incriminate the accused.[1]

There were two reports of a secondary school pupil sitting for the examination of a primary school pupil. These two cases were handled by the police and the local District Education Officer. On the other hand, there were, according to the Examination Secretary, "no reports of any leakages,"[2]--quite an accomplishment in that the examination is written, distributed, administered, and graded within the country

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[1] Assistant Examination Secretary, Report to the Minister of Education (Kampala: Ministry of Education, 1971), p. 3-4.

[2] Ibid.

by individuals often with direct involvements with someone sitting for the examination. Given the very considerable difficulty in terrain and communications, I was impressed by the standard of efficiency with which the examination was administered.

The three days of examinations are permeated with feelings of tension analogous to those anxieties which attended the circumcision ceremonies of long ago. These three days are perhaps the most important in a pupil's life, and no effort to alter the curriculum into non-academic directions[1] will change the pupil's immediate goal to gain admission to senior secondary school.

Unlike examinations in Western Europe or the United Kingdom, the purpose of Uganda's Primary Leaving Examination is not to select children into different types of secondary institutional tracks as much as it is to decide which few children will be able to undergo any post-primary schooling at all. The examination is a serious occasion because the children have only one chance[2] to prove that they have learned enough to continue school. Only 15 percent will find a chance of entering a classroom again; 85 percent must discontinue their schooling (Table 1).

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[1] Stephen P. Heyneman, The Conflict Over What Is To Be Learned In School: A History of Curriculum Politics in Africa (Syracuse: Maxwell School of Citizenship and Public Affairs, Syracuse University, 1971).

[2] A headmaster could request permission from the District Education Officer to allow a child to repeat the examination if three conditions were met: (1) if the exam was taken first in 1972, (2) if the child could prove himself to be under 14 years old, and (3) if the total score was more than 180 [165 for girls]. Y.Y. Okot, Senior Examination Secretary, Ministry of Education, Circular A: 283, January 12, 1972. All other attempts to repeat were considered illegal.

TABLE 1

PERCENTAGE OF PRIMARY LEAVING EXAMINATION CANDIDATES FINDING PLACES IN POST-PRIMARY EDUCATIONAL INSTITUTIONS IN 1973[a]

Private Senior Secondary Schools (N)	Government Senior Secondary Schools (N)	Grade II Teacher Training Colleges (N)	Rural Training Institutes (N)
3.3(3,500)[b]	9.8(10,550)	.9(1,000)	.6(550)

[a]SOURCE: "Report of the Minister Rugumayo to the Annual Selection Conference of Headmasters and Headmistresses," Uganda Argus, Wednesday, January 3, 1973, p. 6.

[b]SOURCE: Estimate of W.T.S. Gould, Planning the Location of Schools: Case Studies, Ankole District, Uganda (Paris: United Nations Educational, Scientific, and Cultural Organization Case Studies, International Institute for Educational Planning, 1973), p. 20.

There is no choice but to eliminate 85 percent of the Primary School Leaving Examination candidates. Like the rest of Black Africa, Uganda does not expect to see a substantial increase in the percentage of its 13 year old cohort in secondary level institutions given its present rate of economic growth.[1] She is a poor country relative to the rest of the world, and there is no indication that her relative economic position will change radically in the future. Uganda simply does not have funds to provide for a major increase of the proportion of its age cohort in secondary level institutions.

Because there are places for only 15 percent of the grade seven class and only 5 percent of the total age cohort, some universal, standardized means of evaluation appears to be an absolute necessity.

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[1]C. Arnold Anderson and Philip J. Foster, "The Outlook for Education in Middle Africa," in Africa in the Seventies and Eighties: Issues in Development, ed. Frederick S. Arkhurst (New York: Praegar Publishers, 1970), pp. 304-340.

Teacher and headmaster evaluations are prone toward personal bias; and intra-school, non-standardized evaluation measures would likely lead to very complex political difficulties. Any "personal" evaluation of more than 100,000 children at a time is simply not feasible. Though the Primary Leaving Examination's success in predicting future academic achievement on the later Cambridge School Certificate Examination has been seriously called into question,[1] the nation has had, and will have to maintain some form of standardized examination which is inexpensive and comparatively easy to administer for the purpose of selection.

Beginning with the assumption that an entrance examination is necessary in terms of social constraints, I set out to investigate achievement in the Primary Leaving Examination of 1972. In this effort I kept two fundamental questions in mind: First, why do some children out-perform others? And second, do the explanations for superior academic performance in Uganda parallel the findings of research on achievement in industrial countries?

The Sample

Five of Uganda's most diverse districts were selected for study: Toro, Bugisu, West Buganda, North and South Karamoja. Toro has an area of highly capitalized tea plantation agriculture. West Buganda, though blessed with cash crops of coffee, bananas and tobacco, contains no plantations on the scale of those in Toro. However, proximity to the capital has encouraged the development of

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[1] H.C.A. Somerset, Predicting Success in the School Certificate: A Ugandan Case Study (Nairobi: East African Publishing House, 1968).

poultry, dairy farming, retail trading, and manufacturing in West Buganda which is spreading only slowly to the more isolated Toro District.

Bugisu,[1] which hugs the sides of 10,000 foot Mt. Elgon, has an abundance of peasant coffee holdings. Consequently, much of the district contains communities as densely populated as the city of Kampala though distant from commercial concentrations. Schools are often located in areas connected only by foot paths, yet parents, through their cooperative unions, are often familiar with those world events which affect the price of their coffee.

To anyone familiar with East Africa, the reasons for wishing to include Karamoja are obvious. Karamoja has consistently been outside the mainstream of economic and social development in Uganda. Except for the two hundred yards of pavement which prevent sand from filling the few doorways of Moroto, both North and South Karamoja is dry grassland, populated mainly by pastoral nomads whom the government is currently attempting to make wear clothes. Though Karamoja is the poorest of Uganda's districts, what is less widely acknowledged is the fact that the pupils in its few schools consistently score among the highest in the nation on the Primary Leaving Examination.

In addition, the cities of Kampala, Jinja, and Mbale were selected so as to assure a degree of urban-rural comparison.

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[1] I will abide by the Bantu rules of prefix. Lu- or Ru- will indicate a language; Ba- a group or tribe; Mu- an individual (male or female); and Bu- a place. eg: Bugisu=the gisu district, Lugisu= the gisu language, Mugisu=a gisu individual, and Bagisu=the gisu tribe.

By choosing areas of isolated but economically developed, isolated but economically poor, urban, plantation and peasant agricultural areas, areas of heavy manufacturing and commerce, and areas of relative isolation from modern stimuli, I hoped to have located as wide a variety of environments as Uganda contained. Political and economic considerations prevented me from gathering a totally representative national sample. But because I chose my five districts and three urban areas to insure maximum variation, there is reason to believe that the summary will indicate some of the major socio-economic factors that are associated with variable Primary Leaving Examination performance in Uganda.

Within each of the districts a list of schools with a primary seven grade was obtained,[1] and a minimum of ten percent of these schools was randomly selected for study. The final sample represented an average of 10.7 percent of the schools, 13.1 percent of the grade seven children, and 12.9 percent of the teachers within the selected areas. Table 2 shows this and compares the sample with the total number of schools in Uganda.

Instruments

Two separate questionnaires and an interview were gradually developed in six pretest schools in and around Kampala. The latter's names and numbers were omitted from the school lists when the random selection was finally made. Arrangements were then made for visits to each of the sixty-seven schools. The headmasters were

[1] Schools which did not progress as far as P7 were, therefore, eliminated from the possibility of being included in the sample.

TABLE 2

NUMBER AND PERCENT OF SCHOOLS, CHILDREN AND TEACHERS IN THE SAMPLE DISTRICTS AND IN UGANDA[a]

District	Number of P7 Schools	Number of P7 Pupils	Number of Teachers	Percent of P7 Schools In Sample	Percent of P7 Pupils In Sample[b]	Percent of Teachers In Sample
Toro	126	4,475	775	11.9	14.4	18.4
Bugisu	153	6,816	862	10.0	9.1	16.1
West Buganda	197	4,330	1,937	10.2	19.7	9.6
N. Karamoja	13	603	347	15.4	16.2	10.4
S. Katamoja	19	943	c	10.6	8.0	c
Kampala	81	4,852	411	10.0	8.9	21.1
Jinja	12	852	160	16.6	14.4	13.5
Mbale	14	755	151	21.3	d	d
Sample	615	23,624	4,643	10.7	12.6	12.9
Uganda Total	12,615	108,096	20,004	2.6	2.8	3.0

[a]Calculated from: Ministry of Education, Education Statistics (Entebbe: Uganda Government Printer, 1968), Table 17.

[b]The percent of those in the sample who sat for the Primary Leaving Examination eight months after the administration of the sample questionnaires is approximately one quarter less.

[c]The above figure includes both North and South Karamoja.

[d]The above figure includes both Mbale/Tororo and Jinja Townships.

notified of my intended visit and were informed of government clearance and the sponsorship of the Uganda National Institute of Education. In addition, they were assured of my independence from the Ministry of Education; confidentiality was mentioned specifically.[1]

I administered a variety of instruments in an effort to include as wide a range of variables as possible in my investigation of correlates of academic achievement. First, a questionnaire was distributed to all teacher and headmasters who were present at each school on the date of the visit. I requested information on the parental educational and occupational background of teachers, their personal schooling, professional training, teaching experience, and English language exposure and ability.[2]

Second, I administered a questionnaire to all pupils in grade seven (the last year of primary school) who were to sit for the selection examination that year. Data were gathered concerning paternal and maternal education, paternal occupation, self-reported state of health, the number of modern possessions in their homes, and their sense of self-concept--measured by their responses to a five point attitudinal scale.[3]

Third, the Raven's Progressive Matrices examination (coloured, book version, Sets A, Ab, and B) was administered to each of the P7 pupils.

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[1] See Appendix A.

[2] See Appendix B.

[3] See Appendix C.

Fourth, an interview was structured with each school's headmaster, eliciting information on the amount of supplies of texts available, furniture, equipment, and a number of other physical facilities.

Fifth, via the Ministry of Education's records in Kampala, I collected each school's mean score on the Primary Leaving Examination in 1971, the year previous to the survey.

Sixth, from the District Government's administrative headquarters in each of the sample districts, economic and geographic information was gathered on each school's gombolola.[1] Measurements were taken of both the level and the distribution of percapita income, population density, and the proximity to a paved road for each of the schools which fell into the sample.

Seventh, and most important, the scores of each P7 pupil in the sample who sat for the Primary Leaving Examination eight months after my school visit were obtained on all three academic sections: Mathematics, English Language, and General Knowledge (history, geography, and general science).[2]

Eighth, and lastly, from each child's application to sit for the Primary Leaving Examination the headmaster's assessment of his ability in academic work, in sport, and in personal conduct was extracted.

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[1] Uganda is divided into regions, districts, counties, gombololas, and sub-parishes.

[2] Of the 3,119 pupils who entered the sample, final achievement scores were obtained on 2,293. The difference is due to three factors: the failure of some P7 pupils to pay the Primary Leaving Examination fees, the exodus of Asians and some Africans from Uganda in the Fall of 1972, and administrative confusion in the Ministry of Education which caused the omission of individual scores from two of the sample schools.

Conceivably, there could be numerous influences upon performance on a particular test administered under particular circumstances at a given point in time. But as an initial conceptual framework, I drew upon James S. Coleman et al.'s Equality of Educational Opportunity Report.[1] The report (hereafter referred to as the EEOR) divides phenomena influencing achievement into intuitively distinct areas of data: (1) regional environmental characteristics (rural/urban, Northeastern, South-western, etc.), (2) school personnel characteristics (training, attitudes, socio-economic status, etc.), (3) school physical facilities (chalk, libraries, books), and (4) pupil characteristics.[2]

From the eight instruments mentioned above, I organized my data into these same four diverse areas, and proceeded initially with an analysis while keeping them distinct. The first purpose was to evaluate the influence of individual variables within each of these data areas upon the one dependent variable--academic achievement. The second purpose, developed in the final chapter, was to explore the amount of variance explained by a regression of the correlating variables from the four previous sections. Comprising different methodologies, both purposes seek simple answers to two simple questions:

a) Why do some children out-perform others?

b) Are the results parallel to other research findings in industrial societies?

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[1] James S. Coleman and others, The Equality of Educational Opportunity (Washington D.C.: United States Department of Health, Education, and Welfare, 1966).

[2] A fifth area of data, labelled "Programs," which included the presence of remedial reading teachers, librarians, occupational advisors, psychologists, etc. was inapplicable to Uganda.

However, I wish to subscribe to the quotation from Alfred North Whitehead contained in James Davis' book[1] on survey analysis:

> Seek Simplicity and Distrust It.
> --Concept of Nature.

The following effort is an attempt to abide by this difficult demand.

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[1] James A. Davis, Elementary Survey Analysis (Englewood Cliffs, New Jersey: Prentice-Hall Publishers, 1971), p. vi.

CHAPTER I

RELATIONSHIPS BETWEEN COMMUNITY ECONOMIC DEVELOPMENT AND SCHOOL ACHIEVEMENT

As in other societies under colonial rule, the early diffusion of primary schools in Uganda went hand in hand with missionary activity. In 1968, for example, two thirds (152) of the 212 primary schools in West Buganda and three-fourths (118) of the 139 primary schools in Bugisu had been founded by Christian missions, as had been 85 percent of the total 2,671 primary schools in the nation.[1]

Christian mission schools were not distributed randomly. Since the costs of construction, equipment, and teacher salaries were covered by local contributions and fees, mission schools tended to be located in areas of higher economic productivity. "Mission activity," notes W.T.S. Gould, "was not solely concerned with education, and did spread to remote areas, but this does not necessarily imply that mission schools spread to the same extent. The distribution of these schools was more strongly influenced by economic conditions."[2]

The non-mission schools spread in similar fashion. Government schools, founded by municipal authorities, and private enterprise schools were established in areas of more intense economic activity.

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[1] Ministry of Education, Educational Statistics--1968 (Entebbe: Uganda Government Printer, 1969), Table 1.

[2] W.T.S. Gould, "Patterns of Lower School Enrolment in Uganda," East African Geographical Review 10 (April, 1972): 70.

Only in Karamoja District, where the central government sought to induce social change by implanting boarding establishments, were schools situated in areas away from educational 'demand.'

The reasons for the geographical imbalance of primary education have been well documented.[1] In Uganda, schools tended to be situated in locales where the demand for education was matched by the means to cover the capital and personnel costs of opening and maintaining a school.[2] Urban areas, trading centers, concentrations of populations along highways and areas of early cash cropping were the first places capable of supporting primary schools.[3] Eventually, these were the areas that could comfortably afford to send a high percentage of their youth to school.

The effect of a community on a school has long been of interest to Americans.[4] Mort and Cornell, for example, proposed that a positive correlation would exist between the size of a district's

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[1] C. Arnold Anderson, "Patterns of Variability in the Distribution and Diffusion of Schooling," Education and Economic Development, ed. by C. Arnold Anderson and Mary Jean Bowman (Chicago: Aldine Publishing Company, 1966), pp. 314-345; W.T.S. Gould, "Geography and Educational Opportunity in Tropical Africa," Tijdschrift Voor economische en sociale geografie 62 (1970): 82-89.

[2] Gould, "Patterns of Lower School Enrolment in Uganda," p. 70.

[3] One exception to this tendency was in Malawi where missionaries committed themselves to an area divorced from commerce, industry, transportation, and government administration. The effect of that has been noted as perhaps unique on later political and sociological patterns of development. Stephen P. Heyneman, "The Formal School as a Traditional Institution in an Underdeveloped Society: The Case of Northern Malawi," Paedagogica Historica 2 (November, 1972): 460-472.

[4] Austin D. Swanson, "Relations Between Community Size and School Quality," Research Bulletin (Institute of Administrative Research) 2 (October, 1961).

population and their measure of school quality.[1] Areas of population concentration have been seen as areas of innovation and foci of diffusion. As Donald Ross suggests, ". . . New York City, with 40,000 teachers, ought to be 40,000 times more likely to be the first introducer of a practice than Xville, with a one teacher school."[2] T.M. Pierce has also observed a positive interaction between population density and school quality.[3] On the other hand, some have suggested that it is neither the size nor the density of the population which is as important as the quality of the inhabitants. "It is not the average level of the community of persons ranking high in social intelligence and responsibility."[4]

I have tried to consider each of these characteristics by noting whether the sample schools were located in rural or urban areas, by noting the population density of the schools' gombolola,[5] and by measuring the economic wealth of the gombolola by totaling its tax returns for the year 1971.

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[1]Paul R. Mort and Francis G. Cornell, American Schools in Transition (New York: Teachers College, Columbia University, Bureau of Publications, 1941).

[2]Donald H. Ross, ed., Administration for Adaptability (New York: Metropolitan School Study Council, Teachers College, Columbia University, 1954), pp. 83-84.

[3]Truman M. Pierce, Controllable Community Characteristics Related to the Quality of Education (New York: Bureau of Publications, Teachers College, Columbia University, 1947), pp. 54-55.

[4]Mort and Cornell, American Schools in Transition, p. 37.

[5]Uganda is divided into regions, districts, counties, gombololas, and sub-parishes. The gombolola, analagous to the American sub-county, is the smallest unit on which records of population density and tax collection are kept.

Because schools were selected at random, they were situated in a wide variety of environments. Aggrey Memorial, for example, was located in a Kampala slum near open sewers and tar-paper roofs where the sound of construction equipment could drown out a mathematics lesson. Bumasifwa Primary School, on the other hand, had shutterless windows which overlooked the top of Mt. Elgon. No one had contemplated building a road to the school whose floor cement and tin roof had been transported one Sunday afternoon on the heads of barefoot parents from a roadhead several miles down the valley.

It was anticipated that children in schools located in areas of greater economic activity would show superior achievement scores on the Primary Leaving Examination. Children who attended schools in proximity to government office buildings or to concentrations of foreigners and of retail trade presumably would have an advantage in an exam involving exposure to civics, history, English, and Mathematics. Gould also suggests this when he mentions that in modern areas

> . . . children will be more highly motivated to learn and have a more stimulating environment at home and about them, with the result that a child is likely to do better . . .[1]

The schools in the sample were categorized as urban, semi-urban, and rural. The "urban" were those schools located within a town of 10,000 people and included one school in Jinja, three in Mbale/Tororo, and eight in Kampala.[2] The "semi-urban" were schools situated within

[1] Gould, "Patterns of Lower School Enrolment in Uganda," p. 71.

[2] One school in Jinja is omitted because it was a reform school for boys, administered by the Ministry of the Interior with its own special budget and source of supplies. The student/inmates were sent from all over the country, and were not in any way influenced by the nearby town which they could not visit.

a ten mile radius of a town of 10,000 (a bicycle-commuting distance); and included sixteen schools. The "rural" schools were those situated more than the ten mile radius from a town; thirty-nine schools fell into this category.

Children in urban schools might have been expected to score higher than those in semi-urban ones, and those in semi-urban higher than those in rural school on the Primary Leaving Examination. However, the opposite was the case. The mean achievement of rural schools (153.8)[1] was highest of the three categories; semi-urban were next (147.7); while urban schools averaged the lowest scores (139.1).

Presumably, one reason why average urban scores were lower is because most private primary schools are located in Kampala; fifty percent of the Kampala schools in the sample were privately owned and administered. Private schools had an average achievement score of 132.0 in contrast to about 151.0 for Catholic, Church of Uganda, and Muslim, and 149.2 for all sixty-seven schools (Table 3).

Private schools may have lower scores for two reasons. First, all except private schools receive 70 percent of their operating costs (teacher salaries) from the central government. Because private schools must finance their own teachers, they often cannot afford pay equal to government salaries, and lower salaries mean that private schools have to employ large numbers of "unlicensed" teachers: those who do not meet the minimum qualifications of the government

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[1]There are 100 possible points for each of the three examination sections. This mean school score represents the mean out of 300 possible points for the school as a whole.

national teaching service.[1] Also, because private schools have difficulty in raising sufficient funds to even pay their teachers, they spend little on text books or equipment. Urban private schools had an average of 2.1 books per grade seven child compared to 2.6 for Catholic, 4.8 for Church of Uganda, and 7.4 for municipal authority schools.

TABLE 3

MEAN ACHIEVEMENT OF PRIVATE AND GOVERNMENT-AFFILIATED PRIMARY SCHOOLS (N=67)

	1972 Mean Score
Government-Affiliated:	
Catholic	151.4
Muslim	151.3
Church of Uganda	150.6
Other	155.6
Non-Government-Affiliated (Private)	131.8
Sample Mean	149.2

Secondly, private schools seem to attract students with lower intellectual aptitude for on the average they score lower on the Raven's Progressive Matrices--a non-verbal test of perceptual ability (hereafter referred to as the RPM). Private schools in

[1] Primary school teachers are licensed in "grades" ranging from Grade I (primary school experience and no training) to Grade V (university graduates). There are, in addition, two additional categories: "Licensed" (insufficient training credits to be graded but sufficient schooling to be permitted to teach temporarily) and "unlicensed" (insufficient training and schooling to be permitted to teach even temporarily).

Kampala had a mean RPM score of 22.6,[1] urban non-private schools averaged 25.6; and rural private schools had a mean of 20.9, almost three points lower than the mean for rural schools affiliated with the government (Table 4).

TABLE 4

MEAN RAVENS' PROGRESSIVE MATRICES SCORES OF P7 PUPILS IN PRIVATE AND GOVERNMENT-AFFILIATED SCHOOLS IN URBAN AND RURAL AREAS[a]

(N=67)

Category of School	Mean RPM (Out of 33 possible)
Urban	
Government-Affiliated	25.6
Private	22.6
Rural	
Government-Affiliated	23.3
Private	20.9
Sample School Mean	23.3

[a]No private school in the sample was situated in a semi-urban area.

But the location of private schools is unsatisfactory as an explanation for lower urban achievement scores. Though the preponderance of private schools may indeed influence downward urban achievement scores, this does not explain why semi-urban schools (none of which were private) had lower average scores than rural schools. To explore why rural schools average higher scores I turn to four additional geographical variables.

[1]The Ravens' Progressive Matrices test consisted of versions A, Ab, and B. Each had twelve possible points. But since three were used as demonstrations, the score of 22.6 represents the mean of the remaining 33 points possible.

Population Density and Proximity to a Paved Road

The rationale for taking these two measures of economic development is not difficult to perceive. The density of a community's population is an indication of human inter-activity, of potentiality for communication. One would expect a greater possibility for diffusion of ideas, inventions, information and knowledge of the "outside world" in communities where more people were living closer to each other. Similarly, a school's proximity to the fast and efficient flow of goods and services in trade, newspapers, letters, travellers and other messengers might be expected to broaden the outlook of an otherwise isolated community. Because there are areas within Uganda where much knowledge still passes by word of mouth, the presence near to an all-weather, paved road should be particularly significant.

In 1962, the Atlas of Uganda[1] provided an estimate of population density in each gombolola, categorizing density into ten levels. Each gombolola in which sample schools were located was similarly coded ranging from 0 (signifying 0-24 people per square mile) to 9 (signifying a density of 1,000 or more people per square mile).

Though consistent with the finding that urban schools scored lower than rural schools, I was startled by finding an inverse correlation of -.305 [$p < .02$] between mean school achievement and the population density of a school's gombolola. Furthermore,

[1]Uganda Government, The Atlas of Uganda (Entebbe: Department of Lands and Surveys, 1962), [Map 60].

when a school's proximity to a paved road was compared with pupil achievement, additional preconceptions were shaken, for that relationship was also a negative -.292 [$p < .02$]. Assuming linearity, what this suggests for schools is that, despite the assumptions of greater communication and greater knowledge of the outside world, levels of achievement increased the further a school was situated from a paved road and the lower the local density of population.

Community Wealth

Two additional community measures, based on data from the local gombolola concerning "income tax" receipts were used. Each year every adult male out of school or every head of household is assessed for tax; the decision on how much tax an adult should pay is made by the gombolola headman. The headman, though often unschooled, should not be confused with a traditional ruler. He is a political appointee of the District Officer, but in addition, he is an official having considerable modern-administrative responsibility. Based upon the guidelines set at each district's capital [Appendix D], he must place each adult into one of seventeen tax categories ranging from 40 to 600 shillings per year [$4.80 to $72.00].[1]

[1]Because income records are seldom kept by individuals, the assessment procedure is a delicate and, at times, arbitrary operation. In the case of those adults with no regular salary (i.e.: 91 percent of the labor force), headmen assess taxability on the basis of the number of coffee or banana trees under cultivation, the number of livestock owned, or the acreage under subsistence crops. Each type of agricultural income source has a particular scale. Taxation decisions of salaried employees, who have regular income records, are more automatic. Even an employee

From each district's revenue office I obtained tax receipts for each gombolola that contained one of the sample schools. For the urban locales, gombolola tax receipts were unobtainable, and "community" revenue had to be defined in terms of taxes collected from the city at large. Cognizant of these limitations, however, I view these tax figures as adequate a measure of a cachment area as could be obtained.

These data were designed to measure two economic indicators: how wealthy a community was percapita, and the proportion of the community representing potential entrepreneurs. A gombolola's percapita wealth was computed by dividing the total revenue collected by the adult population assessed within the gombolola.[1]

The measure of potential entrepreneurs was obtained after it appeared that headmen lumped a substantial portion of inhabitants in one bracket of between 60 and 70 shillings per year. Within the

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who lives in a city and maintains a "home" in the rural area will be assessed for tax in the area of his "home." All males must possess a valid receipt for tax payment. Each headman is familiar with adults he must assess--even those who have left for a city, for a headman is native to his small gombolola. If he is unfair, he and his family may be ostracized; if he is corrupt he can, with proper pressure, be replaced. The reputation of a headman among his constituents is based upon his impartiality; with government, his reputation is based upon his efficiency of collection.

[1]This measure may be influenced by the efficiency of collection --reflecting in part, the quality of the headman. This was not possible to control, for figures on the percentage of taxpayers who did not pay were kept in some districts and not in others; nor were even these reliable. And despite the quality and energies of the headmen in some areas of Toro and Karamoja, some taxpayers were apt to "run away" to Zaire or to Kenya when payments were requested.

Toro gombololas, for example, out of 17 brackets ranging from 40 to 600 shillings per year, nine-tenths of the tax-payers were assessed in either the 60 or the 70 shilling bracket--which seemed to be the norm for "subsistence" farmers. Thus a particularly poor household might be assessed at less than 60 shillings per year; a particularly privileged household with an income from milk cows, or eggs, or tea on a regular basis would be assessed at over 70 shillings per year. Therefore, I use the percentage of taxpayers assessed at over 70 shillings per year as representing the proportion of adult males with better than subsistence status, and whose income therefore places them in a position as potential investors. The question is whether communities which had higher proportions of potential investors could therefore be more receptive to new information or new ideas--and would this receptivity in some way be associated with the academic achievement of the local school?

The differences of these two economic measures among different locales were substantial (Table 5), and when I hypothesized that these variables would show some relationship with school achievement, I was not disappointed.

Like population density and the proximity to a paved road, both the wealth percapita measure and the proportion of inhabitants paying over 70 shillings per year were negatively correlated with mean school achievement. The proportion figure is stronger at $-.436$ [$p < .001$] than the percapita figure which showed a coefficient of $-.292$ [$p < .02$].

TABLE 5

THE WEALTH OF SCHOOL COMMUNITIES IN RURAL, SEMI-URBAN, AND URBAN AREAS

(N=67)

	Percentage of Taxpayers Paying Over 70 Shillings	Percapita Assessment Shillings/Year
Rural Schools	33.6	8.7
Semi-Urban Schools	36.4	11.9
Urban Schools	92.2	55.9
Sample Mean	45.9	18.9

There is something both surprising and consistent in the above correlations. Though C. Arnold Anderson reports weak negative or no associations between national wealth and mathematics achievement,[1] I did not expect to find strong and statistically significant negative correlations. But I find that rural schools, especially those situated in low density areas, tended to score better than schools in high population dense areas. Schools further away from paved roads tended to score better than those near good roads. Lastly, schools in gombololas with low income per capita and low percentage of wealthy taxpayers tended to score higher, precisely the opposite of what I had expected. Why is it that schools in isolated, unpopulated, economically-impoverished areas tended to score better than those schools in urban, wealthy, and heavily-populated areas near paved roads?

[1] C. Arnold Anderson, "The Reflection of Societal Characteristics Within the School," in Toward a Cross-National Model of Educational Achievement in a National Economy: The Report of the Lake Mohonk Conference, ed., Donald E. Super (Stockholm: Almquist and Wiksell Publishers, forthcoming).

Karamoja District: Typical Characteristics Of the Most Isolated of Schools

To illuminate the foregoing relationships further one could separate the most isolated of the schools and look at them independently of the others. The most isolated schools were situated in Karamoja District. Kotido and Kiru schools, for example, lay 220 miles from the nearest paved road; Kalas was 105 and Namalu 50 miles from such roads; the average distance was 19.2 miles for the total sample. These four schools were also situated in the most impoverished and the most sparsely populated districts (Table 6).

TABLE 6

COMMUNITY CHARACTERISTICS OF SCHOOLS IN KARAMOJA AND OTHER SAMPLE DISTRICTS (1971)

District	Percentage Paying Over 70 Shillings	Percapita Assessment In Shillings	Mean Distance From a Paved Road	Population Density Per Square Mile
North Karamoja	20.4	5.5	147.0	125
South Karamoja	23.7	4.0	77.0	33
Toro	10.8	12.5	27.3	160
West Buganda	51.0	10.2	7.8	280
Bugisu	43.3	7.7	8.8	700
Mbale/Jinja	90.6	59.4	0.0	over 1,000
Kampala	90.9	54.4	0.0	over 1,000
Sample Mean	45.9	18.9	19.2	310

The assessed percapita income of the four sample gombololas averaged 5.5 shillings in North Karamoja and only 4.0 shillings in South Karamoja--half the figure found in Toro District and well below the sample mean of 18.9 shillings. The two gombololas in North

Karamoja averaged only 20.4 percent above the subsistence-tax category while the two in South Karamoja averaged 23.7 percent; approximately half the percentage for the sample gombololas in West Buganda District (51 percent) and considerably less than the overall mean of 45.9 percent.

These four Karamojan school gombololas were also the most sparsely populated of the sample districts. The means of 125 and 33 people per square mile for North and South Karamoja contrast with 280 for West Buganda, 700 for Bugisu, and the total sample mean of 310.

