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ABSTRACT

This paper makes the observation that in selected European countries social class differences in academic achievement emerge early in a person's school career. This early influence of social class affects dropout and enrollment rates in higher education and subsequent occupational opportunities. The author examines the relative influence of genetic, social, and school factors on school achievement. The author's investigation reveals that genetic factors account for the greatest amount of variation in achievement, social background explains the next greatest amount, and that school variables explain a relatively small amount of the variation in academic achievement. The major conclusion is that education, rather than erasing genetic and class differences, reinforces them, thereby reinforcing differences in occupational opportunities. Related documents are ED 057 470, EA 004 322, and EA 004 323. (RA)

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GROUP DISPARITIES IN EDUCATIONAL PARTICIPATION AND ACHIEVEMENT

IV

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FOREWORD

The 1970 Paris Conference on Policies for Educational Growth was organized by OECD as a sequel to its 1961 Washington Conference on Economic Growth and Investment in Education. The purpose of the Conference was to assess the nature and consequences of the expansion of education in OECD countries during the last 10-15 years and to foresee the main policy problems arising from continued educational growth in the future.

The proceedings of the Conference are presented in a set of eight volumes consisting of:

The General Report of the Conference published under the title: EDUCATIONAL POLICIES FOR THE 1970's,

and the following series of documents containing the twelve supporting studies prepared by the Secretariat:

II - EDUCATIONAL EXPANSION IN OECD COUNTRIES SINCE 1950 - (Background Report No. 1).

III - TRENDS IN EDUCATIONAL EXPENDITURE IN OECD COUNTRIES SINCE 1950 - (Background Report No. 2).

IV - GROUP DISPARITIES IN EDUCATIONAL PARTICIPATION AND ACHIEVEMENT:

Group Disparities in Educational Participation - (Background Report No. 4).

Differences in School Achievement and Occupational Opportunities - Explanatory Factors. A Survey based on European Experience - (Background Report No. 10).

V - TEACHING RESOURCES AND STRUCTURAL CHANGE:

Teaching Staff and the Expansion of Education in Member Countries since 1950 - (Background Report No. 3).

Changes in Secondary and Higher Education - (Background Report No. 6).

Educational Technology: Practical Issues and Implications - (Background Report No. 7).

VI - THE DEVELOPMENT OF EDUCATIONAL PLANNING:

Educational Policies, Plans and Forecasts during the Nineteen-Sixties and Seventies - (Background Report No. 5).

Educational Planning Methods - (Background Report No. 8).

The Role of Analysis in Educational Planning - (Background Report No. 9).

VII - EDUCATION AND DISTRIBUTION OF INCOME - (Background Report No. 11).

VIII - ALTERNATIVE EDUCATIONAL FUTURES IN THE UNITED STATES AND IN EUROPE: METHODS, ISSUES AND POLICY RELEVANCE - (Background Report No. 12).

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II

DIFFERENCES IN SCHOOL ACHIEVEMENT AND OCCUPATIONAL OPPORTUNITIES : EXPLANATORY FACTORS

A SURVEY BASED ON EUROPEAN EXPERIENCE

by

Åsa Sohlman

(Background Report No. 10)

CONTENTS

SUMMARY

I. The Development of Social Disparities in the School System

A rapid survey of some longitudinal studies in Belgium, France, Germany, Sweden, Switzerland and the United Kingdom shows that:

a) At the end of primary school, substantial social differences as to achievement (measured by test scores, teacher ranking, etc.) have already developed. (The material does not permit direct comparison of countries.)

b) Due to the social differences in achievement, transfer rates to secondary academic schools are also different among social classes. However, even at equal ability levels these transfer rates are socially different.

c) Drop-out rates in secondary school are higher in the lower social classes than the higher, even when measured ability is held constant.

d) The observed social disparities in participation at university are the outcome of the accumulation of social disparities in achievement and transfer at every level of the educational system. There is some evidence that at the later stages of secondary school the social differences are not further accentuated.

II. What Factors Influence School Achievement?

a) The genetic factors are certainly important. However, after making some assumptions as to the relationship between genetic factors, IQ and school achievement, it was deduced that the genetic factors were responsible for 40-52% of the variation in achievement scores. As long as 100% of variation in test scores is not explained by factors outside the realm of policy parameters, the situation is not hopeless.

b) Two sets of variables, social background and school variables, which could be influenced by policy actions, were then considered. As to their relative importance it seems clear that the social background factors exert a greater influence than school factors. The school factors observed explain only a small degree (varying from 6-22%) of the variation in test scores in comparison with 23-59% for the social background factors. The chance of changing the achievement pattern would, therefore, seem to be greater by social policy than by educational reform. However, in the short run, it may be difficult to go very far by social policy. Moreover, which is the better approach from a financial point of view is unknown as no cost-effective analyses have been made.

A number of observations were made, however, as to the possibility that these studies may underestimate the role educational policy can play in changing achievement patterns. Apart from the

methodological weakness of the methods used*, it must be remembered that these studies only measure the effect (and perhaps do this badly) of variations within the actual school system. A number of studies point to new fields in which the school could operate with great success to improve school achievement such as:

- new and better contact with parents
- curricula changes
- pedagogical changes.