The less developed Karamojan Districts are populated largely by shifting pastoralists whose livelihood depends upon keeping their cattle watered throughout the long dry seasons.[1] Small boys who herd cattle have work considered so vital that the Karamojong, the tribe from whom the districts draw their name,[2] at times have resisted sending their children to school. The government has helped to spread primary education widely in the 1960's by financing a number of tin-walled boarding facilities and having some children stay in school while the family and the family's cattle migrated

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[1] See for example: Philip H. Gulliver, "The Population of Karamoja," Uganda Journal 17 (September, 1953): 179-85; and P.H. Gulliver, "The Karamoja Cluster," Africa 22 (January, 1952): 1-21; J.C.D. Lawrence, "The Karamojong Cluster: A Note," Africa 23 (July, 1953): 244-49; V.R. Dyson-Hudson, "Factors Inhibiting Change in an African Pastoral Society: The Karamojong of North East Uganda," Transactions of the New York Academy of Sciences (Series 2) 24 (May, 1962): 771-801.

[2] Karamojong refers to the people of the Karamojong tribe; Karamojan refers to the people of the two Karamojan Districts which are made up of many tribes.

toward other sources of water. A few pupils had lived in these boarding schools as long as seven years without seeing their parents. Clearly these Karamojan Districts contain the most extreme examples of isolated schools in the most economically impoverished communities in the sample and perhaps in Uganda. By examining these most isolated schools perhaps some light can be shed on why the children in them had average Primary Leaving Examination scores over a third of a standard deviation (167.6) above the sample mean (151.3).

Examination of these isolated schools suggests that academic achievement is consistently negatively correlated with community development for three reasons: (1) the age of the Primary Leaving Examination candidates, (2) the prevalence of examination repetition, and perhaps most importantly, (3) the spatial distribution of primary schools determining the selectivity of the primary school entrants.

Maturity

Children in isolated, sparsely-populated, underdeveloped areas start school later and if they leave school, they return after staying away longer. For example, the isolated Karamojong children in P7 are older, on the average, than the children of other ethnic groups. Though only eight percent of the total sample fell between the age of 16 and 19 (ideally, all P7 pupils should have been 13 years old), 20 percent of the Karamojong pupils were in that age group. This is twice the proportion for the second ranked tribe --the Bagisu with 10 percent, and substantially higher than the eight percent of the Batoro and the five percent of the Baganda children in that same age category.

Exam Repeating

The frequency with which pupils repeat the Primary Leaving Examination is two or three times higher in the most isolated schools than in any other--except those in urban areas. Since repeating is permitted only under special circumstances,[1] the children in the sample were assured of absolute confidentiality when asked to indicate if they had repeated the P7 examination. A fifth of the pupils in North Karamoja and fully two-fifths of those in South Karamoja responded affirmatively compared to 5.4 percent of the pupils in Toro, 7.5 percent in Bugisu, and the relatively high 16.0 and 20.3 percent in the urban areas of Mbale/Jinja and Kampala. It would not be surprising to find children in areas of high exam repetition more familiar with both the examination format and with recurring question styles.

Those who repeat the examination are also older, and repeating the examination once does indeed affect scores. Those 295 individuals who admitted having repeated[2] scored ten points (.25 of a standard deviation) above those who claimed not to have repeated. Thus repeating the examination once must certainly aid those areas where it is most prevalent. But there are serious problems with settling upon examination repeating or older candidates as the principle explainators to the success of rural schools in poverty communities.

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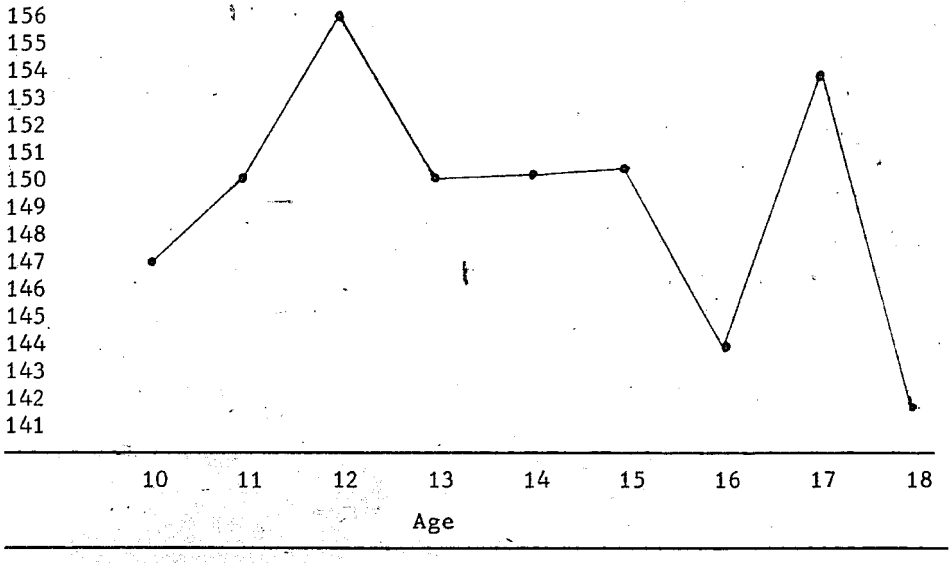
[1]Okot, Circular A: 283, January 12, 1972.

[2]Because of the respondents' fear of exposure, those who admitted having repeated the examination were taking a risk. Therefore, there is little doubt that affirmative responses to the question: "Have you repeated the PLE?" were reliable ones; negative responses were likely to be less reliable.

First, though the mean for 12 year olds (156) was higher than that of 11 year olds (150) and 10 year olds (147), the relationship between age and mean examination performance is hardly linear (Table 7). Thirteen and 14 and 15 year olds' scores were not significantly different (150.1 and 150.6), and though the mean for 17 year olds was significantly higher (154), those of 16 and 18 year olds were the lowest of all age groups (144 and 142).

TABLE 7

MEAN ACHIEVEMENT SCORES AT DIFFERENT AGE LEVELS



Second, repeating more than once is not an indication of additional success--those admitting to repeating the exam twice or three times scored identically with those who never repeated at all. In addition, if repeating, even once, were the principle reason for

the success of isolated schools, why did the city of Kampala (whose rate of repetition is on a par with North Karamoja) score lower than all other sample districts?

Spatial Distribution of Schools: The First Selection Process

The fact that primary schools are unequally distributed has been of some interest to recent investigators concerned with equality of opportunity.[1] School distribution is linked with the present argument on achievement in two ways: first, it can be assumed that the opportunities for schooling are less in the lesser-developed, economically isolated communities. Second, in those communities where opportunities for schooling are scarce, the kind of children who do enter and who do remain in school are unique in some way or another compared with their general age cohort. Put in another way, in areas with less opportunity for schooling, those who can be found in P7 will be less representative of their age cohort than are those found in P7 in areas where school attendance is more universal. Is it possible that this original selectivity has some effect upon mean achievement?[2]

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[1] W.T.S. Gould, Planning the Location of Schools: Case Studies, Ankole District, Uganda (Paris: United Nations Education, Scientific, and Cultural Organization, International Institute for Educational Planning, 1973); C. Arnold Anderson, "Patterns and Variability in the Distribution and Diffusion of Schooling,"; Margorie Jane Mbilinyi, "The Decision to Educate in Rural Tanzania" (unpublished Ph.D. dissertation, University of Dar Es Salaam, 1972).

[2] Foster and Clignet first mention this possibility when they discovered that the demographic modernity indices of Malinke children in Ivory Coast schools were significantly higher than both their ethnic groups as a whole, and the more urbanized Agni group whose children

To explore the hypothesis that the differentiation of primary school opportunity influences academic achievement, I correlated achievement with two estimates of the percentage of a community in school.

County Selectivity

From two government sources[1] the percentage of the age 5 to 14 year old cohort in school was calculated for each sample school's county in West Buganda, Toro, and Karamoja, and the district for each sample school in Bugisu,[2] Kampala, Jinja, and Mbale. The result is that there is a marked tendency for mean academic achievement to decline in those areas where the percentage of the general age cohort attending school is higher. For example, the correlation between the percentage of children in the local community attending school, and school achievement is -.251[$p < .05$].

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had more universal access to school. They said that "this would imply different selectivity ratios within these two ethnic groups and might suggest that among the more backward Malinke the first individuals to enter secondary school are likely to be drawn from very small and atypical segments of the group." Philip Foster and Remi Clignet, The Fortunate Few: A Study of Secondary Schools and Students in the Ivory Coast (Evanston: Northwestern University Press, 1966), p. 68.

[1]Ministry of Education, "Enrolment in Primary Schools by District and County and Sex--1968," in Education Statistics--1968, Table 6; Republic of Uganda, Report on the 1969 Census: The Population of Administrative Areas, Volume I (Entebbe: Ministry of Planning and Statistics, November, 1971).

[2]County by county cohort rates in school could not be assessed for Bugisu because county names and boundaries had been altered between the publication of Education Statistics--1968 and the population census of 1969.

Ethnic Selectivity

In a study on the social characteristics of Ugandan secondary school students, Janice Currie found that certain ethnic groups were over or underrepresented in secondary schools.[1] Because representation in school is a function of schooling opportunity in a group's geographical area, I took her selectivity ratios as proxy measures of the opportunities for schooling available for five of her sampled ethnic groups who are native to the districts in my own survey (Table 8).[2]

TABLE 8

SELECTIVITY RATIOS AND MEAN ACHIEVEMENT FOR REPRESENTATIVE ETHNIC GROUPS

Ethnic Group	Selectivity Ratio[a]	Mean Achievement
Batoro	1.5	157.9
Baganda	1.5	146.1
Bagisu	.9	146.7
Bakonjo	.3	167.7
Karamojong	.5	172.9

[a]Calculated from: Janice Currie, "Social Characteristics of Secondary School Students in Academic Secondary Schools," University of Chicago, Comparative Education Center, 1973 (mimeographed).

[1]Janice Currie, "Social Characteristics of Secondary School Students in Academic Secondary Schools," University of Chicago, Comparative Education Center, 1973 (mimeographed).

[2]Geographical distribution of schools of course is not the only variable which could account for an ethnic group's representation in school. Furthermore, these ratios are calculated from Currie's estimates of a group's representation in senior secondary schools. Nevertheless, in the absence of data on the exact cachment area surrounding each primary school, these data do serve the purpose of strengthening an achievement hypothesis.

The tendency is not uniform. The Batoro, having the same selectivity ratio as the Baganda, average more than ten points higher in mean achievement. Nevertheless, there is a tendency for the two poorly-represented groups (the Bakonjo and the Karamojong) to have markedly higher levels of average achievement scores. Thus, when ethnic group secondary school selectivity ratios are correlated with academic achievement, the coefficient of $-.184[p < .001]$[1] indicates a significant negative relationship. Therefore, what seems likely is that in areas lacking in opportunities for schooling, the special characteristics of those who go to school distinguishes them from pupils in areas where opportunity is more universal.

Selectivity and 'Intelligence'

Schooling is not free anywhere in Uganda and many parents have to carefully select which of their children can attend.[2] A subsequent dropout, or an exam failure results in a serious loss of investment. In areas of more extreme poverty, where schooling opportunities are fewer, the investment decision is all the more acute.

In addition to illegally encouraging the older pupil and the examination repeater, parents in more isolated areas may consciously choose their children for school attendance according to their perception of the most 'intelligent'--therefore the wisest investment. Perhaps this investment choice is the reason why the

[1] Each ethnic group weighed equally according to sample size.

[2] Mbilinyi, "The Decision to Educate in Rural Tanzania."

children of the two most ethnically remote, economically-impoverished groups outperform all others on the Raven's Progressive Matrices test (RPM) regardless of the latter groups' superior levels of economic wealth, literacy, and exposure to 'modern' influences. The Karamojong and the Pokot had mean RPM scores of 27.2 versus the Baganda's 23.3, the Bagisu's 23.6 and the Batoro's 22.1.[1]

Also, because a school's mean score on the RPM has a negative (but nonsignificant) correlation of -.198 with the proportion of tax payers paying over subsistence incomes, it seems likely that in the less wealthy areas, there is a tendency for the more 'intelligent' to be granted an opportunity first.

If access to school was a question of pre-selectivity on the grounds of test performance (as would be the percentage of the population with access to German gymnasium or English grammar schools), it would be helpful to compare the top-scoring equivalent percentage of the population from other areas having wider access to the sample's schools. For example, if selectivity of the 5.6 percent of the age group who have access to primary schools in the Karamoja Districts were solely a function of test performance, it might be fair to compare the top-scoring 5.6 percent of the areas with more universal attendance. When this 'controlled comparison' is performed in West Buganda (Table 9) for example, and the top-scoring 5.6 percent (the lowest percentage in any district attending school) is taken as the West Buganda norm for purposes of comparison, the effect would be to

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[1] Controlled for age, and statistically significant at the .05 level.

jump the district's mean achievement score from 152.0 to 227.7, ranking it well above North Karamoja's 171.5. When similar comparisons are made with the top-scoring 5.6 percent in other sample districts, one can visualize the hypothetical effects which would accrue from having but a small, highly 'intelligent' portion of the population attending school and sitting for the examination.[1]

TABLE 9

MEAN SCHOOL SCORES BY DISTRICT: A COMPARISON OF AVERAGES BEFORE AND AFTER A 5.6 PERCENT SELECTION[a]

District	Sample Mean	Top-Scoring 5.6 Percent
Kampala	136.7	214.4
Bugisu	145.0	214.9
Mbale/Jinja	151.0	221.6
West Buganda	152.0	227.7
Toro	162.6	224.7
South Karamoja	164.6	-
North Karamoja	171.5	-

[a]The approximate percentage of the age cohort in Karamoja attending school.

Summary

Contrary to the belief that the level of economic development of school communities is positively associated with academic performance, the relations between the two sets of variables are negatively correlated in Uganda. High-scoring schools were situated in areas where I least expected them to be found. Focusing upon the most

[1]I am grateful to James Coleman for the suggestion of this illustration.

isolated schools in the sample, where educational opportunity is most scarce, highlights the negative relationships between the level of community economic development and pupil academic achievement.

Contrary to the common thesis that schools in isolated, impoverished communities are disadvantaged on examinations, pupils in these communities tended to be at an 'advantage' in that they tended to be older, more likely to have repeated, and more highly pre-selected. The fact that the two most isolated and impoverished ethnic groups tended to outperform those more materially advantaged on the RPM is a strong indication that the more 'intelligent' are apt to receive opportunity for schooling.

Although 'endurance' in school may also be primary in a parent's criteria for selecting a child to go to school, the fact is that, however selected for the P7 examination, this pre-selectivity creates a strong tendency for schools in the most isolated communities, away from paved roads, in areas of low population density, low per-capita income, and fewer incomes over the 'subsistence' level, to academically outperform schools in more economically developed areas.

CHAPTER II

RELATIONSHIPS BETWEEN TEACHER CHARACTERISTICS AND DIFFERENCES IN ACADEMIC ACHIEVEMENT BETWEEN SCHOOLS

Each year, disappointing Primary Leaving Examination results have given rise to efforts to blame school teachers. The national press frequently reports censures given by administration officials to teachers within their districts.[1] Typical are the comments made by the Assistant Inspector of Schools in Mubende District who is reported in the Uganda Argus as having

> . . . attacked teachers for having adopted a 'relaxed attitude' towards their work and at the same time hit at those teachers who regard teaching as a job they do simply to earn a living . . . He emphasized that teaching is a vocation and the best reward to a teacher is to see that a child a teacher taught holds a responsible position in the country. He concluded by urging teachers to double their efforts.[2]

Teachers are often obliged to carry the burden of inflated expectations as to what they can achieve. In addition to instilling academic knowledge, it is common to expect them to set personal examples of moral conduct, to transfer the current appropriate attitudes called for by government and religious agencies, and to demonstrate qualities of love and support for children. "Teaching,"

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[1] "Busoga Parents Concerned Over Examination Results: Officer Warns Lazy Teachers," Uganda Argus, May 17, 1972, p. 7; "Stern Warning To Irresponsible Teachers," The People, March 30, 1972, p. 4.

[2] "Buganda Region Teachers Blamed," Uganda Argus, March 21, 1972, p. 3.

says the principal of the National Teacher's College, Kyambogo, "is a special type of professional parenthood which calls for inexhaustible patience and special love for young people."[1]

Because of these varied expectations, teachers can be 'held responsible' for a gamut of outcomes. It is not surprising that when a problem like low PLE results is discussed, teachers can become popular scapegoats. Thus it is within this political context that I attempt, for the first time in Uganda, to measure precisely what empirical evidence exists linking the characteristics of teachers with the performance of children.

No one doubts that individual teachers play a significant role in influencing particular students. For example, few of us could reflect upon our own educational experiences without remembering a teacher of importance in the development of our personality. However, I am not primarily concerned with the effects of teachers on attitudes; this aspect of teacher impact is not at issue. What interests me is exploring the impact of teachers on cognitive achievement thereby examining the contentions of others who lay the blame on poor teacher training, or pay, or other characteristics, but without providing any statistical evidence to connect these characteristics with low scores.

Teachers and Academic Achievement

Studies in the last decade have made it necessary for educators to examine their assumption of the importance of teachers in

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[1] "Students Urged to Join Teaching," Uganda Argus, July 12, 1972, p. 5.

influencing achievement. There is presently a real issue as to the significance of measurable teacher characteristics in accounting for variance in pupil achievement, and it is important to note how little actual evidence there is for the impact of teachers on pupil achievement compared to other variables. The EEOR, for example, held that the influence of teachers was slight.[1] And in reporting the findings in another context, Mosteller and Moynihan mention that

> A list of variables concerning such matters as teacher's scores on a vocabulary test, their own level of education, their years of experience showed little relation to the achievement of white students, but some for Negroes and increasingly with higher grade levels. Even so, none of these effects was large; the difference between school variance was so little to begin with, dividing it up, parcelling it out between this factor and that, produced results unimpressive at best, and demoralizing at worst.[2]

Other studies lend support to a weak relationship between teacher characteristics and achievement,[3] but Rossi, in his review of the whole achievement literature, reports that

> Perhaps the strongest impression these researchers make is that the teacher's contribution to his students' achievement, in the short run, are minimal. Thus we find that indexes of teaching experience correlated with student achievement around +.2 at the maximum and are often zero or slightly negative. Similar small correlations are obtained with measures of the quality and the amount of teacher training. In sum, no clear pattern of findings emerges from the research on this topic. We may conclude that the teacher's contributions to his

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[1]Coleman et al., The Equality of Educational Opportunity.

[2]Frederick Mosteller and Daniel P. Moynihan, "A Path-Breaking Report: Further Studies of the Coleman Report," On Equality of Educational Opportunity, ed. by Frederick Mosteller and Daniel P. Moynihan (New York: Vintage Books, 1972), p. 20.

[3]George W. Mayeske, "Teacher Attributes and School Achievement," in Do Teachers Make a Difference: A Report on Recent Research on Pupil Achievement (Washington D.C.: United States Department of Health, Education and Welfare, 1970), pp. 100-120.

students' achievement do not arise directly out of his background, training, sex, or marital status.[1]

Though the results of teacher characteristics on pupil achievement in the United States and Western Europe are, at best, equivocal, I felt that the absence of television and other electronic stimulae might elevate teachers into having a more significant impact in a non-industrial society.

Some Descriptive Aspects of Ugandan Primary Teachers

Compared to teachers in the United States with geographical mobility and high rates of turnover, Ugandan teachers seem the more stable. Of the sample, the mean age was 32. Sixty-six percent were male; 67 percent had taught for more than five years; 40 percent for more than ten years. Thirty percent had even taught for more than five years within the same school.

The 'typical' teacher is very much a 'local boy' or girl 'who made good', one who knows the community with the intimacy of someone born nearby. In fact, nearly four out of ten were situated in a school within five miles of the village where they were born. Some teachers complained that teaching close to their birthplace caused them status problems, for it was difficult to take command of parents or to mobilize community leaders who had known them as little children. Nevertheless, of the profession itself, teachers had little complaint. In local terms, it was a very prestigious

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[1] Peter Rossi, "Social Factors in Academic Achievement: A Brief Review," in Education, Economy and Society, ed. by A. H. Halsey, Jean Floud and C. Arnold Anderson (New York: The Free Press, 1961), p. 270.

and well-paid occupation, the salaries of teachers having been raised several times after independence. Seventy-five percent said that they never wished to leave the teaching profession. When asked if they thought they received sufficient "respect" in being a professional teacher, 65 percent said "yes."

Because the teaching profession was the first large-scale occupation in the Ugandan 'modern sector', recruitment tends to closely reflect the social characteristics of the larger peasant society.[1] For example, ninety-three percent of the teachers' mothers and 56 percent of the teachers' fathers had never earned a salary at any time in their lifetimes. Eighty-one percent of the teachers' fathers were unskilled laborers or peasant farmers. Thus, there is a sizeable disparity between the schooling of the teachers' parents and the schooling of the teachers themselves (Table 10).

Thirty-five percent of the fathers had never attended any school. Eighty-three percent of the mothers and 67 percent of the fathers never finished primary school, therefore completing less schooling than their white collar offspring. It is not irrelevant to note that more than two-thirds of the teachers had risen in socio-economic status from that of their parents. Thus, teachers who entered the 1972 sample tended to be drawn not only from the locale surrounding the school where they were teaching, but from the very heart of the non-schooled peasant population.

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[1] The use of the term "peasant" follows upon a concept of peasantry in the economic sense. It does not imply peasantry in the feudal sense, a distinction rightly pointed out by Lloyd Fallers, "Are African Cultivators to be Called Peasants?" Current Anthropology, 2 (1961), pp. 108-110.

TABLE 10

PARENTAL EDUCATION OF PRIMARY SCHOOL TEACHERS: PERCENTAGE OF TEACHERS REPORTING THE EDUCATIONAL ATTAINMENT OF THEIR MOTHERS AND FATHERS

(N=598)

	Mothers	Fathers
No Schooling	55.0	35.5
Few Years Only	28.4	31.8
Finished Primary School	7.7	11.5
Primary School and Training	4.0	12.4
Attended Senior Secondary School	1.3	2.7
Finished Senior Secondary School	.7	1.2
Senior Secondary School and Training	.7	3.0
Attended University	0.0	.5
Non-Response	2.1	1.5

The Amount of Schooling and Teacher License Grade As Influences on School Achievement

Each school has seven grades, and unless it has double 'streams', seven teachers as well. Very few schools have a headmaster who is not expected to teach a class as well as administer. Teachers often exchange classes with each other--whenever one is sick, or when better English-speaking teachers concentrate on the youngest as well as the oldest. For example, though non-English speakers are relegated to 'infant' classes (grades 1-3), the headmaster often takes their English lessons.

Because pupils in these small and often isolated schools are exposed to all of a school's staff interchangeably, I decided to sum teacher characteristics (including the headmaster's) and not

single out the one teacher to whom the candidates were exposed in P7. By aggregating all staff characteristics by school, I made the assumption that a child's achievement, if influenced by my measures of a school's personnel at all, was likely to be influenced by those staff members as a unit.

As a general measure of teacher quality, I summed the total years of schooling for each teacher and calculated a school mean. This figure was then tested against mean level of pupil achievement between schools. The resulting correlation coefficient was actually a negative -.112, but statistically insignificant ($p < .381$).

But perhaps this summary measure (total years of schooling) fails to distinguish differences in quality between the teachers who came from academic secondary schools, and those who came from teacher training institutions.[1] Because of the academic nature of the PLE, I wondered if distinctions could be made between academic secondary and teacher training college experience, suspecting that primary schools with an abundance of teachers with secondary school experience might be at an advantage.

These distinctions in schooling were accounted for by noting each teacher's "license grade": the government status category used as a salary scale. Teacher status grades range from Grade I's who are paid anywhere between 132 and 276 Ugandan pounds ($317 to 662) a

[1]Like the pattern in most Western European nations, those selected for teacher training institutions in Uganda are those who perform more poorly on academic tests. Thus, after the best-scoring 9.8 percent had already been selected for academic senior secondary schools, the lower-scoring .9 percent would find their way into a Grade II teacher training college (1972).

year, to Grade V's who are paid anywhere between 570 and 1,080 Ugandan pounds ($1,368 to 2,572) a year. Teachers with no training are classified as Grade I; with training but no secondary school as Grade II; with secondary school, Grade III; further training, Grade IV; and Higher School Certificate, university, or training at the special National Teacher's College, Grade V.

A mean was calculated for each school's teacher status and compared with mean school achievement. The resulting correlation of -.09[$p < .528$], however, added no further understanding to achievement than did the gross mean number of years of schooling.

Teaching Experience, English Language Experience, And English Language Competence

Next, attention was turned to the length of experience, questioning whether schools with more experienced teachers would have higher achievement scores. Though schools contained a relatively wide standard deviation of 1.9 years on an average of 3.6 years of teaching, a correlation of -.03 indicates that the average length of teaching experience does not lead us to a better understanding of school achievement.

I thought it possible that the frequency of spoken English in the childhood homes of teachers might distinguish itself as distinct from formal English competence. For example, teachers who were raised in homes where English was spoken more frequently, might, as separate from their grammatical knowledge, feel more at ease teaching in English and, in turn, transfer academic knowledge to the students better and more efficiently. However, the correlation

of -.198 with a statistically insignificant level of $p < .116$, indicates very little relationship.[1]

TABLE 11

RESPONSES TO SEVEN QUESTIONS OF ENGLISH USAGE: PERCENT RESPONDING CORRECTLY

(N=598)

Question 6	82.6
Question 3	80.8
Question 4	73.4
Question 1	66.6
Question 5	50.8
Question 7	48.2
Question 2	13.2

In an attempt to assess individual competence in the English language, each teacher was asked to respond to seven multiple choice questions designed and pretested by myself (Appendix E). All teachers, including the non-English-speaking ('vernacular') Grade I's, were obliged to respond to the English questions; no translation was permitted. A question left unanswered was coded as incorrect. Varying from a low of 13.2 to a high of 82.6 in the percentage responding correctly (Table 11), the questions elicited a range sufficient to construct a measure of variable English-Language ability among teachers.

[1]The fact that 76 percent of the teachers indicated that English was spoken "never" or "very seldom" in their childhood home is further indication that the vast majority had been drawn from peasant backgrounds at a time when primary schooling was a less common experience. But in addition to the lack of variance in exposure to the English language, the lack of any observable relationship could be due to the tendency to speak the mother language in the home--even among individuals capable of speaking English.

The mean score for each school, when compared with mean school achievement, resulted in a zero-order correlation of .307 [$p < .01$], and identifies an association stronger than all previous characteristics tested.

Parental Education

Next, attention was turned to the education of the teacher's parents. The schooling of the teacher's mother and father (Table 10) was combined, averaged by school, and then compared with school achievement. However, the coefficient of -.135 [$p < .289$] indicates a weak but statistically insignificant relationship between teacher parental education and mean school achievement.

Table 12 presents a review of the six measures of teacher characteristics and their zero-order correlations with mean school achievement.

TABLE 12

MEAN SCHOOL TEACHER CHARACTERISTICS AND THEIR CORRELATIONS WITH MEAN SCHOOL ACHIEVEMENT

(N=67)

Total Years of Schooling	-.112[N.S.]
Teaching Status Grade	.09 [N.S.]
Frequency of English in the Childhood Home	-.198[N.S.]
Teaching Experience	-.03 [N.S.]
Parental Education	-.135[N.S.]
English Language Competence	.307[$p < .01$]

It is apparent that there is only one teacher measure which is significantly associated with achievement. The quality of a

teacher's English is the most outstanding measured characteristic. The amount of training teachers receive, teaching status grades, teaching experience, parental schooling, and the frequency of English spoken in the childhood home have no significant impact upon mean achievement of their primary school. If teachers make any difference to a school's academic achievement, it is most likely expressed through the quality of their English language ability.

Exploring the Non-Relationships

But why doesn't teacher status or length of training, or experience have some measurable effect on achievement, particularly in a society where academic secondary schooling is so narrowly diffused? I suspect that the lack of any statistical relationship with mean school achievement has something indirectly to do with the distribution of teacher quality between schools. Though the lack of strong statistical correlations between teacher characteristics and school achievement in the United States and Western Europe has been attributed to the lack of between-school variance,[1] Schiefelbein has argued that variance between schools is much greater in non-industrial societies.[2] If this is so, the impact of teacher characteristics should be that much more pronounced. Since, with the exception of the level of English-language ability, teacher characteristics do not seem to affect school achievement in Uganda to any greater extent

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[1] Rossi, "Social Factors in Academic Achievement."

[2] Ernesto Schiefelbein, "The Jenck's Impact on Developing Countries," Paper Presented at the "Workshop on the Economics of Education: Alternative Strategies for Investment," World Bank, October 10-12, 1973, Washington D.C.

than they do in industrial societies, it might be profitable to focus attention onto how teachers are assigned to schools and ask whether or not a great deal of variance exists.

To get an idea of a 'typical' school, I calculated the average of each teaching status-grade in each school and then calculated the mean for the sample as a whole (Table 13). About 62 percent of a 'typical' teaching staff consists of Grade II teachers; 12 percent Grade III, and about 16 percent Grade I. Nine percent consists of licensed teachers e.g.: a Cambridge School Certificate graduate (four years secondary school) awaiting the results of his examinations.

TABLE 13

MEAN PERCENTAGE OF TEACHERS IN EACH STATUS-GRADE IN GOVERNMENT-AIDED PRIMARY SCHOOLS

Grade I	Grade II	Grade III	Licensed[a]	Grades IV and V
15.6	61.5	12.4	9.0	1.5

[a]No teacher-training or uncompleted training--may legally teach only temporarily.

The most highly qualified Grade IV and Grade V teachers are very rare. Less than two percent of the nation's teachers were in these two categories combined.[1]

The key to the measured effects of teacher quality is the distribution of Grade III's. The goal of every primary school is to acquire a Grade III teacher. Though there is a relative scarcity,[2]

[1]Ministry of Education, Education Statistics--1968.

[2]There are 20 Grade II training colleges and only 7 Grade III colleges.

it is not uncommon for headmasters to request a new one yearly. Because Grade III's are a product of the expansion of secondary school facilities in the 1960's, their existence and distribution have been a result of recent administrative policy. Though bargaining occurs over teacher placement, a definite pattern has emerged since 1964 and the government control of primary education that took place at that time.

Only four schools in my sample (three of these in urban areas)[1] had a Grade III teacher assigned to any class other than P7. If a school does not yet have a Grade III teacher for its P7 class, it is given higher priority for the next Grade III assignment. Grade III teachers are publicly attractive additions to a school's appearance, and headmasters who hear of schools receiving the benefit of a Grade III, will be quick to complain until they themselves are placed on a list for the next placement. Grade III's are rarely found except singly within a school. Their distribution has, up to the time of the survey, been relatively equitable. It will not be common to find a Grade III teaching classes other than P7 until all primary schools have a Grade III teacher.

Typically, the remaining teaching staff would consist of a Grade I teacher for P1 or perhaps P2 (with English being taught by the P7 teacher), and Grade II teachers in P3 to P6. No new Grade I teachers are entering the system and efforts are being made to allow them to retire quickly and quietly. Grade I teachers, who are

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[1] Buddo Jr., Verika (Fort Portal), Walakuba Estate (Jinja) and Arya Mehta (Kampala).

unqualified in English, are much older. Though there are none in urban districts, no rural school is without at least one, and none had more than two. Outside of urban areas (81 percent of the sample) the distribution of teacher quality, as measured by teacher status-grade, is reduced to the question of whether a school has one Grade I teacher or two; one Grade III teacher or none. Clearly, the variance is small.

Because teacher placement is government controlled, differentials in school or community wealth, influence, or effort do not easily influence the pattern of teacher allocation. If schools were able to pay teachers at individual rates, certainly more clustering of teacher grades would be in evidence. However, with government setting salaries and allocating teachers on a national scale, no school, aided by government, was endowed with solely top-graded teachers; none was shackled with solely non-trained or non-English-speaking Grade I's.

Consequently, within the range of quality commonly available in Uganda, teachers are spread rather evenly between schools. Because of the absence of market forces which could influence teacher distribution, the variance between schools in mean teacher status-grades is minimal. Thus, the small sample standard deviation in teacher grade of .9 out of a 7 point range is most probably due to these two factors: the scarcity of Grades III, IV, and V in all primary schools, and the relative equity in the distribution of Grades I to III by governing authorities.

In turn, this equality of allocation has resulted in extinguishing the potential effect on achievement attributable to

differences in personnel between schools. However, despite the lack of variance of teacher-status grades, the ability of a school's teachers to understand the English Language manages to express itself upon the achievement scores of the pupils under their influence. In sum, if the school-group effect of teachers upon academic achievement is taken as the criterion, the 'quality' of Ugandan teachers is better expressed by their level of English language ability than their training, their experience, or their salaries.

Since the Primary Leaving Examination is written in English, and the primary school (above P3) and all teacher training is presented in the English medium, it is not surprising that among the many criteria of teacher quality, the one outstanding characteristic relating to achievement is that of their ability in English. Being a multi-linguistic society, Uganda must rely upon the English language for fast, efficient communication internally and with the rest of the world. Within her own boundaries, she must rely upon English not only for linguistic wealth of technical information, but because of its relative political neutrality. Thus the English language, particularly the teaching of the English language to teachers, promises to remain of very critical importance to future school achievement.

CHAPTER III

VARIANCE IN SCHOOL CONSTRUCTION, PHYSICAL FACILITIES, AND EQUIPMENT: THEIR RELATIONSHIPS TO SCHOOL ACADEMIC ACHIEVEMENT

When Arthur Wise uses the term "rich schools and poor schools,"[1] he is referring to how much money each school spends on each child. When the Equality of Educational Opportunity Report [EEOR] speaks of "equality," it is talking about equivalence in terms of distribution of teachers and physical facilities. I have already argued that in Uganda the scarce teachers in the higher salary categories (Grade III) are spread rather equitably between schools.[2] Because teacher salaries are the largest source of recurrent cost, in effect I have argued that this category of expenditure is equitable spread. The following considers the distribution of a second cost category which may have some bearing on academic achievement: that of physical facilities.

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[1] Arthur E. Wise, Rich Schools, Poor Schools: The Promise of Equal Educational Opportunity (Chicago: University of Chicago Press, 1967).

[2] Prevented from a national sample does restrict generalizations concerning the distribution of Grade III teachers between districts. The assertion of their equitable spread applies to between school variance within the five districts and three urban areas within the purview of the sample.

Universal Structures: Buildings, Grades and Curriculum

Since the majority of Ugandan primary schools were founded by Christian missions, concepts of what should be taught and what a school should look like did not differ in many respects from those prevailing in Western Europe. First, the school physically separates education from other functions. Classrooms for example do not double as churches or clinics. Classroom shapes are universally rectangular so that a teacher, as in other parts of the world, can face rows of fixed desks, walk down an aisle, work at a front blackboard, and have space enough to position his desk at the front of the class. Every classroom is virtually identical in this layout.

Also standard is grade structure. Each grade lasts one year. Promotion is automatic up to P6.[1] Each grade has its own teacher, and its own classroom. Though the central government did not begin to regulate facilities until 1962, the one-grade, one-room, one-teacher concept had already been accepted as the goal for each school by both religious and private authorities. Schools which had not yet met their own expectations by 1962, soon put efforts to improve facilities to meet government standards and so receive government aid.[2]

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[1] Passage into P7 may be delayed by a headmaster who worries about his school's reputation on the P7 examination and who can find room for a marginal child to repeat.

[2] By "aiding," the government pays the salaries of teachers which is a contribution of approximately 70 percent of a school's operating costs and constitutes a major incentive for complying with the pre-requisite regulations.

Today, the Ministry of Education's Inspectorate Division requires that buildings be "safely constructed" and if made of mud, periodically reconstructed.[1] Model blue-prints are supplied free of charge for new buildings: from classrooms and teacher houses to latrines. Schools which lapse in maintenance stand a chance of losing government aid. Each school levies a tax called a "building fund" for each set of parents each year. Ranging from 20 to 70 shillings, the fund is banked with the District Education Officer (DEO) and, with his written consent, periodically spent for new construction.

All buildings, except latrines, have tin roofs and are constructed from one of three materials of increasing cost and quality: hardened mud, sun-baked brick, or oven-baked (Kanjansii) brick. Since Kanjansii bricks are manufactured at only one site (ten miles from Kampala on the Entebbe Road), Kanjansii-brick buildings were as much a function of transport as manufacturing costs, and few schools had them. Most schools had a mixture of construction materials: either hardened mud or sun-baked brick.[2] The material chosen was a function of the amount of money in the building fund at the time construction was decided upon. The presence of Kanjansii-brick classroom building at the fifth

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[1] Shortage of staff usually prevented the supposedly annual inspection. However, the Inspectorate's report of 34 percent visitation in 1971 was found to be accurate within the sample schools. The School Inspectorate, Annual Report, 1971 (Kampala: Ministry of Education, 1972), p. 10.

[2] With the exception of schools in the two Karamoja Districts which are often constructed with tin sidings.

lowest-scoring school in the sample[1] is an indication of how irrelevant the style of construction would be in the prediction of academic achievement.

Curriculum also has been standardized. Since the government absorption of teacher-training colleges, all primary teachers are instructed uniformly in both style and content. Identical skills and activities are introduced at each successive grade level. The PLE prohibits teachers in the upper grades from experimenting away from what is demonstrably most relevant to exam success. Thus, there is no overt between-school variance in what is taught.

School Furnishings

All schools need desks and chairs and benches. Before government control, headmasters were responsible for finding a local carpenter who could estimate costs and buy enough wood to manufacture and maintain furniture for the local school. The financial agreement between the headmaster and the carpenter was audited by a school management committee which was usually dominated by church or mosque elders.

The headmaster no longer has this responsibility. Today, the District Education Officer locates a single firm in the district capital which will supply all the schools in the district. Prices, styles, and quality are fixed. The centralization rationale has been to lower the per unit cost by increasing the volume, and

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[1] Nabusanke Equatorial Institute.

eliminating graft which may have existed within the headmaster's contractual agreements with the local carpenter.

Regardless of origin, little variance exists in classroom furniture. Desks and seats were typically of two types: individual wooden desks with individual chairs, and wooden desk-bench units for pairs of pupils.[1] A child reaching P6 could count upon adequate seating and desk space in any school. Below P6 however, it was common to find three or four children squeezed at a desk designed for two. Occasionally P4 or P5-sized equipment was utilized in P6 or P7 classrooms; though giving each child a place, it cramped the knees and arms of the larger children. P1 and P2 children usually had small tables and chairs which could be moved around to suit an art or arithmetic lesson as the teacher wished. Thirty percent of the P1 classrooms had no desks or tables. In these cases the small children would sit on a grass or banana fiber mat, spreading their chalk slates out across their knees dusty from the sandy floor. In P1 and P2, textbooks were rare; it was common to see bottletop abacuses, magazine cut-out picture books, and clay figurines set on a cardboard carton to dry. Crayons,

[1]The one exception to this were the classrooms of the two Karamoja Districts where all desks, chairs, and many buildings were constructed of metal. Because wood is so scarce, neither wood equipment nor wood building frames (necessary in mud construction) is feasible. The cost of transporting wood from Mbale or Soroti, the closest centers, to schools as much as 300 miles away prohibited the government from purchasing wooden equipment. Besides, I was assured that the cost of wood maintenance against termite damage would have been too much for the impoverished Karamojan parents. Instead, though the metal classrooms became literal ovens in the desert heat, there seemed to be little alternative to their use.

drawing paper, paper cups, paint, individualized work books, and manufactured toys were virtually non-existent.[1]

Distribution of School Supplies: Persistent Variance Between Schools

School Fees and School Accounts

Before government control of primary education, schools in more prosperous areas or in communities where parents wished to contribute additional amounts could charge more than in poorer areas, or in areas where parents wished to make less of an effort. Today, however, the central government has standardized the charges for school attendance,[2] and no school is permitted to charge more or less, regardless of the parents' willingness or ability to pay.

This standardization has equalized the costs of primary school for a range of families and districts with greatly varying levels of resources. It is still true that costs set on a national scale impose serious burdens on poorer families and poorer districts while preventing efficient tapping of the financial resources which are in fact available.

The responsibility of maintaining and accounting for school monies has been withdrawn from the headmaster and placed in the hands of the District Education Officer. Previously, each school maintained its own account at a local bank. The responsibility of placing money in the account and of keeping records on the account's activity was that of the headmaster. Checks could be written or

[1] Ninety-two percent of the P1 children were without shoes on the day of my visit to their schools.

[2] Ministry of Education, Circular Number 2/72, Reference Number E 1122, and s 7 E.T.S.

cash withdrawn with permission of the chairman of the school's management committee. Audits of the account would be made periodically by both the management committee as a whole and a representative of the religious agency to which the school was affiliated.

Today, school fees are collected by the headmaster and after receipts are handed to the parents, the cash is received at the district education office. No longer does the management committee have authority to oversee expenditures out of a school's account. Responsibility for an account's balance rests solely with the District Education Officer.[1] Balance statements of a school's account are supposed to be made known to the headmaster at periodic intervals, or upon request.

Supplies and the Uganda School Supply Limited

Before schools were government controlled, each headmaster, with guidance from his staff and permission from his management committee could purchase equipment and supplies wherever the product was the cheapest and the most convenient to obtain. Most schools purchased their books through one of the branches of the Uganda Bookshop (owned by the Church of Uganda) and their

[1]Ideally, the headmaster should keep his own records in addition. However this was often impossible due to the District Education Officer's backlog of accounting. In Toro District, for example, in spite of numerous requests, 50 percent of the headmasters had not ever been told the balance of their account since government control in 1967. Stephen P. Heyneman, "Changes in Efficiency and in Equity Accruing from Government Involvement in Ugandan Primary Education," African Studies Review (forthcoming, 1975).

odd equipment such as balls, ink or ledger books through one of the local general stores (dukas) at the nearest trading center. In Kampala, or if the school had access to a motor vehicle, the range of choice was broadened even further.

Headmasters are no longer permitted to shop for supplies since the establishment in 1967 of a purchasing monopoly over school supplies. The Uganda School Supply Limited (USSL) was included as part of the Milton Obote Foundation, established as a "private, non-profit" corporation whose aim was to finance and administer services for the good of the nation in the name of the "socialist"[1] (now ex-) president. Since the coup d'etat in January 1971, the government changed the title of the Milton Obote Foundation to the Uganda National Trust whose board of directors is the cabinet, and whose chairman of the board is the president, General Idi Amin Dada. Clearly, USSL has become a state organization.

In June, each headmaster of each primary school[2] must complete a lengthy USSL order form on which he must list every piece of equipment the school will need over the academic year commencing in January. The USSL purchases, imports, prices, and distributes all primary school equipment: soccer balls, rulers, chalk, maps, and all textbooks and readers for all grades in all subjects.[3] The

[1]"Socialist" refers to how Obote thought of himself and his government. See, for example, Milton Obote, The Common Man's Charter (Kampala: Uganda Publishing House, 1969).

[2]Secondary school headmasters may purchase equipment and books wherever they wish. They also oversee their own accounts.

[3]Until 1972, exercise books manufactured and distributed in Uganda by Ugationers Ltd. (Mbale), was the only exception to the USSL monopoly. There was no variance between schools in exercise books;

completed USSL order form is collected by each District Education Officer and is reviewed to make certain that each school's order is within its financial balance limit. Through this procedure the District Education Officer insures that each school has sufficient funds to pay for its order. From the school's perspective, the District Education Officer already has the funds, so the order is being made on equipment already paid for.

After the District Education Officer collects and approves of all the schools' orders, he presents the districts' collective order to USSL headquarters in Kampala. The USSL then purchases the nation's supplies, distributes the incoming supplies to the districts (who then distribute supplies to the schools) and collects payment from each district's Education Officer. The USSL keeps track of each district's account; the District Education Officer keeps track of each school's account.

During my visits to primary schools, I began to notice that some schools were well supplied with new equipment and texts while others were not. This was not supposed to be the case. Standardization of school fees had been designed to eliminate differences between rich and poor or active and inactive parents. Government handling of accounts was supposed to insure that money was not siphoned off by ill-motivated headmasters. In short, because all children now pay the same amount to attend school, because all monies are handled on the district level, and because all school

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every school received 100 percent of their exercise book order, and every school received their order on time. In 1972, however, Ugationers was nationalized, and exercise books in the future will be distributed through USSL.

equipment through USSL is uniform in cost and quality,[1] the unequal distribution of educational equipment was to be eliminated. Each child was to have equal opportunity, equal exposure to materials at equal cost.

Yet to an observer of book and equipment inputs in more than two schools it is obvious that unequal distribution of goods and services continues despite the very major reforms. Though schools collect the same amount (per child), they do not receive the same amount of supplies in return.

I kept a record of the number of prepaid textbooks and reference books which each school received during the year 1971 by locating the school copy of the USSL delivery receipts. In addition, I looked at the total number of references and texts on each school's order for the same year and then calculated the percentage of each school's book order which was actually received. Because this percentage ranged in size from 0 to 229 percent, I was curious as to why some schools received a higher percentage of their book orders. To explore this, I correlated the percentage of each school's filled USSL book order with a number of other facts that are known about each school; the results are illustrated in Table 14.

No statistically significant relationship existed between the percentage of a school's textbook order actually received by the

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[1]Through USSL, transport costs have been equalized. Whereas before the government monopoly, schools in the more remote areas had to pay more for the same equipment, today there is a national price for each piece of equipment; a pencil costs the same for a school in Karamoja as it does for a school in Kampala.

school and the percapita wealth or population density of a school's gombolola, nor with the mean education of a school's teachers. The percentage of textbook order filled is not positively related to school achievement (r= -.165), nor to the percapita number of texts already available deriving largely from the school's efforts made previous to government monopolization of supplies (r= .04).

TABLE 14

ZERO-ORDER CORRELATIONS BETWEEN THE PERCENTAGE OF PRE-PAID TEXTS RECEIVED BY A SCHOOL AND A NUMBER OF OTHER SCHOOL CHARACTERISTICS

(N=36)[a]

School Characteristic	Correlation
Population Density of a School's Gombolola	-.152 [N.S.]
Percapita Taxes Collected from a School's Gombolola	.108 [N.S.]
Percapita Number of P7 Books Available	.040 [N.S.]
Mean School Academic Achievement	-.165 [N.S.]
Educational Experience of School Teachers	.181 [N.S.]
Location in an Urban, Semi-Urban, or Rural Area	.368 [p <.03]
Educational Experience of Teachers' Parents	.549 [p <.001]
Paternal Occupational Level of P7 Pupils	.255 [N.S.]
Paternal Education of P7 Pupils	.535 [p <.001]
Number of Modern Possessions in P7 Pupil Homes	.638 [p <.001]

[a]Private schools were not obligated to purchase supplies through USSL; nor was Buddo Jr. (informally), or Kitante or Nakasero (formally)--which catered to children of the country's top leadership. This figure represents the total number of schools within the sample who were obliged to purchase all supplies through USSL, and who had sufficient records available for inspection on the day of the survey visit.

Several measures stand out in importance for understanding how textbooks now get distributed. First, there is a solid relationship (r=.368) between the percentage of the textbook order received and the urban or semiurban location of the school. Because of the

lack of a statistically significant relationship between population density and the textbook order received (many isolated, rural areas in Toro and Bugisu Districts have high population densities), there is something specifically advantageous about a school being located near an urban area. I believe this to be so because headmasters near or in an urban area can acquire private transportation directly to a USSL supply depot. In a personal visit, the headmaster can collect what he wishes since supplies are distributed on a first-come, first served basis. In this way, a few urban schools could acquire well in excess of 100 percent of their original order thereby helping to create shortages within USSL, while rural schools, without private transportation, had to depend upon delivery from the district depot through normal channels.[1]

But it isn't until one looks at the measures of social status that one begins to see the most important pattern. The percentage of texts and references arriving at a school has something to do with the parental education of teachers [$r=.549 (p < .001)$]; something to do with the occupation of the fathers of P7 pupils [$r=.255$]; something to do with the education of the fathers of P7 pupils [$r=.535 (p < .001)$]; and something rather strongly to do with the number of modern possessions which the P7 pupils have in their

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[1] Sixty percent of the schools receiving more books than they ordered (i.e.: over 100 percent) were located in urban areas. All had headmasters who picked up their orders personally. Having received over 100 percent of an order does not imply that the additional books were not paid for; it does imply that these schools were informed that they had large monetary balances and were given 'special' permission to purchase additional supplies without having to wait for the next year's order forms.

homes [r-.638(p <.001)]. These latter correlations definitely suggest that school books, even after considerable egalitarian effort on the part of the government, continue to be unequally distributed among schools. But most importantly, besides being geographically related, the distribution patterns following government monopolization are strongly related to the socio-economic status of the pupils and their teachers within the schools, and are clearly not indicative of the equitable distribution which was supposed to result from the social reforms of the ex-president.

This is a critical point for any nation considering the argument that the distribution of goods and services by purchase is discriminatory against the poor. It is a common social argument that the state can distribute items more equitably. This would be an acceptable assumption if there were empirical data detailing how items are, in fact, distributed in socialist societies. But because the percentage of the textbook order actually received by the school was not at all related to the percapita amount of books already available to P7 pupils as a result of previous distribution patterns (r=.04) an argument might be made that the previous system of textbook distribution according to parental wealth and/or effort was less associated with social privilege. Indeed, the correlations between the percapita number of books already in P7 and (pupil) paternal education (r=.125) or modern possessions (r=.285) might support this argument for these latter correlations, being results of previous inequities, are weaker than the 1972 inequities in USSL distribution (r=.535 and r=.638).

Thus, though schools were given equal resources for textbook purchase, the actual distribution of ordered texts in 1972 was more closely related to the level of social privilege of the pupils and teachers in the schools than was the level of inequities in all those years when the purchase of texts were restricted by parental wealth and occupational status. Though it can be argued that a national monopoly like USSL, being new (1967), and inexperienced, should certainly be subject to a period of administrative adjustment to its very complex tasks, the patterns of unequal distribution are far from random. It would be difficult to suggest that the correlations between the percentage of a textbook order filled and a school's socio-economic status were a function of administrative inexperience. These patterns of unequal distribution suggest that one must be cautious in accepting the assumption that a state monopoly, even when motivated by well intentioned goals, is by definition a more equitable distributor of goods and services.

Variance in School Facilities and the Relationship to School Achievement

Despite considerable government standardization since independence, variation in facilities exists due to three factors: the lingering inequalities created in the period previous to government control, new inequalities in supply distribution, and the difference in investment within areas of decision-making still available to local schools. Building quality, for example, and the decision to spend the school's fixed income on a new roof versus some new desks are among the few decisions left to the headmasters and his school's parent committee.

Regardless of the origin of variation in facilities, I set out to measure what (and if) facilities might seem to have an impact upon pupil achievement. Though the EEOR did not find that variance in educational facilities in the United States accounted for a major portion of the variance in pupil achievement, I hypothesized that the impact of improved equipment or construction should have more marked influence in a non-industrial society.

To this end, I noted whether a school had anything that might be called a 'library': a closet or a shelf in the back of the room where some books were kept. No distinctions were made between old, torn, or linguistically inappropriate books, or books which were unused. A requisite for being called a library was the possibility of taking a book home. Extra copies of textbooks were not counted as library books. Seventeen schools (27 percent) had what I call a library. Most had only a few books, and when I related the presence of a library with mean school achievement, the resulting correlation of .05 indicates an almost random relationship.

In addition, I made a count of each non-library book to which a child had access in P1 and in P7. I counted each textbook, each reader (in English and the vernaculars), each workbook, each reference and each teacher's book in each of the eight academic subjects. In P1 and in P7 I summed these books and divided the totals by the number of pupils enrolled in the class. The resulting <u>ratio of books per child</u> was then correlated with mean school achievement. The ratio of Books/P1 Pupil did not demonstrate any relationship with P7 achievement scores ($r=.01$), but the ratio of Books/P7 Pupil indicates an association [$r=.242 (p < .06)$] worthy of some note.

With the intention of learning as much as I could about each school, I noted the presence of seven other physical facilities in addition to a library and the number of textbooks. I found out whether or not the school had a duplicating machine, a farm, a staff room, electricity, boarding facilities, or a football field (hockey field in the case of a girls' school). I also noted whether or not window frames (present in all schools) were filled with glass. I hypothesized that each of these physical characteristics might have some positive relationship with academic achievement, and I was not disappointed. Table 15 illustrates the frequencies of each characteristic and each's correlation with mean school achievement.

TABLE 15

THE PRESENCE OF PHYSICAL FACILITIES AND THEIR CORRELATIONS WITH MEAN SCHOOL ACHIEVEMENT

Physical Characteristic	Percentage of Schools Possessing Each Facility	Correlation With Mean School Achievement
Duplicating Machine	74.5	.330 [p <.001]
School Farm	37.3	.255 [p <.001]
Boarding Facilities	8.9	.190 [p <.01]
Electricity	20.9	.166 [p <.03]
Football Field	80.5	.121 [p <.08]
Glass Windows	25.3	.102 [N.S.]
Staff Room	44.7	.081 [N.S.]
Summary of the Above Characteristics	----	.292 [p <.01]

From Table 15 one observes achievement correlations ranging from a low of .081 for the schools possessing a staff room, to a high of .330 for the schools possessing a duplicating machine. Possessing

a school farm was also positively related to school achievement ($r=.255$), while a summation of the seven facilities[1] yielded a positive relationship of .292($p < .01$).

Because boarding facilities were present in only nine percent of the schools and a duplicating machine in 74 percent of the schools, there is little relationship between these two variables. They are largely independent. The correlation between them was only .167 ($p < .097$), and when added together the resulting coefficient of their combined presence to achievement was .338, only a slight increase from .330.

The relationship between boarding facilities and mean school achievement is not difficult to understand. Two of the most highly prestigious primary schools in the country fell into the sample.[2] Their boarding students included some of the most advantaged children in Uganda. The other boarding facilities were located in the Karamoja Districts whose schools have a specially high relationship with achievement because of the pupils' higher repeating rates and their pre-school selectivity (Chapter I).

The positive relationship with achievement between schools with a duplicating machine and a farm is not as easily explained. In understanding this, I thought it might be valuable to investigate the 25 percent ($N=17$) of the sample schools without a duplicator. Four of the 17 were private schools whose low aptitude pupils score lower on measures of achievement than any other school affiliate

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[1]The fact that these seven facilities were, as one might expect, all positively correlated with each other, justifies their placement into a summary scale.

[2]Buddo Jr. and S.N.K. Mehta Arya.

category (Chapter I). Also, the 17 schools without a duplicator were situated in Kampala (the four private schools), Karamoja, West Buganda, and Toro--all the sample districts except Bugisu. In fact, there was no school in Bugisu District (23 percent of the sample) without a duplicator.

Schools without duplicators do not distinguish themselves on any of the defined measures of pupil socio-economic status or teacher quality (Table 16). Though one might expect schools without duplicators to demonstrate lower means, few, if any differences can be found between the two types of schools and seven other school measures. In fact, contrary to expectations, the schools without duplicators appear higher on both the scales of Teacher Parental Education and the Frequency of English Heard in the Teachers' Childhood Home. Thus, other variables, as measured, do not seem to add to our understanding of the positive relationship between schools with duplicators and school achievement.

TABLE 16

MEAN CHARACTERISTICS OF SCHOOLS
WITH AND WITHOUT DUPLICATORS

Characteristic	Schools With Duplicators (N=50)	Schools Without Duplicators (N=17)
P7 Paternal Education	2.5	2.6
P7 Paternal Occupation	4.2	4.2
P7 Possessions in the Home	3.5	3.9
Teacher Grade	2.1	2.0
Teacher Experience	3.6	3.5
Teacher English Competence	4.1	4.1
Frequency of English Heard in the Teachers' Childhood Home	.8	1.2
Teachers' Parental Education	3.7	9.7

Acquisition of a Facility--A Symbol of School Initiative?

A duplicator is the most expensive piece of equipment a primary school is likely to own. Especially in the case of rural, isolated schools, a duplicator is proudly displayed in the office of the headmaster as a demonstration of personal competence and technical modernity. In gathering sufficient funds to purchase a machine, the headmaster, the teachers and the parents were, perhaps, demonstrating their motivation toward achievement as well as their personal pride and concern for their local school.

Bugisu District schools were an exception. In 1971, every school in the district was issued with (and charged for) a new duplicator--regardless of school's financial status, or whether the school desired a duplicator or not. By the next year, I found several machines broken, while a larger number were unused because the school couldn't afford (or hadn't received) the necessary paper and ink supplies. In one or two schools the new duplicator actually supplemented one already present. Clearly, the decision by the Bugisu District Education Officer to purchase and distribute a duplicator for every school does little to indicate an individual school's motivation.

I was curious whether or not the positive association between a duplicator and school achievement was due solely to the machine's ability to reproduce materials, or whether its presence was an indicator of some additional school quality. To test this, I hypothesized that if schools in Bugisu District were excluded from the statistic, the relationship between a duplicator and mean school achievement

would be strengthened. If the duplicator's influence on achievement is due solely to its physical ability to reproduce materials, then excluding Bugisu Schools should have no effect on the correlation. However, my expectations were confirmed. The coefficient of .330 increased to .468[$p < .001$] when the 15 Bugisu schools are excluded.

I suggest that this coefficient of .468 between a duplicator in the schools outside Bugisu District and school achievement is one indication of the motivation of the school in deciding to purchase a machine. The fact that Bugisu District, where duplicators were universally distributed, artificially depressed an already definitive relationship, indicates that there is something which the duplicator represents other than the facility to reproduce printed matter. This "something" in the case of a duplicator, and perhaps also measured by the presence of a school farm, may be an indirect indication of a school's initiative and is definitely associated with school academic achievement.

Summary

First, the lack of variance prevents prediction of school achievement from differences in school physical construction. A range which includes the extremities does indeed exist. For example, there are three or four schools in Uganda which are as colorful, physically creative and as well-constructed as any of the modern, well-funded 'open' schools in England or the United States. On the other hand, there are some schools with holes in the walls, worms in the manure floors, and a classroom cramped with a hundred or more children. But the former and the latter are only a handful out of

the nearly 3,000 Ugandan primary schools, and they are insufficient in number to influence a correlation coefficient or any measure of central tendency. The fact is that the vast majority of P7 schools, being regulated by national standards of construction, are rather uniform in quality.

Second, variance in textbooks does exist between schools and the zero-order correlation between the ratio of textbooks/P7 pupil is moderately correlated (r=.242) with academic achievement. This relationship indicates that textbooks, which are one variable easily manipulatable by planners, might be utilized in experiments to raise the position of low-scoring schools.

Third, variance exists among schools possessing a duplicating machine or a school farm, and the achievement correlations (r=.330 and .255) are higher for these than with any other physical characteristics. The fact that the relationship increases when schools which made no individual effort to acquire their machines are excluded, points to the possibility that achievement correlations of the machine or the school farm may not be due to the effect of their direct productivity, but because these are indirect symbols of school motivation.

Fourth, the present distribution of textbooks is related to the socio-economic status of the school pupils and personnel (while the duplicator is not). The long term effects of unequal distribution of textual materials is unclear. However, if it persists, the statistically significant relationships which have been observed between school equipment and pupil achievement may begin to skew the

performance of the more privileged pupils who at present are not at an advantage on the Primary Leaving Examination.

CHAPTER IV

SOCIO-ECONOMIC STATUS AND ACADEMIC ACHIEVEMENT: HOW FAIR IS THE PRIMARY LEAVING EXAMINATION TO THE LESS PRIVILEGED?

Academic Achievement as the Origin Of Social Selection

Socially differential selection into secondary or tertiary institutions can be monitored in two ways. First, one can measure the social composition of the school population and compare it to national distributions. And since Philip Foster's work[1] there has been little doubt that the social makeup of the African school populations bears some similarity to those prevailing in more industrial areas. Though not as under-represented as European manual-labor children in academic secondary schools, the children of Ghanian peasant farmers were found to be significantly under-represented among the Ghanian secondary school population.[2] Subsequent work by Foster and Clignet,[3] and by Anderson, Bowman,

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[1]Philip Foster, Education and Social Change in Ghana (Chicago: University of Chicago Press, 1965).

[2]Philip Foster, "Secondary Schooling and Social Mobility in a West African Nation," Sociology of Education (Winter, 1963): 150-72.

[3]Philip Foster and Remi Clignet, The Fortunate Few: A Study of Secondary Schools and Students in the Ivory Coast (Evanston: Northwestern University Press, 1966).

and Olson,[1] have made it possible to replicate the results in the Ivory Coast and in Kenya.

But studies of secondary school pupil populations do little to aid us in determining why some social groups are over-represented. There are two criteria for attending available post-primary institutions: a pupil's ability to perform on a selection examination, and subsequently, his ability to raise enough money to pay school fees.

A second method of monitoring differential selection into schools is to measure the level of achievement of differing socio-economic groups to observe if children from advantaged[2] backgrounds produce superior scores to children coming from less advantaged backgrounds. Because secondary schools are expensive to attend, if there is no relationship between socio-economic status and academic achievement, then I can infer that differing rates of secondary or tertiary attendance are economic and not cognitive in origin. If there is a relationship between socio-economic status and academic achievement, as I suspect, then one might conclude that in addition to the ability to pay, there are unequal distributions of cognitive abilities among the social groups sitting for the examination.

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[1] C. Arnold Anderson, Mary Jean Bowman, and Jerry Olson, Students, Teachers and Opportunity Perceptions in Kenya 1961-1968 (Washington D.C.: United States Department of Health, Education, and Welfare, 1969).

[2] 'Advantaged' or 'privileged' here are used as reference terms specifically to Ugandan society. I do not mean to imply that children of 'privileged' backgrounds are the children only of the rich. I imply that they are children of parents who, through attainment of above average schooling or by possessing more than an average level of consumer items, have achieved 'privileged' status relative to the less privileged or 'peasant' life of the bulk of the population.