An educational policy that deliberately takes into account the social dimensions of the problem might show results quite different from those reported in the studies surveyed here.

As to the more traditional school variables covered by the studies surveyed, no definite conclusions can be drawn about which of them are the more important ones. A policy-maker interested in improving the achievement of pupils could perhaps be recommended to devote extra resources not so much to the amelioration of material circumstances (including size of class, pupil/teacher ratio) but to teachers and organisational matters. However, the question about teachers is difficult to solve as the existing teacher training seems to be inefficient.

Even though the pattern of achievement can apparently be changed by policy actions, little is known about how this is to be done. In the educational field some research has been done, but the conclusions are few and inconclusive. In the social field still less is known about relationships, ways and means.

III. Occupational Opportunities

If the obstacles against democratization of achievement and participation were removed, would that imply equal occupational opportunities?

The conclusions drawn from a survey of rather heterogeneous data in this field were rather negative. The few exceptional cases where people from different social classes have equal occupational or earning possibilities, or where education is clearly linked to mobility, are in situations where:

a) The school system is highly selective (and there is no guarantee that this would not change if the system became less restricted);

b) The very lowest levels of education are considered (which for the majority of the children of higher status groups are not the final stage and moreover not a fact on which a progressive policy could be based).

Equal participation rates in education would be consistent with unequal occupational chances.

* See Paper 1 of Annex to Background Study No. 11, (Volume VII).

INTRODUCTION

The school system is often seen as an excellent means of achieving democratization and equality in society. This paper, based on earlier research findings, is intended to throw some light upon this assumption. To start with, what are the obstacles to a more equal (i.e. proportional) representation of different social groups in educational establishments? How effective are the means at the disposal of the schools to improve the situation in this respect? What influence could more equal educational opportunities be expected to have on occupational opportunities for people with different socio-economic backgrounds?

Chapter I, which deals with the development of social disparities in school achievement as measured by tests; teacher ranking, etc., and participation rates at different levels of education, gives a general quantitative background for the later discussion. This chapter has deliberately been kept very short and the material has been chosen in a rather eclectic way from a few countries. However, these countries represent different school systems with varying selection mechanisms operating at different school levels. Therefore, this evidence is thought to be of more general interest. For a broader view of the educational systems of the OECD countries, the reader is referred to Background Report No. 1 (Vol. II) of the Educational Growth Review and its annex on educational structures and structural changes. No description of the various school systems will be given in this paper; only evidence from the European countries will be considered. Social disparities in participation rates are also treated in Paper No. 4 of the Growth Review but mainly at the university level. In this first chapter we shall follow a few longitudinal studies from the primary level onwards and see how and where the social disparities appear.

Chapter II deals with the problem of how to overcome obstacles to educational opportunities. A number of research projects have been undertaken to find out what factors influence school achievement as measured by tests. Thus some conclusions can be drawn with regard to policies aimed at narrowing social disparities in this field. Social disparities in participation rates are to some extent, caused by social disparities in school achievements, but here other factors, too, play an important role. These factors will not be extensively examined but only hinted at. As a basis for policy conclusions with a view to improving participation rates, this analysis will, therefore, be only a partial one.

The framework for this discussion is the school system as it existed in the different countries at the time when the investigations were made. The question is how this system could be made to function in a socially less discriminatory way. The answer to this question will, therefore, be relevant to this system; what other systems could do remains unknown. Whether it is desirable to achieve this end within the existing school system rather than another one lies outside the scope of this paper.

Lastly, would equal educational participation mean equal occupational opportunities and earnings? The association between education and occupations for the different social classes is dealt with in the last chapter.

At the outset it should be stressed that the statistical data are not always entirely satisfactory. In the Annexes the size of the samples has been indicated. Moreover, in the text the data are, for practical reasons, mostly considered as concerning the whole country though in reality they often cover only a part of the country (e.g. Baden-Württemberg) or one town (e.g. Paris, Geneva). Whether the same relationships as in these restricted areas hold for the country as a whole is uncertain. However, the purpose is not to assess the situation country by country and make comparisons, but to get a general impression of what types of relationships do exist and to draw hypothetical conclusions from them.

I

THE DEVELOPMENT OF SOCIAL DISPARITIES IN THE SCHOOL SYSTEM

A study of the development of social disparities can be based on investigations into the school system that have been undertaken in several European countries. Seven countries will be considered here. *

We have at our disposal two different sets of data. The first is concerned with pupil achievement as measured by test scores, teacher ranking, etc. The second gives transfer and drop-out rates by social background. There are also some cross-classification of achievement and transfer and drop-out rates.

The analysis will be conducted by educational levels. Although these are not directly comparable from one country to another, this is a minor inconvenience as no direct comparisons between the countries are intended.

A. Achievement in Primary School

Not much is known about the functioning of the primary schools from the point of view of the social origin of the pupils. Most studies take the end of primary schooling as a starting point. However, in an English study children were tested at the age of eight when they have normally been at school for two years. Quite substantial social class differences already appeared at this early age. After a follow-up study of these children, the author concluded that these differences generally remained constant when tested for more pure intellectual capacity, but tended to widen when tested for school subjects. The main characteristics of the development of the pupils' test scores are decided by the age of eight, if not earlier**.