Ample evidence exists from industrial societies which would lead one to expect that children of lower socio-economic backgrounds might score less well on tests of academic achievement. Frederick Mosteller and Daniel P. Moynihan, for example, note that the marks of high and low class pupils differ by 1.7 levels in the sixth grade.[1] James Coleman et al. suggest that socio-economic status, separate from race, is more influential than per-pupil expenditure, teacher, or school characteristics in predicting academic achievement.[2] Bowles and Levin, who take exception to some of the findings of the EEOR, do not question the important emphasis the authors lay upon socio-economic status variables to predict achievement. Thorsten Husén and S. Wolfle have found similar relationships. Christopher Jencks summarizes his study's findings by saying: "Taking all the evidence together, we estimate that a family's economic status probably correlates about .35 with the children's test scores." Peaker reports a correlation of .38 between English children's test scores in 1964 and parental 'circumstances' in the same year. And Peter Rossi in his summary of the literature entitled the "Social Factors in Academic Achievement" ranks socio-economic status as second in importance only to intelligence. In sum, of all the variables included on studies of scholastic achievement, the attempt, as rough as it is, to quantify the effects of social privilege, is

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[1]Mosteller and Moynihan, "A Path-Breaking Report: Further Studies of the Coleman Report."

[2]Coleman, The Equality of Educational Opportunity.

perhaps more consistently correlated with test performance than any other educational measure--either in or out of school.[1]

The evidence from less industrial societies appears more equivocal. Silvey, in a small Ugandan study, reports a "Marked tendency for sons of high socio-economic parents to perform well" on a test of "mental alertness." Bacchus found that among a self-selected group of British Guianan children sitting for an exam to allocate free secondary school places, children of white-collar workers received almost double their 'share', while children of farmers or manual laborers received less than half. Farrell and Schiefelbein report a correlation of .35 between social backgrounds of children in Chile and their scores on a math and a verbal test consisting of synonyms, autonyms, sentence completion, and reading comprehension.[2]

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[1] Samuel Bowles and Henry M. Levin, "The Determinants of Scholastic Achievement--An Appraisal of Some Recent Evidence," Journal of Human Resources 3 (Winter, 1968): 3-23; Thorsten Husén, "Talent, Opportunity, and Career: A 26 Year Follow Up," School Review 76 (June, 1968): 190-209; Dael Wolfle, "Economics and Educational Values," in Higher Education in the United States: The Economic Problems, ed. by S.E. Harris (Cambridge: Harvard University Press, 1960); Christopher Jencks, Inequality: A Reassessment of the Effects of Family and Schooling in America (New York: Basic Books, 1972), p. 78; Gilbert F. Peaker, The Plowden Children, Four Years Later (London: National Foundation for Educational Research in England and Wales, 1971); Rossi, "Social Factors in Academic Achievement: A Brief Review." Even with this very consistent evidence, the incomplete state of the art of explaining variance via survey analytic measures is evident when as well defined a characteristic as socio-economic status can equalize test inequality by only 6 percent or less (Jencks, Inequality: A Reassessment of the Effects of Family and Schooling in America, p. 109).

[2] Jonathan Silvey, "Testing Ability Tests: Issues in the Measuring of Abilities Among African School Boys," East African Institute for Social Research (January, 1963) [mimeographed]; M.K. Bacchus, "Social Factors Affecting Secondary School Selection in

On the other hand, Manley, in his study on Jamaican children, finds that although children of lower occupational categories perform poorly, they perform worse on I.Q. tests and tests of verbal ability than they do in mathematics. And Murphree, reporting recently from Rhodesia, finds higher performances from children of illiterate homes than from the children of the more privileged.[1] Extremely low or random influence of socio-economic status on academic achievement in Kenya has been reported recently by Olson, by M. Mwaniki and by D. Mwaniki,[2] all of whose results cast some doubt on the well-established finding in industrial societies that a child's socio-economic background plays a crucial role in identifying divergent achievement performances.

British Guiana," Social and Economic Studies 15 (March, 1966): 40-53; Joseph P. Farrell and Ernesto Schiefelbein, "Expanding the Scope of Educational Planning: The Experience of Chile," Paper Presented at the Meeting of the International Society of Educational Planners and the American Association for the Advancement of Science, Mexico City (June, 1973).

[1]M.K. Manley, "Mental Ability in Jamaica: An Examination of the Performance of Children in the Jamaican Common Entrance Examination," Social and Economic Studies 12 (March, 1963): 51-72; Betty Jo Murphree, "Factors Influencing the Aspirations and Achievement of African Secondary School Pupils in Rhodesia," in ASSA Sociology Southern Africa 1973: Papers from the First Congress of the Association for Sociologists in Southern Africa (Durban: University of Natal Multi-Copy Centre, 1973), 129-157.

[2]Jerry B. Olson, "Educational Change in Kenya 1961-1968" (unpublished Ph.D. dissertation, University of Chicago, 1974); Dinguiri N. Mwaniki, "Education and Socio-Economic Development in Kenya: A Study of the Distribution of Resources in Kenya" (unpublished Ph.D. dissertation, Stanford University, March, 1973), p. 91; Mebo Kubeta Mwaniki, "Relationship Between Self-Concept and Academic Achievement in Kenyan Pupils" (unpublished Ph.D. dissertation, Stanford University, March 1973), p. 131.

Socio-Economic Status Measures

In ascertaining the association between a pupil's social status and academic achievement, I elicited information from each child on his parents' education (Table 17), occupation, and the number of possessions found in his home from a select pre-tested list of 'modern' consumer items.[1] Parental educational attainment

TABLE 17

PARENTAL EDUCATION: PERCENTAGE OF PUPILS REPORTING THE EDUCATIONAL ATTAINMENT OF THEIR MOTHERS AND FATHERS

(N=2,293)

	Father	Mother
No School	25.2	43.1
Few Years of School	33.2	31.5
Finished Primary School	12.3	12.6
Primary School Plus Training	12.2	6.2
Senior Secondary School	14.3	5.2
University	2.0	.4
Graduate School	.1	.0
No Response	1.0	1.1

was measured by asking each child how far his father and his mother had gone in school. Occupation was measured by asking each child individually the following question: "How does your father earn money?" But since many fathers earned money performing a variety of tasks during differing seasons (fishing, raising goats, selling tomatoes and repairing bicycles for example), each of these tasks was

[1] The items consisted of the following: bed, newspaper, bicycle, radio, clock, motorcar or lorry, camera, television.

noted. Later, each was coded into five levels of renumeration,[1] and the child's father was assigned to the highest level of his sometimes multiple occupational endeavors (Table 18).[2]

TABLE 18

FATHER'S OCCUPATION: PERCENTAGE OF PUPILS REPORTING THE OCCUPATION OF THEIR FATHERS

(N=2,293)

Unskilled Laborer	Semi-Skilled	Semi-Professional	Professional	V.I.P.	No Response
49.4	24.9	16.7	4.5	2.2	2.3

Table 19 indicates the distribution of 'modern' possessions each child reported as present in his home.

The responses to three of these measures[3] were tallied and a mean score was calculated for each of the sample schools. The variance among these variables was correlated with the variance in mean achievement. I assumed that the association would be linear and fully expected that it would be both positive and significant, i.e.: that I would find the advantages of social privilege--especially in a non-industrial society--expressing themselves strongly in the test scores of the pupils.

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[1] See Appendix F.

[2] Original work was done on occupational categories by Wallace and Weeks. T. Wallace and Sheldon G. Weeks, "How To Operationalize Concepts of Social Stratification: Some Crucial Questions for Discussion," East African Universities Social Science Council, Paper # 87, December, 1972 [mimeographed].

[3] Mother's educational attainment was not calculated for school averages.

TABLE 19

MODERN POSSESSIONS: PERCENTAGE OF PUPILS REPORTING THE TOTAL FAMILY OWNERSHIP OF SELECTED CONSUMER ITEMS[a]

(N=2,293)

Number of Items Owned	Percentage Owning Each
0	.2
1	13.5
2	15.4
3	18.9
4	20.8
5	19.2
6	7.0
7	3.0
8	1.7
No Answer	.3

[a] Bed, newspaper, bicycle, radio, clock, motorcar or lorry, camera, television.

However, what I do find is that there is no significant relationship between any of the socio-economic status variables and mean achievement. The zero-order correlation coefficient of paternal education and school achievement was -.130 ($p < .065$); between the number of modern possessions found in the home and mean school achievement was -.099 ($p < .172$); and between paternal occupation and mean school achievement was -.001 ($p < .498$).

Individual Children and Individual Scores

In previous chapters I have concentrated attention upon mean averages of each independent variable by school in relation to the mean average of the dependent variable (achievement) by school. Since a positive relationship between socio-economic status and

academic achievement has, with the exception of the Murphree Rhodesian study,[1] been a consistent finding in the sociological literature,[2] I was hesitant to accept the non-relationships reported above. In an attempt to retest the finding, I decided to switch from between school averages and to correlate each individual child's achievement score with his individual socio-economic background. Because the difference between schools is commonly found to be insignificant in comparison to the differences within schools,[3] I expected to find the hypothesized relationship between socio-economic status and achievement when I altered the unit of analysis from schools to individuals. But though altering the unit of analysis the number of cases changes from 67 (schools) to 2,293 (pupils), the results do not indicate any stronger relationship than they did previously (Table 20).

These data on individual pupils indicate that there is no zero-order relationship between a child's socio-economic background and his academic achievement on the Primary Leaving Examination. The correlation between achievement and maternal educational attainment was only .07; between achievement and paternal educational

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[1] Murphree, "Factors Influencing the Aspirations and Achievements of Secondary School Pupils in Rhodesia."

[2] In their Chilean study, Farrell and Schiefelbein find a surprisingly low relationship between achievement and socio-economic status after placing a few needed controls. The previous citation of a .35 correlation was the coefficient before controls were made. Farrell and Schiefelbein, "Expanding the Scope of Educational Planning: The Experience of Chile."

[3] Jencks, Inequality: A Reassessment of the Effects of Family and Schooling in America, p. 11 and p. 89.

TABLE 20

CORRELATION COEFFICIENTS BETWEEN INDIVIDUAL SOCIO-ECONOMIC STATUS AND INDIVIDUAL ACHIEVEMENT SCORES

(N=2,293)

Mother's Education	.07
Father's Education	.02
Father's Occupation	.03
Possessions in the Home	.06
Summary Socio-Economic Status[a]	.05

[a]Summary socio-economic status was computed by summing each child's mother's education, father's education, the reported number of possessions in the home, and the reported paternal occupational status category.

attainment .02; with paternal occupation .03; with the number of modern possessions in the home only .03; and with a summary measure of the four socio-economic status variables only .05. The fact that a child comes from a privileged background in which his parents have received more formal education, or in which his father has a better paying, more secure income, or in which his home contains a greater number of modern possessions, does not necessarily mean that the child will score better on a test of academic achievement.

But does this suggest that socio-economic status variables have random effects in all performance situations? To test this I looked at each dependent achievement measure separately to decide if there were differences in their relationships to the independent socio-economic status variables.

Differing Achievement Measures: Differing Relationships with Socio-Economic Status

Uganda's Primary Leaving Examination consists of three separate sections dealing with mathematics, general knowledge, and English. Each section carries equal weight (100 points) in the total score (300 points), but requires very different intellectual and verbal skills. When correlating each of these measures with each of the measures of socio-economic status, I began to notice differing strengths in the relationships. Though the coefficient of mother's education with Mathematics achievement was only .02 and with the General Knowledge Paper it was actually -.05, it increased to .12 when correlated with the English Language section. Father's educational attainment was not correlated with Mathematics achievement ($r=.04$) nor with general knowledge ($r=.07$), but it also increased to .17 in its relationship with the English Language test. Father's occupation, the number of possessions in the home, and consequently, the summary socio-economic status scale demonstrates similar relationships with the English Language (Table 21).

Though the relationship between socio-economic status and the total achievement score is generally non-existent, when achievement is broken into its separate components a pattern of relationships begins to emerge. There is a consistent positive and statistically significant relationship with performance in the English Language; there is no relationship with either Mathematics or achievement in the General Paper.

This might occur because of the differing skills required for these examinations. The Mathematics and general knowledge sections

TABLE 21

ZERO-ORDER CORRELATIONS BETWEEN THREE MEASURES OF ACADEMIC ACHIEVEMENT AND SOCIO-ECONOMIC STATUS

(N=2,293)

Socio-Economic Status	Mathematics	General Paper	English
Mother's Education	.02	-.05	.12[a]
Father's Education	.04	.00	.17[a]
Father's Occupation	.04	-.01	.17[a]
Possessions in the Home	.03	-.05	.11[a]
Summary Socio-Economic Status	.04	-.03	.16[a]

[a]Statistically significant at the p .001 level.

are derived from information supplied through a small list of approved texts for each subject area. The examination is written specifically for Ugandan children, and it would be unlikely to include a question to which each child, regardless of how isolated geographically, would not have had access. Schools equipped with texts for 'new math' often complain because the examiners, in their efforts to be fair, continue to set questions based exclusively upon the older but more widely distributed texts. Kenneth King, in his report on Kenya's Primary Leaving Examination, makes similar observations on the nature of that test's content when he says

> The exam is syllabus bound, and is, with the possible exception of English, quite largely derived from certain texts. This has come about partly for reasons of egalitarianism, since examiners were chary of setting test material that could not be found in standard seven books of even the poorest and most remote primary schools.[1]

[1]Kenneth King, "Primary Schools in Kenya: Some Critical Constraints on Their Effectiveness" (Nairobi: Institute for Development Studies, December, 1971), p. 6 [mimeographed].

Neither the General Paper nor the Mathematics sections utilize problems which are unique to the experience of the pupils. Questions remain constant in format from year to year and are taken from the same texts. King notes that in Kenya

> Names, dates and places are the principle test items . . . the pupils exert themselves to learn all of this information . . . For instance, probably no standard seven student this year does not know that Mbatian was a Masai leader [there was a question last year which asked whether he was a) Kamba, b) Masai, c) Chagga, d) Nandi]. However, most students know nothing else about him at all.[1]

As an illustration, the following questions were presented on the exams in 1970 and 1971:

To avoid getting hookworm:
- A. you should sleep under a mosquito net.
- B. you should wear shoes.
- C. you should not eat uncooked meat.
- D. you should sleep in a well-ventilated room.

Sixty Pupils from school wanted to go on a trip. The bus took only two-thirds of them. How many were left behind?
- A. 20
- B. 40
- C. 45
- D. 30
- E. None of these.

A corm is
- A. a root.
- B. un underground stem.
- C. an underground bird.
- D. a seed.

[with a drawing showing three kinds of clouds]
The arrow is pointing to the kinds of clouds called
- A. cumulus
- B. cirrus
- C. nimbus
- D. stratus

These questions demand factual knowledge and problem-solving techniques which have been practiced and routinized to the point of

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[1] Ibid., p. 4.

becoming an automatic reaction. Like the question involving the number of pupils on a bus trip: most pupils will have practiced on questions of striking similarity. Perhaps this year the example involves a bus trip, next year the example alters slightly to include a train trip. Whatever form they take, answers to questions such as the above are elicited from countless hours of memory drill. "Apart from the element of chance," says Kenneth King, "the test is seen as a technique in which long and sustained practice is vital for success,"[1] Jonathan Silvey also emphasizes this aspect when he mentions that

> Cramming, rote learning, and memorizing are encouraged, for example while the ability to think logically, to distinguish the relevant from the irrelevant detail in problem solving, or to observe critically, tend to be neglected . . . in so highly competitive a situation . . . memory factors may be particularly required.[2]

The English test, however long expected, confronts P7 children with material unique to their direct experience. Fully 62 percent of the 1970 test, for example, was devoted to reading selected passages quickly, and accurately responding to questions on passage content. While questions on Mathematics and General Knowledge are purposely derived from the few texts having wide distribution among remote primary schools, the English language passages are drawn from sources with which the fewest possible children could have had contact. In the first instance 'fairness' dictates that children have

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[1] Ibid., p. 3 or "Primary Schools in Kenya: Some Critical Constraints on their Effectiveness," p. 3.

[2] Jonathan Silvey, "Preliminary Thoughts on Aptitude Testing and Educational Selection in East Africa," Paper Presented at the Universities Conference of the East African Institute for Social Research (Kampala: July, 1962), pp. 8-9 [mimeographed].

maximum contact with the text-sources; in the second, 'fairness' dictates exactly the opposite.

The following are examples of questions from the less than 40 percent of the English test not derived from responding to literary passages:

Choose the number of the list in which these words are arranged in alphabetical or dictionary order.

	hurry	error	carry	honest	happen	elect	erect[1]
A.	carry	erect	elect	error	honest	happen	hurry
B.	carry	erect	error	elect	happen	honest	hurry
C.	carry	elect	erect	error	happen	hurry	honest
D.	carry	elect	erect	error	happen	honest	hurry

Choose the answer that means the same as this sentence:

If my brother had wanted to run fast, he could have won the race easily.

A. My brother nearly won the race easily even though he did not run fast.
B. My brother wanted to try but did not manage to win.
C. My brother did not win because he did not try.
D. My brother wanted to run fast in order to win the race easily.

Success on the very technical questions from the Mathematics and general knowledge sections is designed to result from previous preparation. Children from the most isolated of areas and in the most unpromising of social mileus can be seen cramming incessently with their notebooks under trees, beside Coleman lanterns, quizzing each other, memorizing passages from texts, creating mathematical problems.

But these 'English' questions are very differently designed. It is clear that achievement in the Mathematics or general knowledge sections can be raised through systematic drill. To be sure,

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[1]These words are spaced exactly as they appeared on the test itself.

proficiency in the English Language exam is partly a function of drill, but this particular test requires a high degree of inference and logical reasoning. What seems most likely is that the memorization of prepared information is a skill which is central to success on the Mathematics and general knowledge sections, and less crucial for high performance on the more inferential English language section.

Socio-Economic Status and English Language Scores: The Nature of the Influence

It would be logical to assume that one major influence upon a child's achievement in the English language section would be the quality of English spoken in the child's home. In Uganda, where English is learned in school, children from homes where parents have attained prominent status through education are more likely to know the English language well. I asked about the English ability of each child's father, and it correlated very highly with socio-economic status ($r=.725$). But the social influence affecting the child's score on the English language test may not be transmitted because one family is more likely to be capable of speaking English than another. Probably, few families actually speak English in their homes, for it is very common for well-educated Ugandans to speak their ethnic languages outside of work situations. Thus, the quality of the father's English, as reported by the pupil, is not correlated with the child's total achievement score ($r=-.02$), or, surprisingly, even with his score on the English language section ($r=.06$).

Socio-Economic Status and a "Culture-Fair" Test

The question of differing relations between a child's background and differing measures of abilities has been fertile ground for research. 'Intelligence' tests, for example, have been shown to be less correlated with social class than achievement tests when selecting children for senior secondary schools in Britain. Floud and Halsey conclude

> The results of the [intelligence] tests were held to be nearly as possible free of bias from environmental influences, so that by giving them an important place in the selection procedure, social discrimination in award of grammar school places could be reduced to a minimum.[1]

But among intelligence tests themselves, those that test non-verbal skills are designed to be less associated with the cultural environment than those which test verbal aptitudes of intelligence. Flanagan and Cooley, Coleman, and Jencks all seem to agree that tests of non-verbal ability show a weaker relationship to socio-economic status than do tests of verbal ability and tests of general information.[2] On this point Irvine observes:

> As the concept of a culture-free test became relegated to the status of a psychological chimera, it was nevertheless held to be fairer to individuals than conventional group verbal tests of ability, since it was less subject to the bias of these tests.[3]

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[1] Jean Floud and A.H. Halsey, "Social Class, Intelligence Tests, and Selection for Secondary Schools," British Journal of Sociology 8 (1957): 33-9.

[2] John C. Flannagan and William H. Cooley, Project Talent: One Year Follow Up Studies (Pittsburgh: University of Pittsburgh Project Talent, 1966); Coleman, "Effects of School on Learning: The IEA Findings"; Jencks, "Inequality: A Re-Assessment of the Effects of Family and Schooling in America."

[3] S. H. Irvine, "Towards a Rationale for Testing Attainments and Abilities in Africa," British Journal of Educational Psychology 36 (1966): p. 24.

To explore this question of a test's degree of association with socio-economic background, I obtained a score for each child on a non-verbal group test of perceptual ability. I chose the Raven's Progressive Matrices (RPM) because of the careful work already done on its reliability,[1] and because of its wide utilization in non-western societies.[2]

At the outset one must note that probably no test has yet been devised which has not related in some way to an individual's

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[1]Jonathan Silvey, "Aptitude Testing and Educational Selection in Africa," Rhodes-Livingston Journal 34 (1963): 9-22; W.O. Wall, "Review of Tests A, Ab and B," in Fourth Mental Measurements Yearbook, ed. by O.K. Buros (Highland Park, New Jersey: Gryphon Press, 1953), 317-18; Morton Bortner, "Review of the Raven's Progressive Matrices," in Sixth Mental Measurements Yearbook, ed. by O.K. Buros (Highland Park, New Jersey: Gryphon Press, 1965), 764-65; David Wechsler, "Review of the Raven's Progressive Matrices," in Sixth Mental Measurements Yearbook, pp. 338-39; T.J. Keating, "Review of the Raven's Progressive Matrices," Sixth Mental Measurements Yearbook, pp. 239-40.

[2]Edgar A.F. Bowden,"Perceptual Abilities of African and European Children Educated Together," Journal of Social Psychology 79 (1969): 149-54; E.L. Klingelhofer, "Performance of Tanzanian Secondary School Pupils on the Raven's Standard Matrices Test," Journal of Social Psychology 72 (1967): 204-15; Irvine, "Some Practical and Theoretical Problems of General Ability Testing at the African Standard Seven Level in Southern Rhodesia"; Irvine, "Towards a Rationale for Testing Attainments and Abilities in Africa"; Irvine, "Factor Analysis of African Abilities: Constructs Across Cultures," Psychological Bulletin 71 (January, 1969): 20-32; S.H. Irvine, "Figural Tests of Reasoning in Africa: Studies in the Use of the Raven's Progressive Matrices Across Cultures," International Journal of Psychology 4 (1969): 217-28; Mallory Wober, "The Meaning and Stability of Raven's Progressive Matrices Test Among Africans," International Journal of Psychology 4 (1969): 229-35; P.E. Vernon, "Abilities and Educational Attainment in an East African Environment," Journal of Special Education 1 (1967): 335-45; P.E. Vernon, "Administration of Group Intelligence Tests to East African Pupils," British Journal of Educational Psychology 31 (1967): 282-91; Uma Sinha, "The Use of Raven's Progressive Matrices Tests in India," Indian Educational Research 3 (1968): 75-88; A. Obredane, "Principes pour une etude psychologique des noires du Congo Belge," L'Amnee Psychologie 50 (1951): 521-547; L. Berlioz, "Etudes des 'progressive matrices' faites sur les Africains de Douala," Bulletin Centre de Recherches Psychotechnique 4 (1955): 33-44.

social environment and experience. No test has been devised which has successfully isolated inherited from experiential influences on the capacity to learn. Yet with these caveats, the RPM, being non-verbal and perceptual in its tasks, has gained a reputation as being useful in peasant societies where other tests of intellectual (and academic) abilities would be considered more markedly associated with social status and other measures of environmental privilege.[1]

In his review of the Raven's Progressive Matrices, Westby mentions that "It may be said to have done as well as is possible to avoid the effects of previous learning and established attitudes."[2] Burke, in his survey of the literature on the RPM, concludes that perhaps "It is as nearly culture-free as any other available test is or can be."[3]

With this understanding of what the RPM portends, and with the assumptions of its lesser associations with social status, one might expect school children of the less privileged to be less at a 'disadvantage'[4] on the RPM than in tests of academic performance. One would

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[1]Though Jensen has claimed that performance on tests of digital span are not correlated with SES (or race) in the United States, I am not aware of any experiments on this particular ability in an African context.

[2]Westby, "Progressive Matrices: Sets A B C D and E, 1938: A Review," in O.K. Buros, ed. Fourth Mental Measurements Yearbook, p. 314.

[3]Henry R. Burke, "Raven's Progressive Matrices: A Review and Critical Evaluation," The Journal of Genetic Psychology 93 (1958): 218.

[4]The use of the term 'disadvantage' does not imply that there exists a cognitive performance test in which children of the less privileged would do markedly better than the children of the privileged. Nor does 'disadvantaged' imply that a performance situation is an unreliable or an un-valid test of a particular aptitude. The term is used to refer to the fact that because mean averages have tended to differ between social groups, an individual from the lower-scoring group might be expected, on the average, to perform at a lower rate. Thus, 'disadvantaged'

expect the correlations to be less between socio-economic status and non-verbal aptitude than between socio-economic status and academic performance.

Contrary to these expectations, however, this does not prove to be the case. Instead of being less associated with a child's socio-economic background than the test of Mathematics or General Knowledge, performance on the RPM parallels the performance on the English Language section. There is a weak but consistent correlation between each of the socio-economic measures and the RPM.[1] Their relationship with socio-economic status, illustrated in Table 22, are slightly but consistently stronger than any of the relationships with either Mathematics or the General Knowledge achievements. The zero-order correlation of the RPM with paternal education is .10; with maternal education .08; with paternal occupation .11; with the number of modern possessions in the home .12; and with the summary socio-economic status measure .13.

Though none of the relationships are large, privileged Ugandan children in P7 tend to do better on the non-verbal, "culture-fair" test and the English Language test than they do on the Mathematics and General

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here implies that the individual is a representative of that group which one might, on the basis of empirical evidence, be expected to perform lower. In a situation which, while eliciting a variance of cognitive performance, does not elicit any differences in means between socio-economic status groups, an individual could not be said to be 'disadvantaged' because of the social group to which he belongs.

[1]Finding a correlation between socio-economic experience and performance on a non-verbal test in an African setting could be consistent with Cohen's thesis that perhaps non-verbal tests focus upon one critical aspect of culture--"the analytic mode of selecting and organizing information." R. Cohen, "Conceptual Styles, Culture Conflict, and Non-Verbal Tests of Intelligence," American Anthropologist 71 (1969): 828-56.

Knowledge tests. In those two performance situations that place a premium upon preparation by memory, and where the pupil has had maximum exposure to the material, the cultural exposures which accrue as a result of being a child from a privileged environment are insufficient influence to distinguish the performance of privileged children.

TABLE 22

ZERO-ORDER CORRELATIONS BETWEEN SOCIO-ECONOMIC MEASURES AND FOUR MEASURES OF ACHIEVEMENT

(N=2,293)

	Raven's Progressive Matrices	English Language	Math	General Knowledge
Mother's Education	.08[a]	.12[a]	.02	-.05
Father's Education	.10[a]	.17[a]	.04	0
Father's Occupation	.11[a]	.17[a]	.04	-.01
Possessions in the Home	.12[a]	.11[a]	.03	-.05
Summary Socio-Economic Status	.13[a]	.16[a]	.04	-.03

[a]Statistically significant at the p .001 level.

Memory and the Search for a 'Culture-Fair' Test

In his work on Negro intelligence in the United States, Lee notes that children of southern Negro emigrants to Philadelphia [presumably an 'enriched' environment] improve in all special factors of Primary Mental Abilities except for one involving memory ability. In addition, Jensen finds that digital memory ability doesn't differ in means or standard deviations between social groups; Reid and Schoer report similar findings.[1] Haggard finds no differences in memory

[1]E.S. Lee, "Negro Intelligence and Selective Migration," American Sociological Review 16 (1951): 227-33; Arthur Jensen, "Patterns of

scores between urban or rural children.[1] Schwegler and Winn, and Kennedy and others find parallel results in memory abilities among their Negro and white subjects.[2] In his thesis, Whang posits that "Auditory Short Term Memory seems to be similarly distributed among various groups who differ in environmental characteristics and ethnic composition."[3] All of these findings, in one way or another, indicate that the abilities of memory may be an area where test performances do not differ systematically between social groups.

In the search for an explanation to the two sets of socio-economic status/performance correlations on the four instruments applied in Uganda, one answer may lie in the heavy emphasis upon memory as requisite for success on the Mathematics and General Knowledge sections. Thus, judged by the performances, the two more rote selection examinations appear to offer more opportunity for the lesser privileged social groups and individuals.

Mental Ability and Socio-Economic Status," Proceedings of the National Academy of Sciences 60 (1968): 1330-37; Arthur Jensen, "How Much Can We Boost I.Q. and Academic Achievement?" Harvard Educational Review 39 (1969): 1-123; W.R. Reid and L.A. Schoer, "Reading Achievement, Social Class and Subtest Patterns on the WISC," Journal of Educational Research 59 (1966): 469-77.

[1]E.J. Haggard, "Isolated Families in the Mountains of Norway," in Child In His Family, International Yearbook of Child Psychology, Volume I, ed. by J. Anthony and C. Koupernik (1970).

[2]R.A. Schwegler and E. Winn, "A Comparative Study of Intelligence of White and Coloured Children," Journal of Educational Research 2 (1970): 834-48; W.A. Kennedy and others, The Standardization of the 1960 Revision of the Stanford-Binet Intelligence Scale on Negro Elementary School Children in the Southern United States (Tallahassee: The Florida State University Press, 1961).

[3]Joung Kyu Whang, "The Interaction of Short Term Memory and Instructional Variables on Verbal Ability" (unpublished Ph. D. dissertation, University of Chicago, 1971).

Equality of Educational Opportunity And Test Performance

Previous investigations into the patterns associated with educational attainment in Africa closely parallel findings from the United States: children of the better educated parents and 'dominant' ethnic groups are over-represented in comparison to their proportion to the population. I do not as yet know exactly why this should occur, but there appears to be three possibilities: one has been researched, a second has not yet been looked at, while this effort has begun to examine the third.

First, differential representation might occur because of differential spatial diffusion of schools.[1] Second, some groups might be better represented because schooling is expensive in both direct and opportunity costs, and the ability to pay differs among social groups. But third, over or under-representation could occur because of differing abilities to perform academically on the national selection examinations used as the criterion for movement between the primary, secondary and tertiary sectors.

In future investigations of the causes of social over-representation in Uganda, the answer may well not lie in differential scholastic achievement. Because the scores on the Primary Leaving Examination are correlated with socio-economic status only on the English Language section, if differential representation is due to differential achievement, it is most probably due only to this one section of the examination.

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[1] Gould, Planning the Location of Schools: Case Studies, Ankole District, Uganda; Mbilinyi, "The Decision to Educate In Rural Tanzania"; Anderson, "Patterns and Variability in the Distribution and Diffusion of Schooling."

However, the correlations between socio-economic status and even the English Language section are weak, and investigators might be more likely to find stronger reason for differential representation in the relative inability of the lesser privileged to find access to a school in their area or to pay school fees, than in their capacity to perform well on the standardized tests used for selection.

Lastly, those of us, whether in the United States or Africa who are interested in seeing the development of an evaluation instrument where performance was free from socio-economic or ethnic associations, could potentially be faced with a conflict of priorities. The skills that Bloom describes as necessary for "problem-solving, inferential thinking, and various higher mental processes,"[1] even if measured by a supposedly 'culture-fair' instrument such as the Raven's Progressive Matrices, may in fact be more correlated with social background than those instruments which demand a "literal comprehension of written material" heavily based upon memory. Therefore, the search for a 'culture-fair' selection instrument may lead us into a trade-off between priorities of 'equality' versus those of 'efficiency'. If the hypothesis suggested here as a result of these Ugandan data is true, it may be necessary for us to have to choose between an instrument which is 'fair' to the less privileged but useful only in identifying rote memory skills, and a test more predictive of creative thinking yet more correlated with social background. A choice between these kinds of instruments, representing divergent priorities, would be as difficult in the United States as it would be in East Africa.

[1] Benjamin S. Bloom, "Implications of the IEA Studies for Curriculum and Instruction," School Review 82 (May, 1974): 413-35.

CHAPTER V

SOCIAL MOBILITY AND RELATIONSHIPS BETWEEN SELF-CONCEPT, SOCIO-ECONOMIC STATUS, AND ACADEMIC ACHIEVEMENT

In efforts to understand why some pupils out-perform others, it has been relevant to ask about a child's personal attitudes. A variety of attitude scales are reported as being positively related with performance, exclusive of sex, social status and other possible intervening variables. For example, higher academic achievement has been associated with a child's perception of his teacher's opinion of him,[1] his achievement motivation,[2] his level of aspiration,[3] his self-perception of academic ability,[4] and his self-esteem or self-concept.[5]

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[1]Helen H. Davidson and Gerhard Lang, "Childrens' Perceptions of Their Teachers' Feelings Toward Them Related to Self-Perception, School Achievement, and Behavior," Journal of Experimental Education 29 (1960): 107-118.

[2]Edgar Epps, "Negro Academic Motivation and Performance: An Overview," Journal of Social Issues 25 (Summer, 1969): 5-13; Doris Metzger Miller and Patricia O'Conner, "Achiever Personality and Academic Success Among Disadvantaged College Students," Journal of Social Issues 25 (Summer, 1969): 103-117.

[3]M.D. Chaplin, "Self-Concept, Level of Aspiration, and Academic Achievement," Journal of Negro Education 37 (1968): 435-39.

[4]Wilber B. Brookover and Shailer Thomas, "Self-Concept of Ability and School Achievement," Sociology of Education (Winter, 1963): 271-78.

[5]Joseph C. Bledsoe and Karl C. Garrison, The Self-Concepts of Elementary School Children in Relation to Their Academic Achievement, Intelligence, Interests, and Manifest Anxiety (Athens, Georgia: United States Office of Education Cooperative Research Project No. 1008 [N.D.]);

In non-industrial societies observers have linked academic performance with measures of individual modernity. DuBey, reporting from Northern Nigeria, finds that students who demonstrate the best performance on school tasks are also the more "modern."[1] Cunningham, reporting from Puerto Rico, finds correlations of .270 between 11th grader "modern" attitudes and .338 between 12th grader "modern" attitudes and their grade point averages.[2]

The Equality of Educational Opportunity Study uses two separate measures of personal attitudes: self-concept and efficacy or "control of the environment." Both were found to be highly correlated with each other and with academic achievement. In fact, these two scales yielded higher effects on test performance than any other single factor. "Of all the variables measured in the survey," the report states

> including all measures of family background and all school variables, these attitudes showed the strongest relation to achievement at all three grade levels. The zero-order correlations of these attitudes with achievement were higher than those of any other variable . . . taken alone, these attitude variables account for more variation in achievement than any

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Bernard Borislow, "Self-Evaluation and Academic Achievement," Journal of Counseling Psychology 9 (Fall, 1962): 246-55; Thelma Adams Reeder, "A Study of Some Relationships Between Level of Self-Concept, Academic Achievement, and Classroom Adjustment," (unpublished Ph. D. dissertation, North Texas State College, 1955); Edgar Epps, "Correlates of Academic Achievement Among Northern and Southern Urban Negro Students," Journal of Social Issues 25 (Summer, 1969): 55-71; M.D. Chaplin, "Self-Concept, Level of Aspiration, and Academic Achievement," Journal of Negro Education 37 (1968): 435-39.

[1]Darrell DuBey, "Educational Institutionalism: The Effects of Schooling In Two Societies on Attitudinal Modernity," A Paper Read at the 67th Annual Meetings of the American Sociological Association, New Orleans, 1972.

[2]Ineke Cunningham, Modernity and Academic Performance: A Study of Students In A Puerto Rican High School (San Juan, Puerto Rico: University of Puerto Rico Press, 1972).

other set of variables (all family background variables taken together or all school variables taken together). When added to any other set of variables, they increase the accounted for variation more than does any other set of variables.[1]

Definition of Self-Concept in Ugandan Children

I have included measurements of a child's personal attitudes which parallel the questions within the report on the Equality of Educational Opportunity (EEOR). Though self-confidence was conceived as undimensional within the EEOR, some investigators have suggested that it may be bidimensional,[2] or that it may involve even more than two "aspects."[3]

My measure of self-concept in Uganda is perceived as an integration of two "aspects": ego-strength (or control), and self-confidence (or esteem). Ego-strength can be identified when an individual acts to maintain a 'psychological balance' after his normal experience is challenged or altered; it consists of his ability to maintain a 'healthy' and 'balanced' conception of reality. As an integral of self-concept, ego-strength includes whether or not an individual believes in his own balance in times of stress. For example, an individual lacking in ego-strength who trips and breaks a limb, or whose house is burned by a fire,

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[1] Coleman et al., Equality of Educational Opportunity Report, p. 319.

[2] Chaplin, "Self-Concept, Level of Aspiration, and Academic Achievement."

[3] Carl J. Couch, "Self-Attitudes and Degree of Agreement with Immediate Others," American Journal of Sociology 63 (March, 1958): 491-96; Manford Kuhn and Thomas S. McPartland, "An Empirical Investigation of Self-Attitudes," American Sociological Review 19 (1954): 68-76.

might be expected to panic in the face of calamity, and later, spend energy assigning blame for what could have been accidental.

In the extreme, a lack of ego-strength could imply a personality maladjustment. Also, a lack of belief in one's own ego-strength could result in transference or blame for day-to-day insecurity. Rotter, Seeman, and Liverant say that

> Although the concept of ego-control is not always defined similarly, it seems likely that individuals at the extreme are essentially unrealistic . . . We do have indications that the people [at the extreme] may be maladjusted by most definitions to the extent that ego-control is another type of definition of maladjustment.[1]

Also commonly integrated within theories of self-concept are measures of self-confidence (or esteem).[2] The measurement of self-confidence is an attempt to 'tap' the feelings of generalized success or failure that an individual possesses about himself; whether a person is satisfied in general with his own behavior or performance, or whether he feels inadequate and inferior.

Five statements, designed to elicit an indication of a child's self-concept, were included in my study: two touch upon ego-strength, two upon self-confidence, and one upon both. Scattered at random

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[1]Julian B. Rotter, Melvin Seeman, and Shephard Liverand, "Internal Versus External Control of Reinforcements: A Major Variable in Behavior Theory," in Decisions, Values, and Groups: Proceedings of a Conference, ed. by N.F. Washburne (Alburquerque, New Mexico: University of New Mexico Press, 1957), p. 477.

[2]Morris Rosenberg, "The Dissonant Religious Context and Emotional Disturbance," American Journal of Sociology 68 (July, 1962): 1-10; Morris Rosenberg, "The Association of Self-Esteem and Anxiety," Journal of Psychiatric Research 1 (1962): 135-152; Franklin Miamoto and Sanford Dornbush, "A Test of the Inter-Actionists' Hypothesis of Self-Conception," American Journal of Sociology 61 (March, 1956): 399-403.

throughout the questionnaire, each statement, as in other attitude instruments,[1] was phrased negatively. To exhibit a higher self-concept a child would have to circle a "no" response. Exact wording and frequencies are noted in Table 23 before the responses were summed into a scale of self-concept ranging from 0 to 5.

TABLE 23

RESPONSES FROM FIVE STATEMENTS TO ELICIT A MEASURE OF A CHILD'S SELF-CONCEPT

(N=2,293)

	Percent Answering	
	No[a]	Yes
1. If I found a goat's head outside my door, I would run away and hide.	74.3	25.6
2. My enemies are trying to get me.	82.9	17.0
3. No matter what I do I always seem to fail.	72.1	27.0
4. Bad luck often comes to me.	67.0	32.7
5. I rarely succeed in the things I try and do.	53.7	45.2

[a]"No" is an indication of positive self-concept.

I was concerned that some Ugandan children, in an effort to please the investigator, would answer all questions "yes." But this "acquiescent set" problem, as described by Kenniston and by Kahl,[2]

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[1]Herbert McClosky and John H. Schaar, "Psychological Dimensions of Anomie," American Sociological Review 17 (Fall, 1958): 24-30.

[2]Kenneth Kenniston, "Yeasayers and Naysayers," Journal of Abnormal and Social Psychology 60 (March, 1960): 151-74; Joseph A. Kahl, The Measurement of Modernism: A Study of Values in Brazil and Mexico (Austin and London: University of Texas Press, 1966).

may not be serious. Other questions involving positive/negative responses (such as "does your father earn a salary") closely correspond to expected frequencies. And if children did wish to please the investigator on these statements by responding "yes," only nine individuals or .4 percent did so on all five statements (Table 24). Perhaps it was uncertainty which led the 34 individuals (1.5 percent) to leave a statement blank. These latter were eliminated from the analysis regardless of their responses on the attitude statements they did complete.

TABLE 24

RESPONSES TO ALL FIVE SELF-CONCEPT STATEMENTS: PERCENT ANSWERING "NO" TO:[a]

(N=2,293)

Zero	One	Two	Three	Four	Five	No Response
.4	4.1	14.7	25.7	36.4	20.6	1.5

[a]"No" is an indication of positive self-concept.

Validity of Self-Concept

A scale's validity can be evaluated by a number of different criteria. One criterion is face validity i.e.: do the scale items appear to express an individual's state of mind concerning himself.[1]

The first statement from Table 23 has special significance in Uganda. Reference to a "goat's head" could, alternatively, be interpreted as a measure of a superstition-impulse for the head of an animal is often used by 'witches' in 'bewitching' a person. But not

[1]McClosky and Schaar, "Psychological Dimensions of Anomie," p. 23.

only 'witches' leave goat's heads on people's doorsteps. The act can be interpreted as a plaintiff revenging an injustice. Yet regardless of the cause, when one discovers a head of a goat on a doorstep, it is a sudden change in reality, a shocking surprise. Perhaps it is analogous to an average American being served with an unexpected court subpoena. To be sure, it would give any of us a pause, some of us concern or perhaps, in some cases, even fear.

But this statement involves more than fear about finding a goat's head. It concerns a very specific, and somewhat extreme reaction. In a pre-test, a preliminary wording ("If I found a goat's head at my door, I would be afraid.") elicited an 85 percent "Yes" response. But because 74 percent now respond "No" to the same statement after "run away and hide" is added, I submit that the 26 percent who continue to respond "Yes" exhibit an acquiescence to an extreme reaction <u>in addition</u> to a normal feeling of fear. It is the acquiescence to this extreme reaction which I intended to isolate as a measure of ego-strength, and not fear in the face of what anyone would agree to be a very abnormal event.

Similarly, statement two (concerning "enemies") can be interpreted as acquiescing to a statement of an extreme reaction. The feeling of having unstated, undefined "enemies" is one indication of paranoia. Though the word enemies could describe something physical (or institutional) as well as something human, a "Yes" response indicates an acquiescence to assigning blame for a feeling of dejection or frustration. Frustration is as real as it is universal; yet what statement two measures is not simply frustration, but the transference of blame for those feelings.

Statement three (concerning "failure") and statement five (concerning a "lack of success") are similar measures. Each portends a response indicating a feeling of general discouragement or disenchantment. Phrased within the first person ("I" or "me"), a "Yes" response indicates that the respondent was not simply depressed with reference to his social group or mankind, but was pessimistic, or disheartened, or dispirited, or cynical about himself.

Statement four (concerning "Bad luck") could, like "enemies," represent a personification of blame for personal frustration. Alternatively, "bad luck" could be a synonym for "failure" or "lack of success"--a more direct indication for a lack of self-esteem.

Each of these statements are indications of self-concept. An individual whose ego-strength was "normal" would be unlikely to "run and hide" as a reaction to finding a goat's head; nor would his reality include the feeling that he had personal enemies. Similarly, an individual who possessed "normal" self-confidence, would be less likely to feel that he "always" seemed to fail, "rarely succeeded," or was "followed by bad luck."

A second way of assessing a scale's validity is to relate it to a second concept which has previously demonstrated intercorrelations. Self-concept, with its constituent parts of self-confidence and ego-strength, is linked theoretically to indices of "modernity"--with its constituents of "faith-in-science," "efficacy," and its assumptions about "distributive justice" to "hard-working" individuals.[1]

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[1]Cunningham, Modernity and Academic Performance: A Study of Students in a Puerto Rican High School, p. 27; Alex Inkeles, "The Modernization of Man," in Modernization: The Dynamics of Growth, ed. by Myron Weiner (New York: Basic Books, 1966).

Three modernity statements were included within my questionnaire. Two were drawn directly from the O-M Scale (Short Form) as reported by Smith and Inkeles;[1] a third was developed by the present author for use in Uganda. They consist of the following:

A) One should obey one's elders regardless of whether the elders are right or wrong.

B) Moscow is the capital of the United States.

C) A man is bad if he attends neither a church nor a mosque.

Responses to the three modernity statements were summed, and they demonstrate consistent correlations with the parallel measures of self-concept. The zero-order correlation is .199; it holds constant when controlled for sex and school location, and is consistently significant at the $p < .001$ level.

A third method of assessing a scale's validity is to submit the statements to a test of internal consistency. Ideally, a scale's validity would be aided by the degree of intra-correlation between the sub-items. This I have done, utilizing the Kuder-Richardson formula.[2] The five items have a K-R internal consistency of .36. In reporting results from his Brazilian study, Holsinger constructs a series of similar scales in deciding which of the many items included on his questionnaire formally make up the best measure of

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[1]David Horton Smith and Alex Inkeles, "The O-M Scale: A Comparative Socio-Psychological Measure of Individual Modernity," Sociometry 29 (December, 1966): 353-377.

[2]G.F. Kuder and M.W. Richardson, "The Theory of the Estimation of Test Reliability," Psychometrika 2 (1937): 151-160; for explication see also: George A. Ferguson, "A Note on the Kuder-Richardson Formula," Educational and Psychological Measurement 11 (Winter, 1951): 612-15.

individual 'modernity.' This K-R .36 coefficient is lower than the internal consistency of .43 for Holsinger's O-M201 scale and his O-M801 scale which appear to be more valid measures. Nevertheless, the .36 is considerably higher than the .09 reported for his O-M501 scale.[1] My internal consistency coefficient is partially a result of the dicotomous pre-coding ("Yes"/"No") of the attitude responses, a necessary approach in a single questionnaire investigating a wide range of variables over a variety of languages and cultures. However, .36 is sufficiently strong to refer to the measure of self-concept as a genuine independent variable and to discuss its effect upon the variables around it.

As a set, a pupil who responds to these statements in a consistently negative or a positive direction might be expected to exhibit certain behavior based upon his strong self-confidence and ego control, or his pronounced lack of it. Concerning those with a pronounced lack, Dreikers has observed

> We all know people who seem to be blessed with good luck and others who are apparently bedeviled by failure and misfortune. When we closely examine [them] . . . we find personal patterns peculiar to each. The 'fall guy' . . . expects to fail before he even starts; hence, he is nervous and tense. In his anxiety, he misjudges the situation and therefore fails--as he expected to do. He makes his own bad dream come true. Then he gives up. Yet even he may occasionally meet with "success." This sudden turn disturbs him. It doesn't fit his plan; it compels him to reexamine the situation until he has finally confused the issue once more. Then he can fail again, and again, and again. It is his attitude which causes his defeats.[2]

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[1] Donald Bruce Holsinger, "The Elementary School as Modernizer: A Brazilian Study," in Education and Individual Modernity in Developing Countries: International Journal of Comparative Sociology, ed. by Alex Inkeles and Donald B. Holsinger, 14 (1974): 180-202.

[2] Rudolf Dreikers, Social Equality: The Challenge of Today (Chicago: Henry Regnery Company, 1971), pp. 5-6.

Like Merton's "self-fulling prophecy" of people generally doing what is expected of them,[1] and Dreiker's suggestion that "defeat" may be "caused" by attitude, I hypothesized that Ugandan children would tend to academically perform in relation to what they "expect" of themselves. A child who has high self-confidence, who does not believe he "always fails" or "never succeeds," whose ego is strong enough so that when faced with sudden changes he will not blame personal "enemies" or "run and hide"; this child may tend to perform better on the Primary Leaving Examination.

Self-Concept and Academic Achievement

I have previously reported non-existent relationships between a child's socio-economic status and his academic achievement (Table 21). Self-concept is a better correlate, for how a child responds to the five attitude statements has small but consistent associations with his achievement scores. Table 25 illustrates the difference in the size of the correlations on three academic measures, plus a total. A child's self-concept has stronger correlations than socio-economic status on every measure of achievement. The correlations between self-concept and the score on the English Language section is .183; with General Knowledge .140; with Mathematics .208; and with the achievement total .169.

Even after controlling for socio-economic status, the strength of the relationship between self-concept and academic achievement does

[1] Robert K. Merton, Social Theory and Social Structure (New York: The Free Press, 1957).

TABLE 25

CORRELATIONS BETWEEN SELF-CONCEPT, SOCIO-ECONOMIC STATUS, AND ACADEMIC ACHIEVEMENT

(N=2,293)

	English	General Knowledge	Mathematics	Total
Socio-Economic Status	.160[a]	-.03	.04	.05
Self-Concept	.183[a]	.140[a]	.208[a]	.169[a]

[a]Statistically significant at the $p < .001$ level.

not diminish significantly (Table 26). After selecting for only those children who fell within one-half of a standard deviation of the socio-economic status mean, the correlation altered by only .014 (from .169 to .155). In a second method of controlling for socio-economic status, the partial correlation alters by only .045 (from .169 to .124). Because controls for socio-economic status do not significantly alter

TABLE 26

CORRELATIONS BETWEEN SELF-CONCEPT AND ACHIEVEMENT BEFORE AND AFTER CONTROLLING FOR SOCIO-ECONOMIC STATUS

(N=2,293)

All Cases - Zero-Order Correlation	.169[a]
Socio-Economic Status Controlled:	
Average SES Cases Only[b]	.155[a]
Partial Correlation	.124[c]

[a]Statistically significant at the $p < .001$ level.

[b]Average SES is defined as cases within one half of a standard deviation of the mean on a summary scale of mother's and father's education, father's occupation, and possessions in the home.

[c]Statistically significant at the $p < .07$ level.

the relationship between self-concept and achievement, socio-economic status cannot be said to act as an intervening variable.

Differences Between Social Status and Social Class, As Measured By Self-Concept

In the view of some scholars, present social differentiation in Africa does not exhibit the necessary ingredients of social class. It has been pointed out that the location of one's residence and the interaction among clansmen or relatives occurs commonly across lines of social status.[1] Socio-economic groups are not known for their corporate political activity,[2] perhaps because of the intermingling of traditional and modern prestige criteria.[3]

Other observers, however, in fixing their attention upon the modern, privileged sector, suggest that these new elites form a particular social class in traditional Marxist terms,[4] in their special

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[1] M. Banton, "Social Alignment and Identity in a West African City," in Urbanization and Migration in West Africa, ed. by Leo Kuper (Berkeley and Los Angeles: University of California Press, 1965), p. 144; Kenneth Little, "Introduction to Special Number on Urbanization in West Africa," Sociological Review 7 (1959): 22-39.

[2] J.C. Mitchell and A.L. Epstein, "Occupational Prestige and Social Status," Africa 29 (1959): 399-403.

[3] Darrell C. Forde, "Introductory Survey," in Social Implications of Industrialization and Urbanization in Africa South of the Sahara, ed. by UNESCO (London: International African Institute for UNESCO, 1956), p. 43; A.W. Southall, "Determinents of the Structure of African Urban Populations with Special Reference to Kampala (Uganda)," in Social Implications of Industrialization and Urbanization in Africa South of the Sahara, p. 574.

[4] Abou Moumouni, Education in Africa, translated by Phyllis Nauts Ott (New York: Frederick A. Praeger Publishers, 1968).

interests,[1] or in their corporate relations with "outside" societies.[2]

Empirical studies have approached this question by trying to determine the structural openness of the social system, principally by asking who goes to school and how large a role socio-economic status plays in determining occupational attainment. Though higher status groups have consistently been found to be over-represented, in comparison to industrial societies, African patterns of mobility appear relatively open.[3] These studies have supported C. Arnold Anderson's challenge to the thesis expounded by Lipset and Bendix or Miller, that industrialized societies have more open patterns of social mobility.[4]

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[1]P.C. Lloyd, ed., New Elites of Tropical Africa (London: Oxford University Press, 1966), p. 59; P.C. Lloyd, Africa in Social Change (Baltimore: Penguin Books, 1967), p. 357.

[2]Leonard Plotnicov, "The Modern Elites of Jos, Nigeria," in Social Stratification in Africa, ed. by Arthur Tudor and Leonard Plotnicov (New York: The Free Press, 1970), pp. 269-302.

[3]Foster, Education and Social Change in Ghana; Foster and Clignet, The Fortunate Few: A Study of Secondary Schools and Students In the Ivory Coast; Anderson, Bowman and Olson, Students, Teachers and Opportunity Perceptions in Kenya 1961-1968; Jonathan Kelley and Melvin J. Perlman, "Social Mobility in Toro: Some Preliminary Results from Western Uganda," Economic Development and Cultural Change 19 (1971): 204-221.

[4]C. Arnold Anderson, "The Social Status of University Students in Relation to the Type of Economy: An International Comparison," Transactions of the Third World Congress of Sociology (London: International Sociological Association, 1956), pp. 31-63; Seymour Martin Lipset and Reinhard Bendix, eds., Class, Status and Power (Glencoe: Free Press, 1953); S.M. Miller, "Comparative Social Mobility: A Trend Report and Bibliography," Current Sociology 9 (1960): 1-62.

But determining whether African social differentiations correspond to class distinctions can be empirically investigated in more than a structural manner. Proportional representation in the pattern of mobility is but one method of investigation. A second might be to look at the differences in attitudes between differing economic groups.

It has been suggested that social class is distinguishable from social status by the prevalence of identifiable, distinct intragroup attitudes. Marx perceives this pattern as class "consciousness." But while Lloyd sees a similar pattern emerging in Africa when he refers to elite "self-awareness,"[1] these are unsatisfactory conceptualizations because they speak only to those attitudes surrounding a group's economic self-interests.

Yet individuals can become conscious members of social groups when they begin to distinguish their characters as "better" or "worse" along some continuum of the "good."[2] Various interpretations of "worse" self-concepts have been linked to certain religious groups,[3] to ethnic minority status,[4] and to social

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[1]Lloyd, New Elites of Tropical Africa, p. 57.

[2]Talcott Parsons, Essays in Sociological Theory (Glencoe: The Free Press, 1954).

[3]Reissman, "Class, Leisure and Social Participation," in Decisions, Values and Groups: Proceedings of a Conference at the University of New Mexico; Manford Kuhn and Thomas McPartland, "An Empirical Investigation of Self-Attitudes," American Sociological Review 19 (1954): 68-76.

[4]D. Froe, "Educational Planning for Disadvantaged College Youth," Journal of Negro Education 33 (1964): 290-303; G.E. Simpson and J.M. Yinger, Racial and Cultural Minorities (New York: Harper and Row, 1965); E. Gnanaraj Moses, Perry A. Zirkel and John F. Greene,

class in both the United Kingdom,[1] and the United States.[2]

"Consciousness" of one's own group, either in economic or in non-economic terms, is the extension of how one already feels about oneself to include those others similarly situated. Perhaps one prerequisite to "class-consciousness" lies in the extent to which individuals of differing socio-economic backgrounds tend to perceive themselves as "inferior" or "superior"--whatever their criteria. Therefore, a good empirical case for the existence of social classes in Africa might be made by establishing the fact that individuals from differing socio-economic groups distinguish themselves in terms of personal attitudes toward themselves. If individuals from different social strata do feel differently about themselves, for example, if correlations can be found between lower social status and lower individual self-concept, then one can say that a potential foundation for social class consciousness had been laid.

"Measuring the Self-Concept of Minority Pupils," Journal of Negro Education 42 (Winter, 1972): 93-98.

The evidence that minorities possess inferior self-concepts has not been consistent. See: B.J. Hodges and R.C. Slakenas, "A Study of Self-Concepts of Negro and White Youth in Segregated Environments," Journal of Negro Education 38 (1960): 370-77; P.A. Zirkel, "Self-Concept and the Disadvantage of Ethnic Group Membership and Mixture," Review of Educational Research 41 (1971): 221-25; P.A. Zirkel and E.G. Moses, "Self-Concept and Ethnic Group Membership Among Public School Students," American Educational Review Journal 8 (1971): 253-65. The EEOR is also divided on the issue for it finds lower minority scores on their measure of efficacy, but not on self-concept.

[1]Foster, Education and Social Change in Ghana, p. 247.

[2]T.S. McPartland and J.H. Cumming, "Self-Conception, Social Class, and Mental Health," Human Organization 17 (Fall, 1958): 24-30.

Self-Concept and Socio-Economic Status

In industrial societies where there are relationships between socio-economic status and achievement and also between socio-economic status and self-concept,[1] finding the unique influence of one upon the other is a statistical question for survey research yet to disentangle. But in Uganda I am not faced with disentangling three inter-connecting relationships. Contrary to an industrial society, no relationship exists between a child's self-concept and his socio-economic status (Table 27). The correlation between mother's education, father's education, possessions in the home, and a summary

TABLE 27

CORRELATIONS BETWEEN A CHILD'S SELF-CONCEPT AND FIVE MEASURES OF SOCIO-ECONOMIC STATUS (N=2,293)

Mother's Education	-.04
Father's Education	-.04
Father's Occupation	-.02
Possessions in the Home	-.04
Summary Socio-Economic Status	-.04

socio-economic status measure and achievement is actually -.04; with father's occupation -.02. Nor does a relationship appear when the independent variables of sex or urban residence are controlled. This

[1] Esther Battle and J. Rotter, "Children's Feelings of Personal Control as Related to Social Class and Thenic Group," Journal of Personality 31 (1963): 482-90; V.J. Crandall, W. Katkovsky, and Anne Preston, "Motivation and Ability Determinents of Young Children's Intellectual Behaviors," Child Development 33 (1962): 643-661; V.C. Crandall, W. Katkovsky, and V.J. Crandall, "Children's Beliefs in Their Own Control of Reinforcements in Intellectual Academic Environment Situations," Child Development 36 (1965): 91-109; also see the EEOR.

non-relationship adds weight to those who already argue that African socio-economic groups do not exhibit the characteristics of social classes. But in addition, the fact that a child's self-concept is not even weakly related to any of the socio-economic status measures is crucial to understanding how different a role educational selection can play in Uganda as distinguished from the more industrial societies.[1]

The Structure of Ugandan Mobility Patterns: An Origin of Socio-Economic Self-Concept

Three ingredients of Ugandan mobility patterns can be cited to explain the non-relationships between self-concept and socio-economic status: the recentness and scarcity of schooling, the requisite of government employment as the primary avenue to occupational status, and the overwhelming importance of the Primary Leaving Examination as the criterion for any further educational experience beyond the primary level.

The Recentness of Schooling and The Absence of Class Culture

Typical of other East African countries, schools were established in Uganda only in the last eighty years. Moreover, certain areas remained without any schooling opportunities until after World

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[1]The one other African study with which I am familiar which tests a relationship between socio-economic status and self-concept has yielded parallel results. Though the study was limited to only four (two rural/two urban) schools, the data strongly suggest that the concept reported here is not an isolated phenomenon. For example, the correlations between a child's self-concept of "Total Ability" and father's occupation was .08; with father's education .01; and with mother's education .01. In addition, similar relationships were reported between self-concept and academic achievement. Mwaniki, "Relationship Between Self-Concept and Academic Achievement in Kenyan Pupils," pp. 130 and 190.

War II. Because school expansion was left almost entirely to missions by laissez-faire British authorities, progress was arduous and sporadic. In 1939, even after fifty years of school expansion there were only 51,000 pupils in primary schools. In all post-primary schools combined (including all junior and senior secondary, technical, trade, farm, vernacular, English Language Teacher Training Colleges, and Makerere College) there were only 3,000 pupils.[1] Even primary school attendance was not the norm in any district except the capital until World War II. No post-secondary school opportunity was available until 1941. And today, even after the post-independence expansion, post-primary experience is available to less than five percent of an average age cohort. The fact remains that the normal level of educational expectations is still primary school or less.

Today Uganda is educationally undeveloped compared to Brazil, Colombia, Thailand, or other countries commonly thought of as being in the "Third World" (Table 28). Ghana for example, has twice the percentage of its primary school age cohort and three times the percentage of its secondary school age cohort in school. Uganda has approximately the same percentage of its age cohort in secondary school as does Haiti, economically the poorest country in the Western Hemisphere.

The recentness of opportunity and its continuing scarcity compared to more industrial societies may be illustrated by my impression that even among the wealthiest elite in Uganda, there is not a family which does not have living, illiterate members. Unlike their

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[1] John Smyth, "The Political Economy of Educational Planning in Uganda 1939-1966" (unpublished Ph. D. dissertation, University of Chicago, 1971), p. 42.

counterparts in Britain or America, bank chairmen, or university professors, authors, and even presidents have numerous relatives who have never been to school, who are peasants, and with whom they must interact socially, often on a daily basis.

TABLE 28

PERCENT OF AN AGE COHORT IN SCHOOL: ONE MEASURE OF ECONOMIC DEVELOPMENT BETWEEN COUNTRIES[a]

Country	Year	Ages 6 - 11[b]	Ages 12 - 16
Haiti	1966	40	4
Malawi	1968	36	2
Uganda	1967	51	5
Zambia	1967	69	10
Ghana	1968	90	14
Brazil	1968	128	23
Cuba	1968	122	26
Argentina	1968	101	41
Bolivia	1968	88	21
Chile	1968	105	31
Colombia	1967	93	22
Indonesia	1967	93	22
Iran	1968	60	21
Jordan	1968	96	39
Kuwait	1968	99	66
Pakistan	1967	43	19
Syria	1968	83	33
Thailand	1968	81	13
Turkey	1968	77	24
India	1965	56	15

[a]Source: United Nations Education Scientific and Cultural Organization, Statistical Yearbook (Paris: UNESCO, 1970).