The importance of social differences at the end of primary school can also be judged for Belgium, France and Switzerland by the degree of repeating and teacher ability ranking***. The tables show that, at this stage, social group differences have developed quite far. In Belgium, only 13% of the children of Belgian miners are found in the highest teacher ranking position, while 39% of the children of clerical workers belong to this group. In France, only 4% of the children of farm labourers, but 19% of the children of higher administrative, managerial and executive workers are classified as excellent.

B. Transfer and Drop-out Rates at Secondary School

All the countries included in this survey had, at the time the data were collected, a parallel secondary school system. One branch leads to further academic studies, while the others do not. Generally

* Belgium, France, Germany, Norway, Sweden, Switzerland and the United Kingdom.
** See Graph 1.
*** See Tables 1-3.

there are provisions to prevent the choice between branches made at an early age (11-13 years) being irreversible. However, in reality these possibilities are seldom used. The transfer rates to different branches of the school system after the first years in primary school are therefore of crucial importance. From what was said above concerning the performance of children from different social groups in primary schools, it could be expected that transfer rates to secondary academic schools would vary as between social strata. The evidence from Belgium, Sweden and Switzerland illustrates this[1]. In the Swiss sample, for instance, only 4% of the children of unskilled workers go on to academic secondary school directly, as against 62% of the children of professional and managerial workers.

The data from France and Switzerland[2] are suggestive of the exceptional nature of reorientation.

At the end of compulsory schooling, the pupils begin to leave school. A more detailed analysis of drop-out rates would have to take into consideration the age at which schooling ceases to be compulsory, in what year this happens in relation to the year in which certificates are obtained, etc., as these factors will influence the drop-out rates. A distinction should also be made as to whether the drop-out is only to another type of school or complete. However, for our purpose it is enough to conclude that in every country in this survey, whatever the extent of drop-out, it is always the lower social groups that are most decimated[3]. In France, one sample shows that five years after the completion of compulsory schooling, 556 out of 1,000 children of farm labourers will have left the educational system, as against only 27 out of 1,000 children of higher administrative, managerial and executive workers.

C. The Relationship between Achievement and Transfer and Drop-out Rates

A more detailed study of the different transfer rates shows that variations in school achievement are not the only, nor sometimes even the main, cause of these disparities. We have seen that the lower the social status the lower the percentage of children who do well at school as measured by tests, etc. But there is also the fact that at equal achievement levels (here measured by test scores, teacher ranking and primary schooling without repeating) pupils do not apply for transfer to academic secondary schools to the same extent in all social groups[4]. Even at the highest achievement level these transfer rates vary between the social classes. The only exception is England where, with a higher degree of disaggregation, it was found that, for the 2% of children with top performance, social background did not make any difference. It would be interesting to know how important differences in achievement are compared with the other factors that make pupils from lower socio-economic groups refrain from applying for transfer to academic secondary schools to the same extent as children from higher status groups with equal ability. It has been shown that, in Belgium and France, these other factors were more important than social differences in achievement. In Switzerland, the opposite was true[5]. Thus in Belgium and France, substantial social differences in transfer rates would subsist even if, by some miracle, all social classes could be brought up to the same achievement level as that of the highest socio-economic group.

As for drop-out rates they are not caused solely by differences in achievement. The British longitudinal study concludes that, on the basis of drop-out rates, social class inequalities now spread even to the top achievers; pupils are more likely to drop out if they come from deprived backgrounds than if they come from better homes[6].

1. See Tables 4-6.
2. See Tables 6-7.
3. For data on France, Germany, Sweden, Switzerland and United Kingdom, see graph 2 and Tables 8-12.
4. For data on Belgium, France, Germany, Sweden, Switzerland and United Kingdom, see Tables 13-18.
5. See Tables 19-21.
6. See Table 12.

D. Success Rates in Secondary School Examinations

The proportions in the different social groups that pass examinations in secondary schools will reflect both failures at examinations and drop-outs if the number entering academic secondary education is used as a denominator. They are, therefore, almost bound to show great variation from one social group to another, because the drop-out rates correlate so strongly with social background.

Data of this kind exist for England, Germany and Switzerland[1], and they do show great social disparities. However, if the comparison is made between those who succeed and those who stay on, differences in drop-out rates do not matter. This latter kind of calculation was done for England[2] and, as a result, the former showed great social differences, as expected, whereas the latter did not. A similar phenomenon was observed in a study on France when the number of those who stayed on in the school system was compared with those who moved on without repeating[3]. No clear social differences appeared. In Switzerland also, among those who had reached the upper forms of the academic secondary school, there were no distinct social differences with regard to the percentage who passed the final examinations, or to the number of years it had taken[4]. Thus it may seem that, finally, a stage is reached where the highly selected children from the lower classes are on a more equal footing with the children from higher social groups. Of course, it must be remembered that the children now being compared are certainly not of the same "ability", due to the earlier selection process that is so socially biased. However, it may even be true that, for those who have reached the end of academic secondary education, the effect of social background is much smaller when pupils of equal ability are compared than at the earlier stage. The English data[5] would support such an hypothesis.

E. University

The disparity in the proportions of those who are eligible and those who do transfer to university seems, in the case of Sweden, to have diminished during the 1950's[6]. Some social differences still persist, but they are probably much smaller than for the transition rates at lower levels of the educational system. Real comparisons could, of course, be made only if we had the transition rates at different levels of the educational system classified by the same categories of social background and ability.

In Switzerland, those eligible seem to transfer to university to the same extent whatever their social origin[7]. However, a socially different pattern with regard to the field of study chosen is known to exist in many countries.

The data for France, Sweden and the United Kingdom also show that drop-out rates and success and failures in graduating are in some instances almost independent of social origin, especially if one takes into consideration certain handicaps, such as part-time working and weak matriculation passes[8].

In Norway, however, when ability is taken as the criterion and measured by the percentage of those eligible for university admission obtaining degrees[9], social differences become apparent, especially at low ability levels. Social differences measured in this way, however, are influenced by two factors: transfer rates at university and performance at university, and it is not possible to determine their relative importance in causing social differences in degrees awarded.

1. See Tables 12 and 22 and Diagram 1.
2. See Table 23.
3. See Table 24.
4. See Table 25.
5. See Table 23.
6. See Tables 26-28.
7. See Table 29.
8. See Tables 30-33.
9. See Table 34.

These examples at university level are not comparable. Often both the dependent and independent variables are different in addition to differences in age, etc. Even at university level, social differences may subsist with regard to performance.

F. Conclusions

This rather sketchy survey of the functioning of the educational systems in some European countries would indicate that the social disparities in participation observed at university level originate in the very first stages of the school system. Already at the primary level, differences in achievement are substantial. Due to this and other factors, transfer and drop-out rates will be socially biased. The differences at university level are the outcome of cumulative social differences at lower levels of the educational system. Some of our data suggest that at the higher levels of the educational system, the selection process becomes socially less biased. However, this fact must be considered in conjunction with the earlier selection process. It may also be asked whether this "equalization" of pupils from different social classes would take place with a democratization of participation, or if it is only a reflection of the previous selection process.

Nonetheless, it could tentatively be stated that, in the countries under review and for the time being, achievement in primary school, transfer rates to academic secondary schools, and drop-out rates in secondary education are the greatest obstacles to the democratization of participation.

II

THE RELATIVE IMPORTANCE OF FACTORS INFLUENCING SCHOOL ACHIEVEMENT

Social differences in achievement, as measured by test scores, school marks and teacher ranking, may be considered as an evil in themselves. Moreover, they are one of the roots of inequalities in educational participation at higher levels. It is, therefore, important to know what factors influence achievement. In the following pages an effort will be made to assess the relative importance of genetic factors, social background and school variables in influencing achievement as measured by test scores.

A. Genetic versus Other Factors

Most scientists have been preoccupied with the influence of genetic and environmental factors on intelligence quotients (IQ, the ratio between a person's mental age and chronological age) and not on school achievements. Although these intelligence tests have been traditionally associated with achievement in school, there is no perfect correlation between IQ and achievement test scores.

a) IQ tests

As for the IQ tests, there is evidence to show that about 80% of the variations could be explained by genetic factors, and only 16-18% by all environmental factors.[1] Of course, these studies have not been accepted uncritically. Data for twins, for example, do to a certain extent over-estimate the importance of genetic factors, as twins, even though reared apart, are often reared in similar surroundings.

Correlation between socio-economic status and IQ normally lies between 0.25 and 0.50. Thus, at most, 25% of the variation in IQ scores lies between the social groups, and 75% within them.[2] One could thus suspect that social class differences in IQ are mainly caused by heredity. However, social class[3] is a rather crude measure for environment. A more refined measure would probably give another result. Studying[4] the percentage of backwardness in intelligence, the multiple correlation coefficient for the environmental factors was 0.96. Thus, on a school basis, home and neighbourhood variables explain most of the variation. Another study[5] based on individual data gave a multiple correlation coefficient between home plus neighbourhood variables and IQ of 0.69 (however, see below for the risks of error with such studies). Moreover, there is evidence that changes in milieu can provoke dramatic changes in measured IQ.[6]

1. See pages 63 and 67 and Diagram 2.
2. A. Jensen, "How Much Can We Boost IQ and Scholastic Achievement ?", Harvard Educational Review, Winter 1969.
3. T. Husén, Skola for 80-tal, Stockholm, 1968.
4. S. Wiseman, Education and Environment, Manchester, 1964.
5. E. Fraser, Home Environment and the School, London, 1959.
6. T. Husén, op. cit.

b) School achievement

Some evidence tends to show that genetic factors are of less importance for school achievement than for IQ.

On average, studies of twins give the following result as to correlation coefficients:

	IQ	SCHOOL ACHIEVEMENT
Identical twins reared together	0.92	0.93
Identical twins not reared together	0.78	0.59
Non-identical twins reared together ...	0.58	0.86

SOURCE: S. Wiseman, Education and Environment, Manchester, 1964.

When it comes to school achievement, there is a higher correlation between the achievements of non-identical twins reared together than of identical twins not reared together. The opposite is the case for the correlation of IQ scores.