[b]Figures over 100 percent are due to higher repeating rates.

With the possible exception of the few aristocracies from tribal monarchies, true elite economic differentiation has been largely a product of the past decade since independence and wholely a product of

the post World War II economic and governmental expansion. The recentness of both schooling and political power[1] has mitigated against entrenchment of elite positions in the hands of an inherited social group. There simply has not been time for this 'first generation' of politically and socially prominent elite to have developed the genealogical purity which is necessary to adopt the rationales of superiority which permeates social classes in England or Western Europe. Thus, despite considerable ostentatious displays of unequal income, Fallers believes there to exist no class "culture" in Uganda.[2] As early as 1957 he had observed that

> The new elites do not seem to have acquired a class culture any more than did their predecessors in the nineteenth century. Present day Baganda are proud of material possessions, such as fine houses, large cars and find clothes; they admire advanced education and good command of English; they ardently pursue high position and are proud, even haughty, when they achieve it. But still they do not have what Western people mean when they speak of "class consciousness." They are not class conscious because they still do not have a class culture. Material possessions contribute to a real class culture only when their acquisition and use involves more than simple purchase. They must involve also the exercise of a <u>taste</u> which can be acquired only through training, perhaps over generations . . . social mobility and

[1] That Ugandan military leadership is dominated by the less affluent, less educated, minority groups (Kakwas and Lugbaras) suggests that a very different elite will dominate access to the civil service from the groups which originally led the independence movement (e.g.: Baganda, Bateso, Batoro, Basoga, Acholi, etc.). Though access to executive positions was in no way 'closed' under pre-military government, the army's ascent to political power implies a re-opening of an already fluid sociological situation. Military control may have an indirect by-product of further delaying for an additional generation or more any cementing of elite positions in the hands of the socially privileged which may have occurred in the brief period since independence.

[2] Lloyd A. Fallers, "Social Stratification and Economic Processes in Africa," in <u>Class, Status and Power: Social Stratification in Comparative Perspective</u> ed. by Reinhard Bendix and Seymour Martin Lipset (New York: The Free Press, 1966), p. 145.

> the development of a class culture in the sense in which I have been using the terms are obviously inter-related. Only a restriction of mobility can allow time for a class culture to develop.[1]

In sum, because schooling and occupational differentiation is so recent and so scarce (only 6.5 percent of the labor force in Uganda is salaried),[2] privileged elites tend to be first generational. Couple the unfamiliarity of elites to their new privileged status with the normality in the society of 'low' social status, and one can begin to understand why self-concept is randomly distributed among socio-economic groups.

Social Mobility: The Primacy of Educational Certification and Government Employment

The fit between educational attainment and income is tighter in Uganda than it is in those industrial societies for which data are available. Jencks claims that each additional year of education boosts future incomes of Americans about four percent.[3] Knight however, says that an additional year of schooling for Ugandans will boost their future incomes by eighteen percent and will ultimately explain a full fifty percent of their income variance.[4]

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[1] Lloyd A. Fallers, "Social Class in Modern Buganda," Paper Read at a Conference of the East African Institute for Social Research, Moshi, Tanganyika," June, 1957, p. 9 [mimeographed].

[2] This figure is derived from the following sources: Uganda Government, Enumeration of Employees (Entebbe: Ministry of Planning and Economic Development, June, 1970), p. 5; and Uganda Government, Report on the 1969 Population Census, Volume I: The Population of Administrative Areas (Entebbe: Ministry of Planning and Economic Development, November, 1971).

[3] Jencks et al.; Inequality: A Reassessment of the Effects of Family and Schooling in America, p. 223.

[4] J.B. Knight, "Earnings, Employment, Education and Income Distribution in Uganda," Bulletin of the Oxford University Institute of Economics and Statistics, 30 (November, 1968): 256.

The tightness of the Ugandan fit results from the explicit tying of government salaries to the level of educational attainment. Forty-two percent of all salaries, and 82 percent of all high level salaries are paid by the government. Thus, the private sector in Uganda is so small that scarcely one out of five professionals can locate employment outside of the civil service. Knight says that "A close relationship can be shown between income and education; more precisely, between income and educational qualifications required by the government . . . education is the decisive factor in the determination of public sector salaries."[1]

Setting a minimum educational requirement in the public sector has had its effect upon the 'openness' of the social system. Being public, hiring is open to both formal and informal scrutiny. Requirements for employment are well documented, openly published, and easily available. Each position has its appropriate educational minimum; regardless of one's prestige, ethnicity, or family position, attainment in school is a sine qua non of employment in the civil service. Again, Knight observes

> No matter how favourable a person's position--be he male, able, ambitious, city born, of dominant tribe, European (in the past) or African (in the present) with powerful or wealthy connections--he would generally not be able to increase his basic salary in the public sector much above the mean for his education or age. Similarly, a person without these qualities if he had somehow managed to received an education, would still be protected by his paper qualification.[2]

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[1] J.B. Knight, "The Determination of Wages and Salaries in Uganda," Bulletin of the Oxford University Institute of Economics and Statistics 29 (1967): 256.

[2] Ibid., p. 256.

Educational Certification and the Primary Leaving Examination

I suspect that the link between educational attainment and occupational attainment is not unfamiliar to the minds of even primary school children. Contrary to earlier fears that school children, being ignorant of their chances for employment, would 'flock' to urban areas,[1] research has quite clearly demonstrated a marked awareness and acceptance of the realities of economic life.[2]

School children, even in the most isolated of areas, seem aware that their chances of occupational success (or of even finding salaried employment) are few. When I asked an open-ended question about what they expected to be doing if they did not pass the Primary Leaving Examination, only 6.9 percent mention seeking urban employment; 47 percent say they will be 'digging' (i.e.: agriculture) or helping their parents at home.

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[1]Thomas Balogh, "Misconceived Educational Programs in Africa," Universities Quarterly 16 (June, 1962): 343-7; Moumouni, Education In Africa.

[2]Philip Foster, "Secondary School Leavers in Ghana: Expectations and Reality," Harvard Educational Review 34 (Fall, 1964): 537-58; Philip Foster, "The Vocational School Fallacy in Development Planning," in Education and Economic Development, ed. by C. Arnold Anderson and Mary Jean Bowman (Chicago: Aldine Publishing Company, 1966), pp. 142-67; David Koff, "Education and Employment: Perspectives of Kenyan Primary School Pupils," in Education, Employment and Rural Development, ed. by James R. Sheffield (Nairobi: East Africa Publishing House, 1967); Albert J. McQueen, "Aspirations and Problems of Nigerian School Leavers," Inter-African Labour Institute Bulletin 12 (February, 1965): 35-51; Margaret Peil, "Aspirations and Social Structure," Africa 31 (January, 1968): 71-78; Sheldon G. Weeks and T. Wallace, "Blight or Blessing? Fact and Fantasy on School Leavers in Uganda: A Position Paper for Policy Makers," Manpower and Unemployment Research in Africa 5 (April, 1972): 38-48; Lewis Browinstein, Education and Development in Rural Kenya: A Study of Primary School Graduates (New York: Praeger, 1972); Stephen P. Heyneman, "Fallacies in Educational Economics: Some Heresies Relevant to African Planning," Manpower and Unemployment Research in Africa 5 (April, 1972): 31-17.

P7 children are not ignorant about their chances for success. That only ten percent of those who sit for the examination can be offered further education is widely known. In fact, seven percent flatly state that they will be trying to repeat next year, regardless of the likelihood of their being punished if caught.

What is startling about Ugandan children is not their low expectations, but the seeming irrelevance of social status to their aspirations. Ambitious children of both presidents and peasants know two things perfectly clearly. First, they know that occupational success depends upon meeting the minimum educational requirements for a job. In other societies, success in school depends upon a child's grades, or personality, or neighborhood, or tax base, or homework, or conduct. Second, each Ugandan child knows that the only criterion for achieving an opportunity for advancement beyond primary school is to attain a Grade I pass (a score of 200 in 1972) on the Primary Leaving Examination.[1]

Consequently, it is common for a child to feel that despite all of the particularistic characteristics present in other societal arenas where ethnic group and family connections facilitate mobility, the secretly-written, uniformly-administered, multiple choice, computer-graded Primary Leaving Examination represents a trustworthy and fair system for evaluation.

Perhaps a strong reason for the random distribution of self-concept between social groupings among P7 pupils is this 'trustworthiness'

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[1]Teacher evaluations are used only in "border-line" cases, and for selection into particular schools.

of the system of academic evaluation. The fact that children realize that they will be evaluated solely on the basis of performance on a test uniform throughout the country, that their teachers, families, and tribal affiliations will be unknown and irrelevant to the machine which reads their answers, must be a morale boost to those in more compromising social milieus. Given all the nuances of personality testing, I.Q., class grades, and other methods of evaluation in America, Britain, and Western Europe, the Primary Leaving Examination, as the sole criterion,[1] suggests that in the area of educational selection, Uganda might be viewed as a very universalistic society.

Summary

Perhaps the linchpin to Uganda's attitudinal classlessness among P7 children may be the single criterion for post-primary selection. But there is one social hitch on which the universalistic characteristics of the Primary Leaving Examination depend: the lack of a strong relationship between performance and socio-economic status.

It seems probable that because of the recentness and continuing scarcity of schooling, social class culture has not permeated modern social differentiations. Moreover, because of the direct link between school attainment and employment, academic achievement carries more 'weight' than it would in a society where entrepreneurial enterprises, independent from schooling, is a more viable avenue for occupational success. Lastly, because selection into secondary school is determined essentially by the computer, children in the most unpromising of social

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[1] Ibid.

circumstances do not feel at a disadvantage and do not feel less self-confident than do children from the more privileged backgrounds.

Yet if this one 'hitch' were to alter, for example, if an examination was introduced which correlated more strongly with socio-economic status, then the universality of Uganda's selection criteria would diminish. At the moment, however, higher performance and therefore the possibility of occupational success, lie more in a sense of concept that a child has of himself than in how privileged a child's social environment may be. Why some individuals are endowed with higher levels of self-concept I do not know; but at this point I can say that unlike other societies, self-concept among Ugandan P7 children does not seem to be a function of their level of socio-economic privilege.

CHAPTER VI

ACCOUNTING FOR THE VARIANCE IN ACADEMIC ACHIEVEMENT BETWEEN PUPILS: A COMPARISON OF UGANDAN AND IEA DATA

The IEA and Ugandan Models

In the three volumes recently published from the International Evaluation of Achievement (IEA) studies,[1] an effort was made to distinguish between the effects of four "blocks" of variables: (A) Pre-School Influences, (B) Curriculum Tracking, (C) In-School Facilities and Teacher Characteristics, and (D) "Kindred" or Attitudinal Variables. The model assumes linear causality, and is represented below in Table 29.

In each of the IEA studies, cardinal attention was focused upon BLOCK C. If this block could be shown to have an impact upon BLOCK E (achievement), then perhaps by manipulation of teacher training and certain educational physical facilities, educators would be able to affect the achievement levels of low-performing children.

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[1] Alan Purves, Literature Education in 10 Countries (Stockholm: Amqvist and Wiksell, 1973); L.C. Comber and John P. Keeves, Science Education in 19 Countries: An Empirical Study (Stockholm: Amqvist and Wiksell, 1973); Robert L. Thorndike, Reading Comprehension in 15 Countries: An Empirical Study (Amqvist and Wiksell, 1973); see also the first published volume by Thorston Husén (ed.), International Study of Achievement in Mathematics: A Comparison of 12 Countries, Volumes I and II (Stockholm: Amqvist and Wiksell, 1967).

TABLE 29

BASIC IEA MODEL SHOWING THE EFFECTS OF FOUR VARIABLE BLOCKS ON ACHIEVEMENT

BLOCK A	BLOCK B	BLOCK C	BLOCK D	BLOCK E
Pre-school Effects	Curriculum Tracking	In-school Effects	Kindred Attitudes	Scholastic Achievement
Age Sex SES	Grammar School University-Curriculum	Teachers & Facilities	Self-Concept & Other Measures	Mathematics Science Geography History Literature Language

Direction of Influence ⟶

But policy decisions based upon attempts to influence school variables would be premature without first considering that some schools are 'blessed' with advantaged students who manifest superior performance before they enter school. These pre-school influences are conceptualized as the first variable block.

In explaining the rationale for controlling BLOCK A influences, Peaker and the IEA studies have used the analogy of handicapping in a yacht race. Those characteristics which children acquire before entering school, and over which the school exerts no influence, are likened to the dimensions of a yacht in a race with others possessing a range of sizes and qualities. It would be unfair to compare the racing time of an expensively-fitted, sleek ship competing on the same course against

a smaller and heavier ship. Similarly, it would be unfair to compare schools without accounting for the advantage of some schools which attract children with inherited qualities associated with high academic performance. Just as ships of many dimensions are given an equal chance to demonstrate their relative prowess by 'handicapping' the superior-equipped ships, schools are allowed to demonstrate their influence only after the children's pre-school characteristics are taken into account. Comber and Keeves further describe the analogy by saying that

> In yachting the performance of a captain and his crew is judged not in terms of the order in passing the finishing post, but rather by the time taken when the dimensions of the yacht and its sails have been taken into account. Each yacht is commonly given a handicap depending upon its waterline length and its sail area, and the actual time taken is adjusted for this handicap before the performance is assessed.[1]

The IEA studies reasoned that because academic performance is linked to the inherited characteristics of age, sex, and socio-economic status, these pre-school characteristics are analagous to the size of a yacht's sails and should be controlled as a 'handicap' before one can fairly evaluate the effects of school variables.

BLOCK B, that of curricular tracking, applies to schools which divide students into an academic, university-oriented curriculum and non-university curricular streams. Since Uganda has but one national curriculum which spans public, private, non-religious and all religiously-affiliated schools offering the Primary Leaving Examination, this block of variables is of no concern in the Ugandan model.

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[1]Comber and Keeves, Science Education in 19 Countries: An Empirical Study, p. 135.

BLOCK D, attitudinal variables, is labelled by the IEA studies as "kindred" influences because it could, conceivably, be a cause or a result of BLOCK B. For example, in schools which separate pupils by aptitude, a child's opinion of himself or attitude toward his studies might be influenced by the particular curriculum stream in which he is placed; on the other hand, his attitudes may affect his original placement within that stream. Furthermore, in other studies of achievement where grade point averages over time are taken as the dependent variable, the direction of causal influence is even more suspect because a child's attitudes can be affected by the results of his previous academic performance as easily as his performance can be affected by his attitudes.

In the present study, however, the direction of influence is less likely to suffer from such lack of uniformity. First, because there are no BLOCK B variables, attitudes cannot affect them. Second, because the pupil's attitudes of self-concept were measured six months previous to their sitting for the PLE, there is no possibility of the dependent variable affecting their self-concepts. Thus, with the exception of BLOCK B variables, the Uganda model parallels that of the IEA studies, and appears in Table 30.

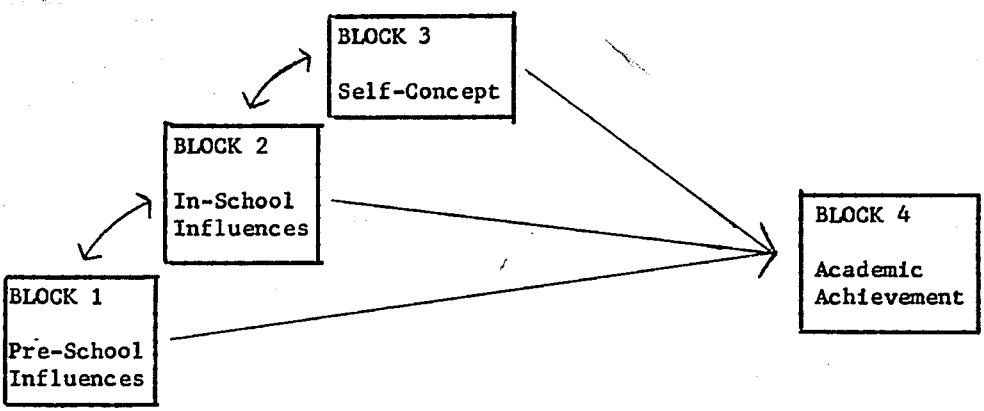
Ugandan Pre-School Influences

Socio-Economic Status

Random relationships between socio-economic status variables and achievement were reported in Chapters IV and V. Because of this lack of association, it is not surprising that SES accounts for less than one percent of the variance in achievement. Of all the three

TABLE 30

BASIC UGANDAN MODEL SHOWING THE EFFECTS OF THREE VARIABLE BLOCKS ON ACHIEVEMENT



variables included in BLOCK 1,[1] SES accounts for the smallest portion of the variance; when all of the variables in the model are entered individually in step-wise fashion, SES appears last and accounts for the smallest portion of the variance.

Age

Though grade seven pupils in industrially developed societies tend to deviate from the mean by less than a year, P7 pupils in Uganda ranged from as young as ten to as old as eighteen years old. I had the thought that the more mature the pupil, the more likely he would be to score well. However, this is simply not the case (Table 7). Like SES, age acts in non-linear fashion. Twelve year old children on

[1]The IEA variable blocks will be referred to by letters; variable blocks in the Ugandan model by numbers.

the average scored higher than 13, 14 or 15 year old children. The correlation between age and achievement of -.04 explains why age, when entered into the regression, accounts for only .4 percent of the achievement variance.

Sex

Females in the United States often do as well or better than males in test performance situations. They do especially well on language examinations and, unlike some ethnic minorities or pupils from lower socio-economic backgrounds, they are not at a disadvantage on tests of intelligence. But this does not seem to be true in Uganda where schoolgirls perform poorly in test situations. On the Primary Leaving Examination in 1972, their mean score was twelve percent below the mean for boys; on the Raven's Progressive Matrices, girls scored one quarter of a standard deviation below boys. This difference between Ugandan male and female academic performance is nationally and publicly recognized; the government has altered standards of admission to senior secondary schools and for repeating the Primary Leaving Examination to allow for a more proportional representation of females.[1]

The correlation of .193 ($p < .001$) between sex and academic achievement accounts for the fact that almost three percent of the overall achievement variance can be explained by knowing the sex of the pupil. Sex, by itself, explains more variance than any other single variable except intelligence.

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[1] Y.Y. Okot, Senior Examination Secretary, Ministry of Education, Circular A: 283, January 12, 1972.

The Weight of Pre-School Influences: A Comparison Of Ugandan and IEA (Science) Results

First a cautionary note. Using any of the IEA studies as comparison to the Ugandan study raises methodological concerns which warrant some comment. There are four basic differences. First, each IEA achievement test was specifically devised for a special cross-national study of diverse countries; the Ugandan PLE was administered as a selection examination specifically for Ugandan children. Thus, Ugandan children sat for the PLE with the knowledge that the examination was to be used for selection purposes, perhaps creating additional motivation to achieve. Children of the IEA studies took the tests with the knowledge that their scores were to be used solely for research purposes.

Second, the IEA studies are "subject-specific" i.e.: science, literature, reading comprehension, etc.; the Ugandan study takes a summary achievement score as its basic dependent variable. Third, the IEA equivalent population (population II) is limited to age 14. The Ugandan study draws from all children in P7 whose mean clusters around age 14, but who in fact range from age 10 to age 18. Fourth, the IEA studies were administered indirectly, with "national teams" requesting information by mail from the different schools which fell into the samples. Variations in energy and experience among national teams, the probability of bias due to the absence of on-site inspection both added distance between the authors of the research reports who rarely received the opportunity to view the schools from which their data had drawn and differentiates a methodology necessitated by multi-national requirements. In the Ugandan study, I gathered the data from each of

the 67 schools in the sample, therefore making the final author responsible for the reliability of its collection.

Despite these four contrasts, however, there is value in being able to place the Ugandan results in a comparative context. A common effort is to evaluate the effect of school influences on academic performance, and I suggest that a number of sufficiently parallel characteristics have been utilized to warrant a comparison.

BLOCK 1, consisting of SEX, AGE, and the SES of the pupil account for a total of 4.8 percent of the variance in achievement. When this is placed alongside the Population II results of the IEA study on science achievement,[1] the weight of these pre-school influences in Uganda appear higher than the three percent reported for science achievement in India, equivalent to that of Iran, but lower than 15 out of 17 countries reporting similar data on the equivalent age group. Table 31 illustrates these facts in the top row which compares the proportion of variance explained by pre-school influences in each of the 17 IEA countries reporting for science at Population II, and the proportion explained by the identical block of Ugandan variables.

Secondly, (in the second, third, fourth and fifth rows) Table 31 displays four measures of social and economic development for each of the 18 nations: Gross National Product Percapita, Gross National Product Growth Rate, Percentage of Children in Primary Schools,[2] and the Percentage of Children in Secondary Schools.

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[1]The science study was chosen because it covered data from more nations than the studies on literature, reading comprehension, English and French as a foreign language, or civic education.

[2]Nations with high rates of primary school repeating display figures in excess of 100 percent.

TABLE 31

ACHIEVEMENT AND SOCIO-ECONOMIC DATA FOR 18 SELECTED COUNTRIES

	Scotland	Japan	England	USA	Finland	Netherlands	Sweden	Fed. Ger. Rep.	New Zealand	Australia	Hungary	Chile	Italy	Thailand	Belgium (Fr.)	Iran	India	Uganda
Pre-School[a] Influences on Achievement	29.0	23.0	23.0	22.0	22.0	19.0	18.0	18.0	17.0	16.0	14.0	13.0	10.0	10.0	8.0	5.0	3.0	5.0
GNP[b] Percapita (1971) ($000)	2.4	2.1	2.4	5.2	2.6	2.6	4.2	3.2	2.5	2.9	1.2	.8	1.9	.2	3.0	.5	.1	.1
GNP[b] Growth Rate (1965-1971) (Percent)	1.8	10.4	1.8	1.9	4.6	4.2	3.9	4.2	1.6	3.3	5.9	2.4	4.6	4.7	4.5	7.7	2.4	1.6
Percent in[c] Primary School (Ages 6-11)	97.0	98.0	111.0	102.0	101.0	103.0	94.0	127.0	106.0	107.0	102.0	105.0	108.0	81.0	111.0	60.0	56.0	51.0
Percent in[c] Secondary School (Ages 12-16)	42.0	86.0	72.0	100.0	69.0	62.0	94.0	66.0	56.0	77.0	31.0	31.0	54.0	13.0	- -	21.0	15.0	5.0

[a]Source: L.C. Comber and John P. Keeves, Science Education in 19 Countries: An Empirical Study (Stockholm: Almqvist and Wiksell, 1973), p. 261.

[b]Source: World Bank, Atlas of Population, Percapita Product, and Growth Rates (Washington, D.C.: International Bank for Reconstruction and Development, 1973).

[c]Source: United Nations Education, Science and Cultural Organization, Statistical Yearbook (Paris: UNESCO, 1970).

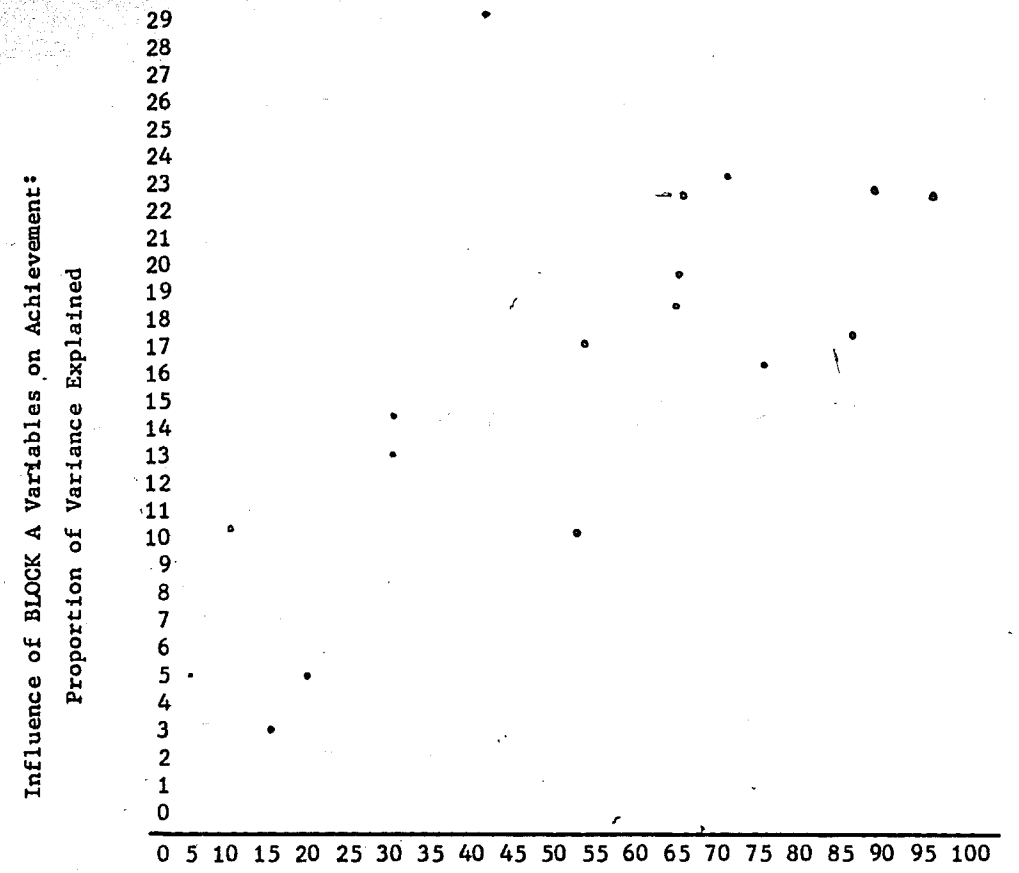
One tendency becomes increasingly evident. Though pre-school influences (BLOCK A) account for ten percent of the achievement variance in countries as economically diverse as Italy and Thailand, and though BLOCK A variables explain only eight percent of the variance in French-speaking Belgium, these BLOCK A variables appear to explain larger portions of the achievement variance in the wealthier, and more industrialized nations. The fact that 22 percent of the U.S.A. variance, and 23 percent of the English and Japanese variance is explained by these background variables lend credence to the supposition that the more industrialized a society becomes, the more a child's achievement in school is likely to be affected by one's parentage as measured by socio-economic status.

For example, when the percentage of children in secondary school, one good measure of a nation's level of economic development, is plotted against the effect of BLOCK A on achievement (Table 32), one notices a tendency toward linearity. The higher the percentage of a nation's age cohort in secondary school, the greater the percentage of achievement variance explained by pre-school influences.

To test this further, the data on the national product, the economic growth rate, and the percentages of children in school were correlated with the proportion of variance explained by BLOCK A variables (Table 33). It is obvious that there is an association with three of the economic indicators. The correlation between BLOCK A's effect and percapita income is .669 ($p < .002$); with the percent in primary schools .503 ($p < .03$); and the percent in secondary schools .706 ($p < .002$). This is one indication that in the more wealthy nations, children's achievement is more affected by their social background. However, there is no

TABLE 32

PERCENTAGE OF CHILDREN IN SECONDARY SCHOOL AND THE INFLUENCE OF BLOCK A VARIABLES ON ACHIEVEMENT IN 17 NATIONS (INCLUDING UGANDA)[a]



[a]The percentage of children in secondary school was not available for one country.

indication of any association between the rate of growth of GNP and the effect of BLOCK A variables on achievement, perhaps indicating that the social effects of industrial growth on academic performance occur slowly, only over many generations.

TABLE 33

CORRELATIONS BETWEEN THE EXPLANATORY POWER OF BLOCK A VARIABLES ON ACADEMIC ACHIEVEMENT AND FOUR MEASURES OF ECONOMIC DEVELOPMENT

(N=18)

Per Capita Income[a]	.669 [p <.002]
Percent GNP Growth Rate (1965-1971)[a]	-.004 [N.S.]
Percent of Age Cohort in Primary School[b]	.503 [p <.03]
Percent of Age Cohort in Secondary School[b]	.706 [p <.002]

[a]Source: World Bank, Atlas of Population, Percapita Product, and Growth Rates (Washington, D.C.: International Bank for Reconstruction and Development, 1973).

[b]United Nations Education, Scientific and Cultural Organization, Statistical Yearbook (Paris: UNESCO, 1970).

However, in order for us to generalize with confidence from the above correlations, two additional sources of achievement variance data are needed: (1) data from socialist nations whose stated social policy is to minimize the inheritable effects of privileged status, and (2) additional data from lesser developed nations. Only four of the IEA countries are 'underdeveloped' economically, compared with 14 industrial societies.

Expansions On The IEA Model

The original intent of the IEA's BLOCK A variables was to equalize the raw material with which the school had to deal so that the impact of school variables could be attributed to them alone. However, SEX, AGE and SES are only three of the necessary controls which should be placed on pre-school influences. I find it necessary to introduce two others.

Access to Schooling

In industrially developed societies where close to 100 percent of an age cohort can today attend school free, access to primary schools is no longer an important concern. However, in societies where schooling is not free and where attendance is spotty, the schools in areas of the least opportunity are 'advantaged' in that the pupils are less representative of their age cohorts. Children in areas of low access to schooling are not picked at random to attend school, and it would not be correct to compare the effects of schools which must deal with the average child to those which must deal with children whose preselection is more rigorous due to the scarcity of school places.

A measure of access to schooling has previously been defined and explored in Chapter I. This is a measure of the percentage of children in each sample school's county attending primary school. Though ACCESS ultimately accounts for less than one percent of the total variance in achievement, it is crucial to understanding Primary Leaving Examination performance. When allowed to enter the regression individually, it ranks stronger than AGE, EXAM REPETITION, or SES.

Intelligence

There is no more central concept for which to control in achievement studies than a child's inherited potential capacity for learning. A school's effect upon a child of average intelligence should not be compared to its impact on a child of superior intelligence--unless intelligence is statistically accounted for. More intelligent children acquire academic skills more quickly and easily, and will perform at superior levels on academic achievement tests irrespective of school influences.

Pupils in schools which attract children of better than average intelligence will often perform better, regardless of the care, attention, effort, or skill with which the schools attempt to transmit academic knowledge.

But the concept of intelligence still confronts four serious theoretical difficulties: (1) the lack of unequivocal definitions, (2) the contribution of environment to learning, (3) the lack of consistency of intelligence measures, and (4) the cultural influences which define intelligent behavior. Because of these strongly-founded objections to the theory that intelligence instruments are solely measures of inherited learning potential,[1] I proceed with two assumptions: (a) that the Raven's Progressive Matrices Test is a valid measure of inherited learning potential, and (b) that it is not.

Following the first assumption, I have entered the pupil's score on the Raven's Progressive Matrices Test into the BLOCK 1 variables. This action significantly alters the amount of variance accounted for. The Raven's Progressive Matrices scores, when entered independently, account for 13.1 percent of the achievement variance, its zero-order correlation of .362 signifying the equivalent of its multiple R when entered first. The intelligence of the pupil accounts for more variance in achievement than any other single variable, or combination of variables.