Thus it would seem that achievement in school is rather more influenced by environmental factors. There might exist an upper limit of potential achievement in school set by genetic factors, e.g., the actual performance being, to a certain extent, dependent on the environment. Heredity and environment do, however, interact, so this statement is perhaps too static. There is also evidence that a deficient home environment will act differently upon bright and dull children, the former being much more sensitive. *

Multiple correlation coefficients for achievement and environmental factors are often quite high (0.8 - 0.9),** although they are not much higher than those for IQ scores in the same studies. Fraser's study, for example, showed multiple correlation coefficients of 0.69 for IQ and 0.75 for school achievement.

As the genetic factors cannot be measured (at least not so far), they have to be studied in an indirect way, e.g., in data for twins or as the residual when other factors have explained as much of the variance as they can. The more subtly the environment is measured the more it will probably explain the variances. When is it right to stop the refinement and what does the residual actually consist of ? In the International Mathematics Study, which will be discussed later, the residuals found showed such variations (from 33% to 77%) in the different countries that it was hard to believe that they described the influence of genetic factors.*** There is also the danger that the recognized variables will act as proxy variables for the absent ones, in this case the genetic factors. From the analyses using home and/or school explanatory variables, discussed later, no deduction about genetic factors will be made.

* S. Wiseman in Appendix 9, Plowden Report, "Children and their Primary Schools", London, 1967.
** T. Husén, op. cit., 0.8; S. Wiseman 1964, op. cit., 0.99, 0.8; E. Fraser op. cit., 0.75.
*** C.A. Anderson, "The International Comparative Study of Achievement in Mathematics", Comparative Education, June 1967.

Conclusions

The genetic factors are certainly important, probably more so than any other single factor or complex of factors; but they are not all-important, especially as far as school achievement is concerned. The important question, however, is not what proportion of variance is explained by genetic as against environmental factors, but what the potential for increasing intellectual capacity by educational policy might be.

As an experiment let us make the following assumptions:

1. Genetic factors explain 80% of variations in IQ;
2. IQ has a simple correlation with achievement tests of 0.7 - 0.8, thus explaining 50 - 65% of variations in achievement scores;
3. The genetic factors influence achievement only via IQ.

Then the genetic factors would be responsible for 40 - 52 % of the variation in achievement scores, leaving 48 - 60% for all other factors. If the latter could be steered by policy actions, we could get a rather firm grip on the result of the educational system. In the next section, we shall take a closer look at these factors to find out what kind of policy actions this would imply.

B. Social Background versus School Variables

Bearing in mind what was said about the genetic factors, we shall now examine some studies bearing on the relative importance of other factors for school achievement.

We have taken six studies concerned with this problem, five of them made in Great Britain. The sixth is an international study covering twelve countries. Of course, these studies are not comparable either in respect of criterion variable or of explanatory variables used.

Three studies, however, use similar techniques, which enables us to make a direct comparison of their results as to the relative importance of broad categories of variables. The main findings of these studies have been condensed in the following table, together with some information about the scope of the studies.

There is a general problem that has been solved in different ways in these studies, i.e., what to do with the so-called "quasi criterion variables", i.e. variables which are so closely associated with the real criterion variable as to be almost counfounded with it, for instance, in this case, general IQ scores, student's interest, etc. When these are included, the absolute amount of variation explained increases, but they leave little to be explained by the remaining independent variables, although a great deal of the variation of the "quasi criterion variables" themselves can be explained by these remaining variables. Therefore, comparisons of the absolute contribution of one group of variables in one study including such "quasi criterion variables" with that of the same group of variables in another study excluding these "quasi criterion variables" are rather meaningless. In this case, only the Mathematics Study has included three variables of this dubious character, i.e., student's "interest in mathematics", his "opportunity for learning the matters tested", and his "level of instruction". For the purpose of comparison, they have been separated from the rest and placed under the heading of "other variables". A regression was also run excluding them. This ought to have increased the contribution of the other groups of variables. However, according to the authors, their relative order of importance remained just about unchanged, so these results were not published. It could be argued that it is unfair to the school to exclude such a variable as the student's "level of instruction". If the earlier learning is an important input for the achievement output, the school ought to get the credit for its contribution. On the other hand, if "level of instruction" and student's "interest" are highly correlated with, for example, "parental occupation" (which can be seriously doubted), the contribution of these variables might as well be assigned to the social background category.

Percentages of the Criterion variation accounted for by various classes of variables

1	2				3				4	5	6	7	8	9	10	11
	PLOWDEN NATIONAL SURVEY[1]										MANCHESTER SURVEY[2]	INTERNATIONAL MATHEMATICS STUDY[3]				
	LONG LIST OF INDEPENDENT VARIABLES								SHORT LIST OF VARIABLES			MEAN FOR ALL COUNTRIES				ENGLAND
	THE SCHOOL AS OBSERVATION UNIT				INDIVIDUAL DATA (DEVIATIONS FROM SCHOOL MEAN)				SCHOOL DATA	INDIVIDUAL DATA						
	POPULATION				POPULATION				POPULATION		POPULATION	POPULATION				
Explanatory variables	a	b	c	TOTAL	a	b	c	TOTAL	TOTAL	TOTAL	TOTAL	1a	1b	3a	3b	1b
Social background	40	45	56	48	25	24	36	29	33	23	59	5	5	2	3	7
School variables	20	22	12	17	4	15	22	17	6	6	13	6	7	13	8	14
Other variables	–	–	–	–	–	–	–	–	–	–	–	27	22	24	23	29
Sub-total	60	67	68	65	39	39	58	46	39	29	72	38	34	39	34	50
Residual	40	33	32	35	61	61	42	54	61	71	28	62	66	61	66	50
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Year	1964										1964	1964				1964
Number of variables[4]	Long list								Short list							
Social background	54								8		21	6				6
School variables	33 (+ 17 for individual data analysis)								9 – school regression 7 – individual data		30	15				15
Other variables	–								–		–	5				5
Number of observations	173 schools 3,349 pupils										44 schools	132,775 students in all 10 12 8 6 countries				3,179 pupils
Criterion variable	Scores in a test of reading comprehension appropriate to the pupil's age										Test of the tool subjects	Corrected total mathematics score				
Sample population	a) Infant average: 7 years old b) Lower juniors average: 8 years old c) Top juniors average: 11 years old Total: a + b + c										10 year olds tested at the age of 7, 8, 9 and 10	1a 13 year olds 1b the grade containing most 13 year olds 3a mathematics students in final secondary year 3b non-mathematics students in final secondary year				

1. Children and their primary schools. Plowden Report. Volume 2. Appendix 2, 3. London, 1967.
2. Children and their primary schools. Plowden Report. Volume 2, Appendix 9.
3. International Study of Achievement in Mathematics. Volume 2. New York, 1967. Results for the individual countries are given in the Annex.
4. For a detailed list of explanatory variables, see the Annex.

Examining the amount of variation accounted for by the variables in the two studies not using "quasi criterion variables", we find that it increases when the regression is run with the school as an observation unit (columns 2, 4, 6) as compared with an analysis of individual data (columns 3, 5). In the regression between schools, the individual differences are to a certain extent evened out, because the means of the schools are used. Moreover, they are based on fewer observations, which makes it easier to get a high correlation. There is also a tendency for the amount of variation explained to increase with the number of independent variables (compare, e.g., columns 2, 3, 6 with columns 4, 5). This is an almost automatic consequence of the technique used.

Disregarding the instances when only a limited number of variables was used (columns 4, 5, 7-10), it is remarkable that such a high percentage of variation has been accounted for (40 - 72%). The Mathematics Study does less well in general (columns 7 - 10), which could be due to the low number of variables considered. Its results for England (column 11) are comparable to those of the other studies, but this is mainly due to the contribution of the "other variables".

Let us now compare the relative importance of social background and school variables. There is a clear difference between the Mathematics Study and the rest. In the former, the common result of the school variables outweighs on average that of the social background. This is especially true for the older pupils (columns 9, 10). However, this is perhaps not surprising, as most countries have a highly selective system that makes the older populations considered here socially rather homogeneous, a system which, by reducing the variations in social background, also diminishes its possibility of making any contribution. In the United States, where selectivity in secondary school is least, the social background variables do not lose in absolute importance for older pupils, although they lose relatively in comparison with the school variables. However, in Japan, which also has a highly comprehensive school system, the social background variables hardly explain anything of the variation in populations (see lines 3a and 3b of Table 35).

But why this difference for the younger populations of the Mathematics Study and of the other studies in the relative importance of school and social background ? The reason is not that the studies deal with different countries, for the results of the Mathematics Study for England are just as much opposed to the results of the other English studies. Certain suggestions could be put forward as to where the explanation may lie.

i) First, the Mathematics Study deals with results only in mathematics and not in general school achievement or verbal ability. This might account for some of the low explanatory value of the social background variables. It may be expected that social background influences achievement more in verbal than in non-verbal subjects.

ii) The Mathematics Study had to choose variables that could be applied to all countries. It seems that this equipped the study with less sensitive instruments, especially for the measurement of the social background. The only two countries (Japan and United States) where the social background was more important than the school were also the only two countries where one of the social background variables, that describing the neighbourhood (based on urban-rural differences), was of any significance. In many cases, the low contribution of the social background variables was mainly due to the fact that the variable "father's occupation (status)" failed to make any substantial contribution. A different definition of these variables might increase the importance of social background.

iii) In the Plowden Report, two kinds of social background variables were distinguished: "home circumstances" and "parental attitudes". What really makes the difference between social background and school is the massive influence of the psychological home variable "parental attitudes". Of course, if they were let out, "home circumstances" would take on more of the variation accounted for. However, this increase would not be very big, as the variation in attitudes could only be accounted for by the home circumstances to the extent of 25%. The social background variables of the Mathematics Study all belong more or less to the "home circumstances" category. The inclusion of more psychological could also increase the contribution of social background.

iv) Lastly, the inclusion of the "quasi criterion variables" probably diminishes the explanatory value, especially that of the social background.

In a certain sense it is, therefore, possible to say that the international study exaggerates the influence of school relative to that of social background.