If access to school and intelligence are assumed as part of preschool influences, the effect of BLOCK 1 increases dramatically. From

[1]Shephard Liverant, "Intelligence: A Concept in Need of Reexamination," in Decisions, Values, and Groups: Proceedings of a Conference at the University of New Mexico, ed. by Norman F. Washburne (Alburquerque: University of New Mexico Press, 1957), pp. 66-85.

accounting for 4.8 percent of the variance when conceived in congruence to the IEA three-variable BLOCK A model, it rises to account for 16.6 percent of the variance when these two additional variables are added.

However, if the second assumption above is followed (Table 34), and the Raven's Progressive Matrices is considered an unjustifiable measure of innate intelligence, then the increase of the additional variable to BLOCK 1 is far less dramatic, but significant nonetheless.

TABLE 34

PERCENTAGE OF ACHIEVEMENT VARIATION EXPLAINED BY THREE VARIANTS OF PRE-SCHOOL INFLUENCES

IEA Model	Assumption 1	Assumption 2
SEX, AGE, SES	SEX, AGE, SES, INTELLIGENCE, ACCESS	SEX, AGE, SES ACCESS
4.8	16.6	5.7

BLOCK 2: The Impact of School Variables On Achievement

Teacher Quality in the English Language

Of all the variables attempting to measure the influence of teachers,[1] [Chapter 2] only one demonstrates a correlation with academic achievement [.139 ($p < .001$)]: this is teacher performance in the English Language averaged by school. I consequently entered this into the

[1] Included were the following variables: Teacher Grade, Experience, Experience at that School, Number of Years of Schooling, Education of the Parents, Possessions in the Childhood Home, and English Language Ability.

regression as expressing the impact attributable to the influence of teachers. Taken alone, the school's teacher quality in the English Language accounts for 1.4 percent of the overall variance, ranking it higher than any other variable excluding SEX and INTELLIGENCE. Of all the pedagogical variables which lend themselves to policy manipulation, the English Language Ability of the school's teachers would be the most likely to affect the achievement level of pupils.

P7 Books and Physical Facilities

The ratio of the number of books available per pupil in P7 demonstrated a small but consistently significant correlation with academic achievement [.141 ($p < .001$)]. In a society where television and films are available only to the most privileged, it was hypothesized that books could assume an importance well in excess to their role in an industrial society. Other facilities and physical characteristics of schools have demonstrated correlations with academic achievement ranging from .330 for the presence of a duplicator to .081 for the presence of a staff meeting room, but not always at statistically significant levels [Chapter 3].

To assess the impact of facilities, I have summed the following items into a single variable: a duplicator, a farm, library, glass windows (actually filled with glass), a football field (hockey in the case of a girls' school), electricity, boarding facilities, and a staff room. Each was assigned equal weight; and each school, as in Chapter 3, was assigned a summary score referred to hereafter as FACIL.

The correlation of .159 ($p < .001$) between FACIL and achievement is indicative of zero-order association worthy of note, but when FACIL

and P7 books are entered into the regression individually, neither accounts for as much as one percent of the variance. However, when the three school variables (P7 BOOKS, TEACHER ENGLISH QUALITY, and FACIL) are entered simultaneously, their combined effects account for 3.2 percent of the total variance and 31.7 percent of the explained variance. In sum, even though SES accounts for a small fraction of the Ugandan achievement variance compared with industrial societies, the impact of pre-school influences (4.8 percent) is still noticably greater than the 3.2 percent attributable to school teachers and school physical facilities.

BLOCK 3: The Impact of Self-Concept

As previously mentioned, attitudinal variables are noted as "kindred" influences in the IEA model because it is unclear whether they are a cause or an effect of BLOCK B. However, no such confusion occurs in a model which excludes the influences of curricular tracking.

Previously reported lack of associations between SES and achievement [Chapter 4] and between Self-Concept and SES [Chapter 5] intensified my interest in the role that a child's attitudes would play in accounting for variance in academic achievement. Because of this lack of intervening correlations, when the achievement correlation of .117 ($p < .001$) is entered singly, it accounts for .9 percent of the overall variance which ranks it stronger than ACCESS, AGE, FACIL, and SES. As the BLOCK 3 variable, when entered third into the regression, Self-Concept accounts for 2.1 percent of the total overall variance, and 20.8 percent of the explained variance. In other words, of all the

academic achievement variance which can be accounted for in applying the IEA model to Ugandan primary school children, one-fifth is attributable to a child's Self-Concept.

The Weight of BLOCK 1 and the Order of Entry

Though BLOCK 1 variables account for a little less than half of the explained variance, a portion of its effect can be attributed to its being entered first into the regression equation. This order of entry issue surrounded the original debate over the methodological quality of the Equality of Educational Opportunity Report [EEOR],[1] the Jencks conclusions,[2] and is presently central to the evaluation of the recently published IEA studies.[3]

The subject is not in any way peripheral, for in each of the studies where BLOCK A variables have been entered first, they have been assured an artificially inflated influence to the detriment of BLOCK C or BLOCK D variables. In any causal or path analysis where the order of entry is determined on the basis of chronological fact, it is reasonable that SEX, SES, and AGE be entered first and controlled first. A child acquires each of these characteristics first, chronologically before entering school, and the school's influence cannot alter them. But what

[1] Samuel Bowles and Henry M. Levin, "The Determinants of Scholastic Achievement: An Appraisal of Some Recent Evidence," Journal of Human Resources 3 (Winter, 1968): 1-24.

[2] Ernesto Schiefelbein, "The Jencks Impact on Developing Countries," Paper Presented at the "Workshop on the Economics of Education: Alternative Strategies for Investment," World Bank, October 10-12, 1973, Washington, D.C. [mimeographed].

[3] James S. Coleman, "Effects of School on Learning: The IEA Findings," Paper Presented at the Harvard-IEA Conference, November, 1973, Cambridge, Massachusetts [mimeographed].

seems reasonable-intuitively may, in fact, be statistically asymmetric. Whichever variable or block of variables enters an equation first assumes both direct and indirect effects of the latter entered variables or groups of variables. In contrast, those entered later display their direct effects on the dependent variable only, and none of the indirect effects from those entered earlier.

The result contrives a balance in favor of the variable block entered earliest, regardless of its theoretical justification. Coleman, in an extension of Peaker's yacht analogy, likens this effect to the fact that yachts may be equalized with regard to their sail and waterline dimensions, but when one turns to analyze the fastest times, the handicap does not account for the fact that the better of the higher handicapped yachts tend to also be equipped with higher quality, more experienced crew members.

> Suppose, however, yachts with larger sails tended to be manned by better crews, so that the performance of those yachts, averaged over many crews, included an increment of performance due to better crews, rather than only an increment due to larger sails. Then the handicap score will be wrong, because of the correlation of good crews with larger-sailed boats. The average performance of larger sailed boats will be overestimated, and the subsequent performance of crews sailing those boats will be underestimated. It is only because a handicap score for boats with given dimensions can be made independent of the quality of the crews that handicapping works correctly.[1]

This is a central point. Since the original EEOR findings published in 1966, subsequent studies by Jencks, Husén, Purves, Thorndike, and Comber and Keeves[2] have reported the dominant impact of pre-school

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[1]Coleman, "Effects of School on Learning: The IEA Findings," p. 11.

[2]Jencks et.al., Inequality: A Reassessment of the Effects of Family and Schooling in America; Gilbert Peaker, The Plowden Children: Four Years Later (London: National Foundation for Educational Research

influences against the "disappointing" or "discouraging" effect of school variables. In turn, these studies have heavily influenced the most recent of reports and IEA evaluations.[1] As concerned men, these researchers presumably would have relished pointing to school or teacher variables whose emphasis could hold the possibility of ameliorizing the learning of children. However, each has had to admit that the impact of the school which lends itself to policy alteration, paled beside the more fixed influence of the home, making the role of the educator in determining cognitive output, appear insignificant by comparison.

Recent developments may now have modified the situation. Studies have recently tested for the effects of school outside of industrial societies. Work by Schiefelbein and Farrell, Drysdale, Wolff, and Carnoy[2]

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in England and Wales, 1971); Husén, International Study of Achievement in Mathematics; Purves, Literature Education in 10 Countries; Thorndike, Reading Comprehension in 15 Countries: An Empirical Study; Comber and Keeves, Science Education in 19 Countries: An Empirical Study.

[1]S. Shimada et. al., International Survey of Science Education: Report of the Japanese National Commission of IEA, Volume I (Tokyo: National Institute for Educational Research, March, 1973); Glyn E. Lewis, International Studies in Evaluation IV: English as a Foreign Language in 10 Countries (Stockholm: Almqvist and Wiksell, 1974); John B. Carroll, International Studies in Evaluation V: French as a Foreign Language in Seven Countries (Stockholm: Almqvist and Wiksell, 1974); R.F. Farnen, S. Marklund, A.N. Oppenheim and Judith V. Torney, International Studies in Evaluation VI: Civic Education in 10 Countries (Stockholm: Almqvist and Wiksell, 1974); Harry A. Passow, Harold J. Noah and Max Eckstein, International Studies in Evaluation VII: The National Case Study: An Empirical Study of Twenty-One Educational Systems (Stockholm: Almqvist and Wiksell, 1974); Gilbert F. Peaker, International Studies in Evaluation VIII: An Empirical Study of Education in Twenty-One Countries: A Technical Report (Stockholm: Almqvist and Wiksell, 1974); John Simmons, "How Effective is Schooling in Promoting Learning? A Review of the Research" (Washington, D.C.: International Bank for Reconstruction and Development) [mimeographed].

[2]Ernesto Schiefelbein and Joseph P. Farrell, "Expanding the Scope of Educational Planning: The Experience of Chile," Paper Presented at the Meeting of the International Society of Educational Planners, Mexico

has shown that the school can make sizeable contributions to explaining achievement variance in lesser industrialized societies.

Because of these recent studies, and because of the important implications of administrative decisions based upon achievement research, Schiefelbein makes a strong argument to caution advisors who would uncritically transfer the Jencks or Coleman conclusions for the United States to developing countries.[1]

Schiefelbein's caution is supported by the Ugandan data. Though measures of school effects have been narrowly defined to physical facilities and teacher characteristics (leaving the issue of classroom climate effects aside), schools manage to account for nearly a third of the explained variance. Their impact is two thirds (.66) that of BLOCK 1 --which is more than the "direct" school effects reported for Italy (.56), Finland (.60), or England (.44).[2]

School effects in relation to pre-school effects differ substantially in Uganda from the industrialized societies in one other way. The principle concern in the IEA studies has surrounded the very large portion of the academic achievement variance attributable to the influence of a child's socio-economic status. And though BLOCK 1 does remain the largest

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City, June, 1973; Robert Drysdale, "Factors determinantes de la desercion escolar en Colombia," Revista del Centro de Estudios Educativos, vol. 2 (Mexico 1972); Laurence Wolff, "The Use of Information for Improvement of Educational Planning in Rio Granada do Sul, Brazil,"(Unpublished Ph. D. dissertation, Harvard University, 1971); Martin Carnoy, "Un enfoque de sistemas para evaluar la educacion, ilustrado con datos de Puerto Rico," Revista del Centro de Estudios Educativos, vol. 1 (Mexico 1971).

[1]Schiefelbein, "The Jencks Impact on Developing Countries."

[2]Coleman, "Effects of School on Learning: The IEA Findings," p. 41.

explainer of achievement variance in Uganda (4.8 percent), virtually all of BLOCK 1's impact is due not to SES, but to SEX. The influence of SES is minimal. For example, if SEX is excluded from BLOCK 1, its impact in explaining achievement variance alters dramatically (Table 35).

TABLE 35

THE EFFECT OF SEX WITHIN BLOCK 1: ALTERATIONS IN IMPACT OF VARIABLE BLOCKS WITH AND WITHOUT THE INCLUSION OF SEX

	Added Variance Explained		Proportion of Explained Variance		Ratio of Explained Variance Compared To BLOCK 1	
	X[a]	Z	X	Z	X	Z
BLOCK 1	4.8	.3	47.5	5.6	--	--
BLOCK 2	3.2	2.9	31.7	50.0	.66	8.9
BLOCK 3	2.1	2.6	20.8	44.0	.44	7.8

[a]X= SEX included within BLOCK 1. Z= SEX excluded from BLOCK 1.

After explaining 4.8 percent of the achievement variance, pre-school influences drop to .3 percent when SEX is excluded. The proportion of explained variance drops from 47.5 percent to 5.6 percent, while the ratio of BLOCK 2 (school) effects to BLOCK 1's effects escalates from .66 to 8.9, BLOCK 3 from .44 to 7.8. Thus, though SES and AGE are necessary control factors for estimating school effects, the principle focus of control in Uganda should be placed on SEX. The systematic differences in performance associated with being male or female are the most pronounced and widely distributed among the P7 school children in this non-industrial society.

The Role of the Ugandan Primary School In Influencing P7 Scores

Discussing the primary school's importance in influencing academic achievement is like commenting on a glass partly filled with water. For example, how full does the glass have to be before one can say: It's full? Even if the amount is expressed in quantifiable terms, should one assume the role of a pessimist and say: It's half empty, without acknowledging the optimist who could justifiably say: It's half full? In the IEA, three-variable conception of pre-school influences, Ugandan schools have a direct, independent effect on 3.2 percent of the total variance in achievement (Table 36). If Assumption 1 or Assumption 2 is employed, the effect is reduced to 1.4 or 2.6 percent. These amounts of achievement variance explained seem small if one is interested in the precise prediction of monetary returns to investment in schools.

TABLE 36

PROPORTION OF VARIANCE EXPLAINED AND PERCENTAGE OF EXPLAINED VARIANCE OF EACH VARIABLE BLOCK WITH THREE VARIANTS OF PRE-SCHOOL INFLUENCES

	IEA Model		Assumption 1[a]		Assumption 2[b]	
	A[c]	B	A	B	A	B
BLOCK 1	4.8	47.5	16.6	87.8	5.7	54.8
BLOCK 2	3.2	31.7	1.4	7.4	2.6	25.0
BLOCK 3	2.1	20.8	.9	4.8	2.1	20.2

[a] INTELLIGENCE and ACCESS added.

[b] ACCESS added.

[c] A= Proportion of Variance explained. B= Percentage of Explained Variance.

On the other hand, even the most careful studies in industrial societies, using instruments developed in those societies and adding up all their variables, rarely account for a total much in excess of half the achievement variance. Much of how a child performs is still left to chance, to the situation at the moment of the test, and to variables not yet quantified. Much of a child's performance may be separate from the aptitude supposedly being tested. Travers took note of this as early as 1949 when he said that

> The fact that one adolescent is inspired by a particular teacher or bored by another, or distracted by a love affair, or that he (or his parents) is suddenly left penniless, or that he happens to be stricken with a serious illness may all be highly important determiners of what he accomplishes. Events such as these are largely outside the domain of those that can be predicted by tests.[1]

However, this seeming lack of satisfactory preciseness should not prevent us from taking a second, and more positive, perspective on a "glass partly filled with water." Besides being largely the result of unknown influences, of the variance for which I can account, 7.4 percent given Assumption 1, 25 percent given Assumption 2, and fully 31.7 percent given the IEA model is attributable directly to school teachers and to school facilities independent of other influences. Given the fact that imperfect measures will persist, and that pre-school influences are unduely weighted from being entered into the regression first, this is not an inconsiderable influence. It is most certainly worthy of the attention of those who search for an optimistic prognosis concerning the potential impact of policy decisions.

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[1]Robert M. W. Travers, "The Prediction of Achievement," School and Society 10 (November 5, 1949): 293.

Adequacy of the Model

Three conclusions seem evident. First, the future of achievement research depends significantly upon the quality of the model. The basic IEA model of *a priori* causal flows is both valid and useful. However, the blocks are only as reliable as their submeasures. Yet some submeasures represent the block incompletely, while others may be measuring the wrong things. A school's handicap should not be considered complete if a test of intelligence is not available as a potential control. Even if one does not accept the assumptions that this kind of test can ever measure learning capacity without bias, an "intelligence" test does measure the ability of a school's population to take an examination of non-academic skills. If these skills differ systematically between populations from which different schools draw, and if it is not measured, the school's performance may not be judged fairly. Other variables, such as the quality of school administration,[1] might also be included in future macro-models of achievement.

In the case of teachers, many studies, including this one, may be emphasizing the wrong variables. Even though survey methodology precludes that which cannot be, in some way, quantified, perhaps future models should place more emphasis upon teacher manners, mannerisms, values, attitudes, and self-concepts; and less upon training, teaching experience, or pay. If a path of influence could be established between particular teacher characteristics which most influence the pupil attitudes of self-concept, already noted as related to academic achievement, the weight of the school might intensify considerably.

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[1]Charles E. Bidwell and John D. Kasanda, "School Organization and Student Achievement," Department of Education, University of Chicago, 1974 (mimeographed).

Attitudinal Influences as Schooling Output

The fact that BLOCK 3 variables can account for a fifth of the explained variance is indicative of the new focus which should be placed upon children's attitudes. These Ugandan data indicate that a child's attitudes can be more predictive of achievement than his socio-economic status. In industrial societies the two are intercorrelated, but in Uganda I have observed that because these attitudes are not unevenly distributed between social and economic groups, it is possible for socio-economic status to carry no intrinsic weight in the prediction of achievement. If it is possible to speculate in causal terms, one could explore the possibility that a child's attitudes are a "cause" of academic achievement, while his socio-economic status could be viewed as a conduit or intervening influence.

Though recent work is beginning to point to the central influence of the school,[1] the origin of a child's attitudes remains unclear. The use of non-cognitive measures as dependent variables should be valued in parallel fashion to that of academic achievement. Schooling has multiple purposes; some are more closely linked to financial renumeration, others to psychological or psychic benefits. Any advance made in the understanding of how some children benefit in either of these directions is worthy of our effort. Explaining the variance of either types of output leads us one step away from randomly guessing in the helping of children to learn, and that is our ultimate goal.

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[1]Donald B. Holsinger, "The Elementary School As Modernizer: A Brazilian Study;" Robert Dreeben, "The Unwritten Curriculum and Its Relation to Values," A Paper Presented to the Fifth Western Canada Educational Administrators' Conference, October, 1973 [mimeographed].

Social Stratification, Social Class, and Achievement in School

The problem of the relation between social status and achievement in school has been explored at several points throughout this study. So central was the hypothesis that a positive and significant relationship would be found between these variables, that a brief review of social stratification theory, the Ugandan findings, and the several generalizations that emerge from them seems necessary by way of conclusion.

Measurements of socio-economic status have had their origins in those same industrial societies that gave birth to the study of sociology. However, there are two reasons for believing that socio-economic status measures, while developed originally for industrial societies, can be adapted and transferred. First, scales of occupational prestige have already demonstrated their inter-societal validity.[1] Second, African cultures, unlike some in the Orient,[2] appear to place a very high emphasis upon income and wealth as status determinants.[3] Thus, elements of paternal occupational level, parental education, and the number of modern possessions are valid, albeit rough, proxy measures of general social status.[4]

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[1]Robert W. Hodge, Donald J. Treiman and Peter H. Rossi, "A Comparative Study of Occupational Prestige," in Class, Status and Power: Social Stratification in Comparative Perspective, ed. by Seymour Martin Lipset and Reinhard Bendix (New York: The Free Press, 1966), pp. 309-22.

[2]Clifford Gertz, "Religious Belief and Economic Behavior in a Central Javanese Town: Some Preliminary Considerations," Economic Development and Cultural Change 4 (1956): 138-58.

[3]Fallers, "Social Stratification and Economic Processes in Africa," p. 142.

[4]A socio-economic status scale should not be confused with a measure of social prestige. Just as measures of socio-economic status usually neglect crucial honorary or voluntary leadership activities

In industrialized societies, however, it is not uncommon to confuse measures of socio-economic status with the notion of social class. Perhaps this is not surprising insofar as the concept of social class gave primacy to economic, and particularly, occupational status.[1] "This is always 'the generic connotation of the concept of class:" wrote Max Weber, "that the kind of chance in the market is the decisive moment which presents a common condition for the individual's fate. 'Class situation' is, in this sense, ultimately [the] 'market situation'."[2]

When one conceives of class as defined solely by economic criteria, the interchangability of class and socio-economic status as terms can be expected. But the conception of social class as entirely economic in origin suggests a narrow understanding of how classes are formed, and how they are maintained. It ignores the area of internalized self-consciousness which, though often ignored, has been fundamental to the theory of social class from its very inception. For example, though

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(president of the bowling club, Elks, etc.) which help to define an individual's social prestige in an industrial society, so also are they forced to neglect parallel roles (clan or religious elder, etc.) in a non-industrial context. Thus, though the two measures may often overlap, one ought to keep them as distinct as the economic/non-economic categories from which they have been generated. This study did not attempt to create a scale of social prestige in Uganda.

[1]Karl Marx once wrote: "What constitutes a class--and the reply to this follows naturally from the reply to another question, namely: What makes wage-laborers, capitalists and landlords constitute the three great social classes? At first glance--the identity of revenue and the sources of revenue," from Das Capital, volume 3, and quoted in Karl Marx, Karl Marx Dictionary, ed. by Morris Stockhammer (New York: Philosophical Library, 1965), p. 37.

[2]Max Weber, "Class, Status and Party," in Structured Social Inequality: A Reader in Comparative Social Stratification, ed. by Celia S. Heller (London: Macmillian Publishers, 1969), p. 26; see also: Max Weber, Economy and Society: An Outline of Interpretative Sociology, ed. by Guenther Roth and Claus Wittich (New York: Bedminster Press, 1968), p. 305.

Marx thought of "consciousness" as resulting from one's situation (and not vice versa),[1] he also took some care to describe what one was supposed to feel as a member of a particular class. "The possessing class and the proletarian class," he once said,

> represent one and the same human self-alienation. But the former feels satisfied and affirmed in this self-alienation, experiences the alienation as a sign of its own power and possesses in it the appearance of a human existence. The latter, however, feels disappointed in this alienation, seeing in it its own impotence and the reality of an inhuman existence. To use Hegel's expression, this class is, within depravity, an indignation against this depravity, an indignation necessarily aroused in this class by the contradiction between its human nature and its life situation, which is a blatant, outright and all-embracing denial of that very nature.[2]

Weber also, in conceptualizing the requisites of communal action, explored the necessity for certain feelings to occur. "For however different life chances may be," he said, "this fact in itself, according to all experience, by no means gives birth to 'class action'. The fact of being conditioned and the results of the class situation must be clearly recognizable."[3]

With the rise of psychology and the sophistication of psycho-attitudinal measurements, having felt the "Class situation" has become an empirical prerequisite for determining the existence of a social class. "Today," says Ossowski, "there is a growing body of field research devoted to the class structure of the United States, and

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[1]"It is not consciousness that determines life, but life that determines consciousness."--taken from German Ideology and quoted in Marx, Karl Marx Dictionary, p. 49.

[2]Karl Marx and Frederick Engels, The Holy Family: A Critique of Critical Criticism, and contained in Karl Marx, "Alienation and the Social Classes," Marx-Engels Reader, ed. by Robert C. Tucker (New York: W.W. Norton and Company Incorporated, 1972), pp. 104-6. Emphasis is Marx's.

[3]Weber, "Class, Status and Party," pp. 26-27.

particularly, research which has as its common assumption recognition of the psychological criterion of social class . . ."[1] In this vein, the work of Tumin must also be noted. In his view, social stratification at some stage involves a "process of evaluation" where an individual begins to think of himself on a scale from "superior to inferior, better to worse, more to less distinguished."[2] The evaluation is a process of "invidious distinction" which Tumin suggested as being endemic at varying intensities corresponding to levels of social strata, differs only slightly from the 19th Century Marxian concept of "self-alienation." That a psychological foundation of social class should survive attests to the existence of logical and empirical justifications.

Besides the psychological experimental approach to self-concept which finds socio-economic status as a constant correlate already cited in Chapter 5,[3] there are two relevant sociological survey approaches worthy of mention. Kohn's study on social class discovered a number of values which have relationships to social position. Among those most central was that of self-concept. Kohn reports that

> Men of higher class position see themselves as more competent, more effective, more in control of the forces that affect their lives . . . the findings are consistent with our expectations. The higher men's social class position, the more self-confidence and the less self-depreciation they express; the greater their

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[1]Stanislaw Ossowski, "Non-Egalitarian Classness--Similarities in Interpreting Mutually Opposed Systems," in Structured Social Inequality: A Reader In Comparative Social Stratification, ed. by Celia S. Heller (London: Macmillan Publishers, 1969), p. 207.

[2]Melvin M. Tumin, Social Stratification: The Forms and Functions of Inequality (Englewood Cliffs, New Jersey: Prentice-Hall, 1967), p. 24.

[3]McPartland and Cumming, "Self-Conception, Social Class, and Mental Health."

> sense of being in control of the forces which affect their lives; the less beset by anxiety they are; and the more independent they consider their ideas to be . . . men's views of how effectively they function are associated with their social class positions--men at the top being more confident of their own capacities than are men lower in the social hierarchy.[1]

Secondly, Runciman's work concerned the notion of relative deprivation among the English working class. He found that among manual laborers, significant distinctions could be made between those who were apt to rate themselves as "middle class" and those who rated themselves as "working class." The former were more likely to wish their sons to be a non-manual worker, or specifically, a teacher rather than a foreman --even if paid 25 percent less. In addition, those who thought of themselves as middle class were far more likely to want a private education for their children.[2]

These studies illustrate how strong the evidence is for reaching the conclusion that particular feelings can be isolated as psychological corollaries of socio-economic status.[3] It would not be unreasonable to

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[1]Melvin L. Kohn, Class and Conformity: A Study in Values (Homewood, Illinois: The Dorsey Press, 1969), pp. 80-84.

[2]W.G. Runciman, "Relative Deprivation--Attitudes to Class and Status Inequality in England," in Structured Social Inequality: A Reader in Comparative Social Stratification, ed. Heller, pp. 226-34.

[3]Other findings have indicated additional psychological distinctions between individuals of differing social classes. See: Bernard Barber, Social Stratification: A Comparative Analysis of Structure and Process (New York: Harcourt, Brace and Company, 1957); A.B. Hollingshead and F.C. Redlish, "Social Stratification and Psychiatric Disorders," American Sociological Review 18 (1953): 163-69; A.B. Hollingshead and F.C. Redlish, "Social Stratification and Schizophrenia," American Sociological Review 19 (1954): 302-6; Jerome K. Myers and Leslie Schaffer, "Social Stratification and Psychiatric Practice: A Study of an Out Patient Clinic," American Sociological Review 19 (1954): 307-10; Richard Sennett and Jonathan Cobb, The Hidden Injuries of Class (New York: Alfred A. Knopf, 1973).

conclude that these "invidious distinctions" which an individual makes concerning himself would be basic elements in the notion of social class. The feelings of self-alienation are, as Marx argues, a part of the historical process of social class formation; they are empirically found in the literature on social class throughout the western world. One might safely be able to assume that they would be a consistent and universal characteristic associated with social stratification.

But they are not. The data from Ugandan P7 children showed random relationships between the measure of self-concept and all five indices of socio-economic status. The correlations ranged from -.04 to -.02. Furthermore, a dissertation recently completed at Stanford University on self-concept among Kenyan school children, albeit derived from a smaller, non-representative sample, generated parallel findings.[1] Thus, these Ugandan data could likely be typical of findings yet to emerge from other non-industrial societies.

There are two immediately relevant questions that occur at this point. First, why weren't measures of self-concept related to measures of socio-economic status; and second, could one justify labelling a socio-economic category as a "social class" without individuals <u>feeling</u> on the average in any way different about themselves from individuals in other social categories?

My answer to the first question was contained in Chapter 5. Ugandan children from differing socio-economic status levels did not exhibit differing self-concepts because: (a) as pupils, regardless of

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[1] Mwaniki, "Relationships Between Self-Concept and Academic Achievement in Kenyan Pupils."

poverty, sex, tribe, or rurality, each felt he had an equal opportunity for selection to higher levels of education, (b) in a society heavily dependent for mobility upon the civil service, educational selection represented the best possibility for economic security, and (c) being a society whose stratification system has been largely a post-World War II phenomenon, individuals in the upper stratum were very often the first generation. Given the constant elite/non-elite interaction within one's closest family, mean distinctions in self-concept, as a result of economic privilege, have not yet occurred among P7 children.

As to the question whether one can justify labelling a socio-economic category as a "social class" without the affective element of self-consciousness, my response would be no. Differing feelings such as "self-concept" must be the distinguishing characteristic which separates a socio-economic stratum from a social class. Given these preliminary findings from East Africa, caution must be applied if it is assumed that different levels of positive self-concept will be a universal correlate of varying levels of socio-economic status; one must not indiscriminately mingle measures of socio-economic status with notions of "social class," for affiliation with the latter, as I have argued, is dependent upon additional measures.

Social Class and Industrialization

A strong tenet among some theoretical sociologists has been to see the formation of social classes as an inevitable corollary of industrial growth and economic development. Marx held that the proletariat was delineated by the transference of wage labor away from subsistence agriculture and village industry. In the social realm, Eisenstadt has

argued that the gradual weakening of ascriptive characteristics of traditional society created an environment where each social stratum is capable, for the first time, of perceiving itself in economic relation to other strata. "In short," he says:

> the weakening of ascriptive linkages among the major components of stratification and the ascriptive legitimization of titles have been accompanied by a growing awareness in various strata and groups of their relative hierarchical standings in the social order, which in turn, has made class or strata consciousness important, and sometimes basic component of the social order.[1]

But most relevant to the argument stemming from these Ugandan data could be Weber's suggestion that "social esteem" swells with the participation in bureaucracy. In a section entitled "The Social Position of the Official," he has argued that an official, whether in the public or private sector, begins to cement his esteem vis a vis the governed. High self-esteem is compounded when, in "old, civilized countries," traditional elites disproportionately enter top levels of bureaucracy or when levels are enhanced in prestige by the possession of scarce educational certificates.[2]

If Weber is correct, the more highly developed bureaucratized societies should demonstrate more evidence of class divisions between social strata with comparatively stronger differences in self-concept. On the other end of the continuum one can point to the lack of mean differences in self-concept between children from different socio-economic strata in East Africa. But evidence is needed to substantiate the case

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[1]Samuel N. Eisenstadt, Social Differentiation and Stratification (Glenview, Illinois: Scott Foresman and Company, 1971).

[2]Weber, Economy and Society: An Outline of Interpretive Sociology, pp. 959-60.

that the correlative psychological effects of social class affiliation can be demonstrated along the whole continuum of industrial or bureaucratic growth.

This case is strengthened by the 18 country comparison in Chapter 6 which demonstrated that the effect of pre-school and non-school variables (including socio-economic status) on academic achievement increases in direct relation to societal per capita income and the proportion of children attending school. Insofar as the correlations, ranging from .503 ($p < .002$) to .706 ($p < .002$), were strong and statistically significant given a sample of only eighteen countries, the data suggest a theoretical relationship worthy of more systematic examination in the future. In sum, the data indicate a tendency for achievement in school to be more accurately predicted by socio-economic and other non-school factors in the more industrialized societies--i.e.: in those societies where socio-economic differences are more closely correlated with variations in psychological self-concept and where we may legitimately talk of the existence of social classes. By contrast, it can be argued that in many less developed countries like Uganda, an objective process of social differentiation in terms of type of occupation and income has begun but the correlative sentiments of social class identification have not yet emerged. The educational correlate of this is simply that academic achievement is hardly related to objective measures of socio-economic status while positive self-concept (a variable consistently related to academic performance) is, in turn, in no way related to position on socio-economic status scales.

APPENDIX A

LETTER OF INTRODUCTION TO SCHOOL HEADMASTERS

January 20, 1972

PQP: 1/20/72-4

The Headmaster,
Haibaale Primary School,
P.O. Box 247,
Fort Portal.

Dear Sir,

I have been employed by the National Research Council through the National Institute of Education to attempt a project assessing the primary schools in Uganda. West Buganda has been chosen as one area for study, and Namugongo has been chosen as one of the schools we would like to visit. We will be in the area of your school on Monday, February 7th, and we would like to visit your school in the morning.

If it is convenient for you and your staff, I would like to have a short and informal chat with you about your school. I would like to have about an hour of time with the teachers in one group and have them fill out a questionnaire. I would also like about two hours with the P7 class and have them fill out a questionnaire as well.

Please understand and have the pupils understand that these questions I will ask them have nothing to do with their examinations and that the questions I will ask you and your staff will be absolutely confidential.

Yours sincerely,

Stephen P. Heyneman
Director.

APPENDIX B

TEACHER QUESTIONNAIRE

NATIONAL INSTITUTE

OF

EDUCATION

PRIMARY SCHOOL

QUALITY PROJECT

1972

National Institute of Education,
Makerere University,
P.O. Box 7062,
Kampala.

31st January, 1972.

Dear Primary School Teacher,

We are trying to understand as much as we can about schools, about pupils, and about teachers. We would like to have your help. Please answer the following questions; the answers are confidential. The only people who will read your answers are myself and the employees of the Primary School Quality Project. No one from the Ministry or from this school will read your answers.

This is not an examination. If you do not understand a question, please ask us to help.

You are aiding us in improving the quality of primary education by answering as best as you can. Thank you for your co-operation.

Sincerely yours,

STEPHEN P. HEYNEMAN

Director

Primary School Quality Project.

Please write:

Your Name _____

Your School _____

Today's Date _____

1. Please circle your correct teaching status:

   (1) I

   (2) II

   (3) III

   (4) IV

   (5) Licensed Teacher

2. Are you are:

   (1) male

   (2) female

3. Which class do you teach?

   (1) P1 (5) P5
   (2) P2 (6) P6
   (3) P3 (7) P7
   (4) P4

4. How old are you? _____

5. To which group were you born? Please circle one.

   (1) Acholi (3) Badama
   (2) Alur (4) Baganda

(5) Bagisu
(6) Bagwere
(7) Bakonjo
(8) Banyarwanda
(9) Banyankole
(10) Banyole
(11) Banyoro
(12) Basoga
(13) Batoro
(14) Iteso
(15) Karamojong
(16) Kumam
(17) Lango
(18) Lugbara
(19) Madi
(20) Rundi
(21) Sebei
(22) Asian
(23) Other _____

6. How far did your father go in school?

(1) He did not attend school.
(2) He attended school for a few years.
(3) He completed primary school and had no further training.
(4) He completed primary school and then went for training.
(5) He attended secondary school for a few years.
(6) He completed secondary school and had no further training.
(7) He completed secondary school and then went for training.

7. How far did your mother go in school?

(1) She did not attend school.
(2) She attended primary school for a few years.
(3) She completed primary school and had no further training.
(4) She completed primary school and then went for training.
(5) She attended secondary school for a few years.
(6) She completed secondary school but had no further training.
(7) She completed secondary school and then went for training.

8. Does your father receive a salary, if he has died or if he is too old to work, did he receive a regular salary at one time?

(1) Yes (2) No

9. What work does (or did) your father do? Feel free to write more than one kind of work.

_____

_____

_____

_____

10. Please simply answer the following question "yes" or "no."

No matter what I do, failure seems to follow me.

(1) Yes (2) No.

11. Does (or did) your mother receive a regular salary?

(1) Yes (2) No.

12. Does (or did) your mother earn money by trading or selling?

(1) Yes (2) No.

What does (or did) your mother trade or sell?

_____

13. Are there (or were there once) men who pay your father rent for the use of some land which your father owns?

(1) Yes

(2) No

(3) I don't know.

If "yes" in number 13:

How many men pay rent? _____

How many acres owned? _____

14. Does (or did) your father own a business or any part of a business?

(1) Yes (2) No (3) I don't know.

What kind of business owned _____

_____

15. How many cattle does (or did) your father own?

(1) None

(2) _____

16. What crops does (or did) your father grow?

(1) None (5) Tobacco

(2) Cotton (6) Others _____

(3) Tea _____

(4) Coffee _____

17. How many workers were employed by your parents in the home where you grew up? (for example a house girl or shamba boy).

(1) None
(2) One
(3) Two
(4) Three
(5) Four
(6) Five
(7) Six
(8) Seven or more.

18. How much English does (or did) your father speak?

(1) He speaks (or spoke) almost no English.
(2) He speaks (or spoke) only a little English.
(3) He speaks (or spoke) English fairly well.
(4) He speaks (or spoke) English as well as an Englishman.

19. How many wives does (or did) your father have?

(1) One
(2) Two
(3) Three
(4) Four
(5) More than four.

20. Sometimes I feel as though my enemies are trying to get me.

(1) Yes (2) No.

21. Please circle the district in which you were born.

(1) Kigezi
(2) Ankole
(3) Toro
(4) Bunyoro
(5) Masaka
(6) West Buganda
(7) East Buganda
(8) Mubende
(9) Busoga
(10) Bukedi
(10) Bugisu
(11) Sebei
(12) Teso
(13) Karamoja
(14) Lango
(15) Acholi
(16) Madi
(17) West Nile
(18) Other: _____

22. Write the name of the district in which you received your teacher training.

_____

23. Do you think a man is bad because he has no religion at all?

(1) Yes (2) No.

24. Have you ever been to Kampala?

(1) Yes (2) No.

25. Have you ever travelled outside of Uganda?

(1) Yes (2) No.

Which countries have you visited, how long did you stay, and why did you go?

Country Visited	Visit Purpose	Length of Stay

26. How many years of schooling have you had? Do include the time spent at a training college. Do not include the time spent in external study for upgrading.

(1) Six years (6) Twelve years
(2) Eight years (7) Thirteen years
(3) Nine years (8) Fourteen years
(4) Ten years (9) Fifteen years
(5) Eleven years (10) Sixteen years.

27. Have you ever taken an up-grading course?

(1) Yes (2) No.

28. Please answer "yes" or "no."

If I found a goat's head outside of my door, I would run away and hide.

(1) Yes (2) No.

29. How many years have you been teaching?

(1) Two years or less.
(2) Between three and four years.
(3) Between five and seven years.
(4) Between eight and ten years.
(5) Between eleven and fifteen years.
(6) More than fifteen years.

30. How many years have you been teaching at the school where you are at the present time?

(1) One year (6) Six years
(2) Two years (7) Seven years
(3) Three years (8) More than seven years.
(4) Four years
(5) Five years

31. Please take a guess. About how many miles away is your real home from the school where you are now teaching?

(1) Five miles or less.
(2) Between 6 and 10 miles.
(3) Between 11 and 25 miles.
(4) Between 26 and 50 miles.
(5) Between 51 and 100 miles.
(6) Between 101 and 200 miles.
(7) Between 201 and 400 miles.
(8) More than 400 miles.

32. Moscow is the capital of the United States.

(1) Yes (2) No.

33. Did you, for any reason, take the P7 examination more than once?

(1) Yes (2) No.

How many times did you take the exam?

_____

34. What other jobs have you had besides teaching?

(1) None
(2) _____
(3) _____

35. Do you ever think of leaving the teaching profession for another job?

(1) Yes (2) No.

What kind of job do you think of doing?

_____

36. I rarely succeed in the things that I do.

(1) Yes (2) No.

The following are questions which you may find embarrassing. Please remember, I will be the only one to ever read your answers. I am studying hundreds of teachers and I am not interested in individuals. I want you to answer honestly.

37. Do you own a business, or any part of a business?

(1) Yes (2) No.

If "yes,"

What kind of business? _____

_____

38. What crops do you sell?

(1) None
(2) Cotton
(3) Tea
(4) Coffee
(5) Tobacco
(6) Others _____

_____

39. Do you <u>own</u> any land that you could sell if you wanted to?

(1) Yes (2) No.

40. Do you earn any money from someone who pays rent for the use of your property?

(1) Yes
(2) No.

41. Please place a tick beside the things which you could find in the home where you grew up and in the home where you are now living.

In the home	Where you grew up	Where you are now living
A bed	_____	_____
Newspaper	_____	_____
Book	_____	_____
Radio	_____	_____
Clock	_____	_____
Bicycle	_____	_____
Motor car or lorry	_____	_____
Camera	_____	_____
Television	_____	_____

42. How often do you speak English when you are in your home?

(1) Never
(2) Very seldom
(3) Some of the time
(4) Quite often.

43. How often was English spoken in the home where you grew up?

(1) Never

(2) Very seldom

(3) Some of the time

(4) Quite often.

44. Bad luck often comes to me.

(1) Yes (2) No.

45. Circle the diseases from which you have suffered.

(1) Asthma

(2) Malnutrition when young

(3) Hookworm

(4) Tuberculosis

(5) Bilharzia

(6) Trachoma.

46. How often have you felt fever with shivering and chills at the same time?

(1) Never (3) Once/6 months

(2) Once/month (4) Once/year.

47. Have you ever seen blood with your stool (feces)?

(1) Yes

(2) No

(3) I think so, but am not sure.

48. Teachers are not given enough respect.

(1) Yes (2) No.

49. Youths should always obey their elders, regardless of whether they are right or wrong.

(1) Yes (2) No.

Please circle the answer which you think is correct English.

50. (1) I reached at the place.

(2) I reached at the prace.

(3) I arrived at the place.

(4) None is correct.

51. The word <u>concur</u> means:

(1) To hamper

(2) To chastise

(3) To help

(4) To agree

(5) None is correct.

52. Please complete these sentences:

My brother is so sick . . .

(1) When he cannot even stand up.

(2) To send me a postcard.

(3) That he cannot work.

(4) But my uncle is well.

(5) None is correct.

53. You didn't use the butter . . .

(1) Did you?

(2) Didn't you?

(3) Don't you?

(4) None is correct.

54. Every so often I take Peter's bicycle accidently because it looks . . . to my own.

(1) Same

(2) Different

(3) Similar

(4) Original

(5) None is correct.

55. In the heat of midday, ice . . .

(1) Melts

(2) Spoils

(3) Fails

(4) Cooks

(5) None is correct.

56. In court, John, the defense witness, . . . the testimony of the prosecution's witness.

(1) Refused

(2) Lied

(3) Told

(4) Denied

(5) None is correct.

Below is a list of numbers of from 1 to 9. A high number means a high score and a low number means a low score. Answer the following questions by ticking <u>one box for each question</u>.

	wrong low bad no							right high good yes	
	1	2	3	4	5	6	7	8	9
57. What do you think of your school compared to other P7 schools?									
58. How good are your fellow teachers here?									
59. How good a teacher are you?									
60. How good is your headmaster?									
61. How good is your D.E.O.?									
62. How good is the district educational administration?									
63. Do many headmasters cheat the children in spending school fees?									

	wrong low bad no							right high good yes	
	1	2	3	4	5	6	7	8	9
64. Should more agriculture be taught in primary school?									
65. Should English be used from P1 to P7?									
66. Can a Grade I be a better teacher than a Grade II?									

Thank you very much for helping us today. If you have any questions about the questionnaire or the Primary School Quality Project, please do not hesitate to ask.

APPENDIX C

PUPIL QUESTIONNAIRE

NATIONAL INSTITUTE

OF

EDUCATION

PRIMARY SCHOOL

QUALITY PROJECT

1972

National Institute of
Education,
Makerere University,
P.O. Box 7062,
Kampala.

31st January, 1972.

Dear P.7 Pupil,

We are trying to understand as much as we can about schools, about teachers and about pupils. We would like to have your help. Please answer the following questions. Remember, the answers are confidential. The only people who will read your answers are employees of the Primary School Quality Project. No one from this school and no one from the Ministry will ever read your answers.

This is not an examination. If you do not understand a question please ask us to help. We will come and help you.

You are helping to improve the quality of primary education by answering these questions as best you can. Thank you for your cooperation.

Yours sincerely,

STEPHEN P. HEYNEMAN
Director
Primary School Quality Project.

Please write the following:

Your school _____

Your name _____

The date today _____

PLEASE TICK ONE OF THE BOXES BELOW:

1.	I am a:	Boy	Girl
2.	I am a:	Acholi	Mutoro
		Alur	Iteso
		Muganda	Karamojong
		Mugisu	Kumam
		Mugwere	Langi
		Mukiga	Lugbara
		Mukonjo	Madi
		Munyankole	Rundi
		Munyarwanda	Sebei
		Munyole	Asian
		Munyoro	European
		Musoga	Halfcaste
			Other _____

3. Who is living in the home where you normally stay?

   (1) Your mother and father together?
   (2) Your mother and a stepfather?
   (3) Your father and a stepmother?
   (4) Your father without any wife?
   (5) Your mother without any husband?
   (6) Your relatives without your mother or father?

4. What is your religion?

   (1) Catholic
   (2) Muslim
   (3) Church of Uganda
   (4) Balokole
   (5) Other _____

5. Does your father (or guardian) receive a salary?

   (1) Yes
   (2) No
   (3) I don't know.

6. Does your mother receive a salary?

   (1) Yes
   (2) No
   (3) I don't know.

7. Does your father (or guardian) own a business or part of a business?

   (1) Yes
   (2) No
   (3) I don't know.

   Write the name of the business:

   _____

8. Are there men who pay your father (or guardian) rent for use of his land?

   (1) Yes
   (2) No
   (3) I don't know.

   How many men pay rent? _____

   How many acres are owned? _____

9. How many cattle does your father (or guardian) own?

   (1) _____.

   (2) My father (or guardian) owns no cattle.

10. Tick one or more than one of the boxes below. What crops does your father (or guardian) sell?

   (1) Cotton

   (2) Tea

   (3) Coffee

   (4) Tobacco

   (5) Others _____

   (6) My father (or guardian) grows no crops to sell.

11. How far did your father (or guardian) or in school?

   (1) He never attended school.

   (2) He attended primary school for a few years.

   (3) He finished primary and had no further training.

   (4) He finished primary and then went for training.

   (5) He attended a secondary school.

12. How far did your mother go in school?

   (1) She never attended school.

   (2) She attended primary school for a few years.

   (3) She finished primary school but had no further training.

   (4) She finished primary school and then went for training.

   (5) She attended a secondary school.

13. How much English does your father (or guardian) speak?

   (1) He does not speak English.

   (2) He speaks English a little.

   (3) He speaks English fairly well.

   (4) He speaks English as well as an Englishman.

14. How often is English spoken by people when they are in your home?

   (1) English is never spoken.

   (2) English is very seldom spoken.

   (3) English is spoken some of the time.

   (4) English is spoken quite often.

15. Does your mother earn money by trading or selling?

(1) Yes

(2) No

(3) I don't know.

What does your mother trade or sell?

_____

16. In your home right now which of the following things are there? Tick only those things which are in your home.

(1) A bed

(2) A newspaper

(3) A bicycle

(4) A radio

(5) A clock

(6) A motor car or lorry

(7) A camera

(8) A television.

17. How many workers are employed by your parents or guardians? (For example, a housegirl or shamba-boy).

(1) None (3) 2 (5) 4

(2) 1 (4) 3 (6) 5 or more.

18. If by some chance you do not get a place in a senior secondary school, what work do you expect to be doing after P7?

_____

_____

19. No matter what I do, I always seem to fail.

(1) Yes (2) No.

20. How old are you?

(1) 10 (6) 15

(2) 11 (7) 16

(3) 12 (8) 17

(4) 13 (9) 18

(5) 14 (10) I don't know.

21. My enemies are trying to get me.

(1) Yes (2) No.

22. Did you attend a school before entering P.1?

(1) Yes

(2) No.

23. If I found a goat's head outside my door, I would run away and hide.

(1) Yes (2) No.

24. How do you usually get to school from where you sleep?

(1) By foot

(2) By bicycle

(3) By bus

(4) By car

(5) By taxi.

25. Do you think that a man is bad because he has no religion?

(1) Yes

(2) No.

26. How far in miles do you normally travel to school each day?

(1)

(2) ½ mile

(3) 1 mile

(4) 2 miles

(5) 3 miles

(6) 5 miles

(7) 7 miles

(8) 9 or more miles.

27. Tick the work that you must do every school day, before or after school.

(1) Dig in the garden

(2) Fetch water

(3) Tend the baby

(4) Cook

(5) Tend the animals

(6) Sweep

(7) Wash (dishes or clothes)

(8) Gather food

(9) Shopping.

28. Moscow is the capital of the United States.

(1) Yes (2) No.

28. Tick the time you wake up each school day morning.

(1) 3.30 am (9:30)

(2) 4.00 am (10:00)

(3) 4.30 am (10:30)

(4) 5.00 am (11:00)

(5) 5.30 am (11:30)

(6) 6.00 am (12:00)

(7) 6.30 am (12:30)

(8) 7.00 am (1:00)

(9) 7.30 am (1:30)

(10) 8.00 am (2:00)

30. What did you eat for breakfast this morning?

_____

31. Please, many of you will feel afraid of this next question. Please remember that no one, we repeat, NO ONE will ever see your answer from the government or from this school. No one will see your answer except me. Answer honestly.

Have you ever attended P.7 before?

(1) Yes (2) No.

How many times have you attended P.7 before?

(1) Once

(2) Twice

(3) Three times

(4) Four times.

32. Have you ever repeated a class below P.7? (for example, did you repeat P3 or P4).

(1) Yes (2) No.

How many times have you repeated a class below P7?

(1) Once (3) Three times

(2) Twice (4) Four or more times.

33. Have you ever had to stay away from school for a whole year?

(1) Yes (2) No.

How many years did you have to stay away?

_____

Did you have to stay away:

(1) Because you were sick.

(2) Because of lack of fees.

(3) Because moving away.

(4) Because you had to work at home.

(5) Another reason _____.

34. I rarely succeed in the things that I try and do.

(1) Yes (2) No.

35. Do you ever have special help with your lessons after school hours?

(1) Yes (2) No.

Does this help cost money?

(1) Yes (2) No.

36. What kind of light do you have in your home?

(1) Tadooba alone

(2) Paraffin or hurricane lamp

(3) Paraffin steamer

(4) Electric light.

37. Bad luck often comes to me

(1) Yes

(2) No.

38. I do not want you to be embarrassed by the next question. I want you to simply answer "yes" or "no," and I want you to answer honestly.

When you were small, did you ever suffer from malnutrition or kwashiorkor?

(1) Yes

(2) No.

39. Have you ever had to stay at a hospital because you were sick?

(1) No

(2) Yes, for several days.

(3) Yes, for more than a week.

(4) Yes, for more than a month.

40. Tick each of the diseases for which you have been treated by a doctor.

(1) Malnutrition

(2) Malaria

(3) Hookworm

(4) Bilharzia

(5) Trachoma

(6) Tuberculosis

(7) Asthma

(8) Other _____.

41. How often do you have fever with chills and shivering?

(1) Never

(2) Once/month

(3) Once/6 months

(4) Once/year.

42. I do not want you to be embarrassed by the next question. I want you to simply answer "yes" or "no," and I want you to answer honestly.

Have you ever seen blood with your stool or feces?

(1) Yes

(2) No.

43. Youths should always obey their elders, regardless of whether they are right or wrong.

(1) Yes (2) No.

44. Please tick a box:

(1) I am the eldest in my family.

(2) I am the youngest in my family.

(3) I am in the middle.

Below is a list of numbers from 1 to 9. Answer the questions by using only one tick for each question. A big number means a high answer and a little number means a low answer.

		low no bad						high yes good	
		1	2	3	4	5	6	7	8	9
45.	How well have you done in school up to P.6?									
46.	How well will you do on your P.L.E.?									
47.	What do you think of your school compared to other schools?									
48.	What do you think of your teachers?									

		low bad no						high good yes	
		1	2	3	4	5	6	7	8	9
49.	What do you think of your headmaster?									
50.	Is going to school worth the money you have to spend?									
51.	How much will school help you to earn money?									
52.	How much agriculture would you wish to study in primary school?									
53.	Is your father a "big" man?									

54. We would like to know the ways in which your father or guardian earns money. We will come around to each one of you and ask you individually. Please be patient, we will come to you quickly. We ask you not to talk.

Coloured Progressive Matrices

Sets A, A_B, and B

A	A_B	B
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		

APPENDIX D

TAX ASSESSMENT GUIDELINE FOR TORO DISTRICT

Ibara ....

Omuruka ....

Isaza ....

Ekyaro ....

Egomborra ....

Enamba mu Register

No. 9?0

TORO DISTRICT ADMINISTRATION

ORUPAPURA RWOKULENGA OMUSORO

	A ITUNGO	B OMUHENDO GW'EBINTU	C ENSASUZA BULI KIMU	D ENSIMBI ZOONA	E ENSOBORRA *Kena*
1.	Omwani *coffee trees*		2/50 buli muti *each*		Bara emiti erukuhikya emyaka 3 kandi erukunogwa *= 3 yrs old* (1)
2.	Ente *Cattle*		(a) 100/- buli nte entoro (b) 200/- buli nte enjungu	*each (local Exotic)*	Ente ezihingwize ameezi 18 ag'obukuru *over 18 mos old*
3.	Embuzi rundi Entaama *Goats + sheep*		10/- buli emu *each*		Embuzi rundi Entaama ezihingwize ameezi 18 ag'obukuru *over 18 months old*
4.	Empunu *pigs*		30/- buli emu	*-do*	Empunu ezihingwize ameezi 6 ag'obukuru *over 6 months*
5.	Emperra *Wages*		Empeera x 12 *times*	*12*	Empeera ey'okwezi k mu gibazemu ameezi 12 otunge empeera ey'omwaka gwoona *monthly salary x 12 months*
6.	Ekibira *forest*		.60 buli muti *each*		Bara emiti ey'chikize emyaka 3 kandi Ekikira kyambeka Ekibira kiragirwe kuhinguza bamiti 200 *200 trees + over 3 yrs old*
7.	Abasobi *fisherman*	*400/-*	~~40,00/-~~ buli License *per licence*		Abasobi abanyina Licence n'Amato *Licences + Canoes*
8.	Amaduka *Shops*				Balirra ensimbi ezirukuruga oma bintu byona
9.	Itaka *Land*		(a) 20/- buli ika (b) 400/- buli ika *per acre*		Ika etorukukozesibwa *not used areas* Ika erukukozesibwa *used land*
10.	Hoteri omu Bibuga	*Hotels in town*	2,100/-		
11.	Ebirabo by'amarwa g'ekijungu	*Imported beer bars*	(a) 5,625/- buli Licence (b) 2,500/- buli Licence (c) 1,500/- buli Licence	*per licence*	First class Licence Second class Licence Off Licence
12.	Ebirabo by'amarwa ag'ekitoro	*Home made local beer*	2,000/- buli Licence	*-do-*	
13.	Abakinjaagi	*Butchers*	(a) 9,000/- (b) 5,000/-		Abakinjaagi abataita ente buli kiro *daily* Abakinjaagi abataita ente buli kiro *[illegible] only*
14	Abacumbi b'enguuli	*Waragi distillers*	3,000/-		
15.	Abalimi ba Cai.	*Tea growers*	100/- buli ika *per acre*		Okuruga ha ika 5 n'okweyongerayo Cai erukunogwa *over 5 acres pluck*
16.	Itungo erindi n'erindi	*Various income*			
17.	Itungo omu mwaka gwona	*Annual income*			
18.	Ensimbi Ezirukubalirwaho Omusoro	*Amount for assessment*			

Ninkumanyisa olengiirwe kuha Omusoro omu Idara .... Sha ....

Omukono gw'Owigomborra .... Obunyoro bwe ....

Ekiro ky'okwezi ....

Omukono gw'Omubi w'omusoro .... Ekiro ky'okwezi ....

Weitegereze:- (a) Omusoro niguesasulirwa ha gomborra y'owaayo nambere walengiirwe hatali omngomborra endi

(b) Oine obagabo kunjurra ha ndenga y'omusoro enu baitu okujurra kwawe kuhike hali Mukuru Weetebe y'akakurate ak'okujurra he ebire 30 bitakahingwire okuruga ha kiro kya Notisi enu:-

Ebirugire mu kujurra ....

Omukono gw'Omukuru w'akakurate ak'okujurraho ....

Obukuru bwe .... Ekiro ky'okwezi ....

IDARA	OMUSORO		ITUNGO
Partial	Shs.	20/-	
		40/-	
"	"	60/-	0-500
Grade I	"	70/-	501-1000
" II	"	80/-	1001-1500
" III	"	100/-	1501-2000
" IV	"	120/-	2001-2500
" V	"	160/-	2501-3000
" VI	"	200/-	3001-3500
" VII	"	250/-	3501-4000
" VIII	"	300/-	4001-5000
" IX	"	350/-	5001-6000
" X	"	400/-	6001-7000
" XI	"	450/-	7001-8000
" XII	"	500/-	8001-9000
" XIII	"	550/-	9001-10000
" XIV	"	600/-	10001-and above
" XV			

[1] Coffee trees over 3 years old are assessed at 2. 50 shillings.

APPENDIX E

TEACHER ENGLISH TEST

Please circle the answer which you think is correct English

1) (1) I reached at the place.
(2) I reached at the prace.
(3) I arrived at the place.
(4) None is correct.

2) The word concur means:
(1) To hamper
(2) To chastise
(3) To help
(4) To agree
(5) None is correct

3) My brother is so sick ____
(1) When he cannot even stand up.
(2) To send me a postcard.
(3) That he cannot work.
(4) But my uncle is well.

4) You didn't use the butter . . .
(1) Did you?
(2) Didn't you?
(3) Don't you?
(4) None is correct.

5) Every so often I take Peter's bicycle accidently because it looks . . . to my own.
(1) Same
(2) Different
(3) Similar
(4) Original
(5) None is correct.

6) In the heat of midday, ice . . .
(1) Melts
(2) Spoils
(3) Fails
(4) Cooks
(5) None is correct.

7) In court, John, the defense witness . . . the testimony of the prosecution's witness.
(1) Refused
(2) Lied
(3) Told
(4) Denied
(5) None is correct.

APPENDIX F

OCCUPATIONAL CODES

V.I.P. Level

agricultural officer
army officer
police officer
doctor
economist
engineer
Headmaster, Secondary School
High Civil Servant
lawyer
librarian
deputy town clerk
owner of a touring company
business manager
owns a recording studio
magistrate, Grade I
Vice-Chancellor, Makerere University
district commissioner
personnel manager
pharmacist
pilot
politician (ex-member of parliament)
government minister
university professor
veterinarian
company director
diplomat
permanent secretary
director, Family Planning Association

Professional Level

accountant
artist
radio announcer
bank staff (non-managerial)
community development officer
senior health inspector
hotel caterer
industrial relations officer
journalist
magistrate, Grade II
musician
nursing sister
prison officer
saza chief
senior secondary school teacher
social worker
surveyor
school inspector
teacher at a training college
company supervisor
owner of a small coffee husking plant
senior medical assistant
administrative officer
auditor
teacher of mechanics
market officer
works for Kodak Ltd.
buyer for the Coffee Marketing Board
building inspector
building contractor
farmer with 6 tractors and 2 lorries
bursar at Makerere University
owner of a jaggery factory
large landlord
tutor of nurses at Mulago Hospital
graduate student in School of Forestry

Semi-Professional Level

secretary
soldier
agricultural assistant
veterinary assistant
health assistant
medical assistant
laboratory assistant
ex-ray assistant
cooperative assistant
supervisor at a cooperative
shop (duka) owner
modern builder (bricks)
modern farmer (tractor)
gombolola chief
headmaster at a primary school
insurance agent
nurse
midwife
priest, reverend (full time)
teacher in a teacher training college

Semi-Professional Level (continued)

primary school teacher, grade III, IV or V
bar owner
'hotel' owner (ie: small restaurant)
dairy farmer
head waiter (modern restaurant)
treasurer at a cooperative
trader (lorry)
assistant administrative secretary
revenue officer
taxi owner
station master, East African Railways
teacher, agricultural school
travelling salesman
salary officer
sales clerk in a shop
postmaster
officer, Ministry of Works
assistant government printer (type setter)
transport manager
business man
army bandmaster
officer, Criminal Investigation Department
inspector, Seed Lint Marketing Board
owner, petrol station
welfare officer
coffee buying agent
tax assessor
camera man, Uganda Television
assistant manager, Uganda Fishnet Co.
airplane mechanic
education officer
immigration officer
garage owner
bus owner--70 passengers
chief clerk
rents a machine which cuts trees
driver of a big machine, Uganda Electricity Board

Semi-Skilled Level

butcher
carpenter
clerk/typist
dispenser/dresser
driver (non-owner)
radio repairer
telephone operator
fish seller
forest ranger
trader (bicycle)
tailor
bus depot operator
store keeper (ie: of supplies)
brick maker
government carpenter
cashier
sells cattle
road overseer
postal clerk
welder, self employed
boarhole drill mechanic
hairdresser
Mullah (Islamic teacher)
mechanic
muluka chief
sign or house painter
plumber
policeman
prison guard
foreman/overseer/road boss
factory worker at a machine
primary school teacher, grade I or II
traditional builder (mud)
government mailman
bus ticket taker
plumber
driving instructor
market salesman
market officer
draftsman
electrician
magistrate, grade III
government cook in a hospital
wireman, Uganda Electricity Board

Unskilled Laborer Level

night watchman
askari
beer or waraqi seller
peasant cultivator
bicycle mechanic
houseboy/servant
ayah
cattle herdman
fisherman (no boat)
office boy
unskilled laborer
turnboy
trader on a bicycle (weekly)
shoe repairer
barmaid
catechist
hunter
mutongole chief
tetse control sprayer
duka clerk (village)
sells clothing by bicycle
sells mwenge
sells fish
sells hens
sells goats

Special Category

father ward of the state
mentally unstable
no way of earning money
child ward of the state
father dead, occupation not known
don't know

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