The difference in age of the sample populations should also be mentioned. The children tested by the Mathematics Study were older than the children in the other studies. It is, however, difficult to say whether this fact can explain to any extent the different results. The author of the Manchester Survey comes to the conclusion that home and neighbourhood variables may lose in importance as children grow older. Also, Plowden's analysis of individuals (column 3) shows that there is a tendency for the school variables to increase in importance with older children, but this must be seen in conjunction with the evidence that the importance of social background increases for school averages (column 2). The individual data are based on deviations from the mean of the pupil's school. Positive and negative deviations from the mean will be more loosely connected with social background, as its influence will be rather on the general level of the whole school. It is possible that, while the social factors determine more strongly the average as children grow up, school comes to play an important marginal role.

Among the remaining three of the six studies mentioned earlier, the more comprehensive one* supports the findings of the English studies. The social background factors by far outweigh the effect of the school.** However, by the age of 11, the school factor has moved up to become second in importance, after "parents' interest", except for boys of the working class. But this does not mean that the latter do not profit from going to better schools.*** The influence of home and school on drop-out rates was also investigated. For the lower manual working class pupils, the Diagram 3 shows that both parental attitudes and school quality exercise an important influence on retention rates, though it is not possible to determine their relative importance.

The last two analyses can be studied in the Annex to this Chapter, as they do not add anything very important to what has been said here.

Conclusions

Social background factors are probably much more important for school achievement than school variables. The likelihood of changing the achievement pattern by social policy measures would, therefore, seem to be greater than by educational reforms. Whether this is politically feasible is another question. Moreover, no cost-effectiveness calculations have ever been made, so that the results of a better financial approach remain unknown.

There are, however, a number of facts which could have led to an underestimate of the role of the educational policy variables in the studies just surveyed.

i) The statistical methods used in these studies have been criticized. There is a certain arbitrariness in the manner the total variation accounted for is apportioned between the different groups of variables to the detriment of the school variables (see Paper 1 of Annex to Background Study No. 11, Volume VII).

ii) In this connection, there is also another point that deserves mention. The school variables used in these studies are most comparable to what was labelled in the case of the social background variables, "material circumstances", as opposed to the other more psychological factors. This improvement in the recording of the home environment seems to have greatly improved the explanatory power

* J.W.B. Douglas, The Home and the School, London, 1964.
** See Table 36.
*** See Table 37.

of these variables. It is possible that the school variables used are too crude to register the amount or lack of stimuli a child, and for that matter its parents, encounter in school. This is probably the crucial point. The studies of the influence of school have to become more qualitative to be on the same footing as the home enquiries.

iii) There is also the possibility that the school variables vary so little within a country that a regression analysis will not give any result, the few deviant cases being submerged by the mass of conventional, uniform school situations.

These studies can measure the effect of the different variables only within the limits of their actual variation at the moment of the enquiry. They cannot say what would happen if we moved outside the system. A distinction must be made between the effects of school variables within the existing system, which seem to be small, and the unknown effects of moves outside it.

Thus, in spite of the outcome of the regression analysis, the Plowden Report was very optimistic about what the school could do. This was based on the finding that what was most important in the home situations were not material circumstances, which the school system admittedly cannot do much about, but the attitudes of the parents. When the children grew older, the attitude variables seemed to increase in importance relative to the home circumstances (Douglas, shows the same phenomenon).* As the attitude variables were to a large extent independent of material circumstances, this could be a new field of endeavour for the school.

Other studies which have analysed the influence of home on achievement and transfer rates have also often come to the conclusion that the economic situation is not as decisive as the parents' cultural standard and conception of school and society. It might be that income is a "threshold" variable, i.e., only below a certain level will it make any difference. There is also evidence that when it comes to higher studies, it might increase in influence.**

In many of these interview surveys one is struck by lack of information, uncertainty and bewilderment of the lower classes about the school and the possibilities it offers. The values and attitudes embodied in the school will often be in contradiction with those of the lower classes. Therefore, changes in curricula content and more clearly defined vocational goals for higher education might increase the motivation of the lower classes to pursue their education beyond the compulsory stage. Some authors have found that pupils from the working class*** who stay on at school are closer to those of the middle classes in attitudes and consumption pattern than those who leave early. The latter could probably be influenced by the school to a marked extend, but the studies under consideration give no idea about this possibility, as they are restricted to studying a formal and rather conventional school system. Pedagogical innovations which take into account the social dimensions of the problem might show results quite different from those of the surveys here reported.

Another type of study also points to new areas in which the school can act to improve pupil achievement. One is the evidence**** brought forward "to support the view that inadequacy of linguistic range and control is a very important factor" in explaining the low achievement of working class children. "Linguistic inadequacy is a 'cumulative deficit'." Although this cannot simply be looked upon as a problem of language, a mechanical skill to be taught, since it is a reflection of a whole culture, the school can facilitate the development of certain abilities by equipping the pupils with an appropriate language. Moreover, recent moves towards democratization of the school system that modify the social structure "can have only limited success unless conscious attempts are also made to provide opportunities for the

* See Table 36.

** See the Annex.

*** P. Bourdieu, L. Passeron, Les Héritiers, Paris, 1964. Darras, Le partage des bénéfices, Paris, 1966. G. Girod, F. Tofigh, "Family Background and Income, School Career and Social Mobility of Young Males of Working Class Origin - A Geneva Survey", Acta Sociologica, Vol. 9, fasc. 1-2, Copenhagen, 1965. G. Svärd, J. Larsson, etc. Studentekonomiska undersökningen, Lund., 1968.

**** D. Lawton, Social Class, Language and Education, London, 1968.

extension of linguistic facility within the educational institutions". To achieve anything in this direction, the co-operation of parents will eventually be needed.

There is also the challenge made by A. Jensen.* Things could be learnt in different ways. The present school system applies teaching methods that make use of one faculty, "conceptual learning", which is perhaps unevenly distributed among social classes. This is not necessary. Teaching could be arranged to appeal to other faculties that are more evenly distributed, e.g., so-called "associative learning".

A fact from the Mathematics Study can be added: the level of performance varies much from one country to another. Examples can be found to show that low status children of one country perform better than high status children of another country. More research will be needed to explain these differences. This could give new ideas about what influences performance and what can be done to improve it.

All this reasoning about the possibilities of new forms of educational systems is, of course, still highly speculative. The social background variables are difficult to manipulate in the short term. The current educational policy must, therefore, rely on variations of the educational variables in the existing system, even though their effect on achievement is not impressive. These variables will now be studied individually.

C. School Variables

We now turn to the specific factors which make up the contribution of the school. An effort has been made to systematize the results of the different studies in the following table. Three major headings have been introduced: physical setting (which includes size of school and of class), teachers and organisation and policy.

The four columns on the left of the table contain the results of the three major studies** which have included at least some variables in each group. The information summed up in the column on the right comes from a number of smaller studies mainly concentrating on only one factor at a time. This is, of course, risky as their conclusions might be invalidated if more variables were introduced simultaneously. However, as a complement to the more comprehensive studies, they can be of interest. Moreover, they sometimes consider variables that have not been included in the more extensive analysis.

As to the relative importance of variables between and within these categories, there is a certain amount of divergence between the three major studies. This can, of course, depend upon the definition and set up of variables actually chosen in each case. The problem of multicollinearity of variables also prevents any firm determination of the impact of each of them respectively by a regression analysis.

The National Survey of the Plowden Report is alone in finding the teacher variables to be the most important feature of the school. The other two studies consider the organisation and policy group of variables as the most influential. This holds also in the case of England for the Mathematics Study. However, comparing England with the average found in the international study, it is clear that, for England, the teacher variables are of greater importance than normal. Does this mean that there is something special about the relationship between teachers and achievement in England ? Such an interpretation would be contradicted by the evidence of the Manchester Survey, which found the teacher variables to be of even less importance compared to the other groups than did the Mathematics Study.

* A. Jensen, op. cit.

** National Survey, Plowden Report, Appendix 4, op. cit., Manchester Survey, Plowden Report, Appendix 9, op. cit., International Study of Achievement in Mathematics, op. cit.

School variables considered in different studies with indication whether they exert any influence on the target variables

SCHOOL VARIABLES	PLOWDEN		INTERNATIONAL MATHEMATICS STUDY		FINDINGS FROM OTHER STUDIES MOSTLY CONCERNED WITH ONLY ONE VARIABLE AT A TIME[1]										
	NATIONAL SURVEY	MANCHESTER SURVEY	ALL COUNTRIES 1a, 1b	ENGLAND 1b											
Quality of School	–	–			± –	÷									
1. Physical setting	0	1	½	0											
Pupil/teacher ratio		–			–										
Quality of school	–	–			÷	–									
Quality of building		–			+	+	÷	–							
Size of school	–	–	+↗	+↗	+↗	+↗	+↗	(+↗)	÷∩	∩	÷↘				
Size of class	–	+↗			+↘	+↘	–	+↗	+↗	+↗	÷∩				
Student body composition					÷										
2. Teachers	2	0	½	1											
Age	–	–			+										
Sex	+	–	–	÷	–										
Marital status	–	–													
Quality of head	–	–			+										
Quality of staff	+	–	+	÷	+	+ –									
Teacher experience	+				÷										
Teacher in-service training	(+)		–	–	–	–									
Teacher turnover	–	–			–										
Teacher salaries/student			+	÷											
Teacher freedom			–	–											
Teacher responsibility	+														
3. Organisation and Policy	1	2	2	2											
Pre-school education					–										
Time for instruction			(+)	+											
Homework		+	+	+											
Modern teaching techniques	–	–			–	+	+								
Specialization			–	(+)											
Educational differentiation			+	+											
Comprehensive-streaming	–	+s			–	–	±c	–	–	–	+c	+c	+s	(+s)	±c, s
Parent-school co-operation	(+)				–	+									
Continuity	+														
Pedagogical and psychological action					+										

0, 1, 2: relative importance of the three main groups of variables (2 being the highest).
+ : variables exerting an influence on achievement.
– : variables not exerting an influence on achievement.
↗ : positive correlation.
↘ : negative correlation (indicated where the direction of the effect is not evident).
∩ : non-linear relationship. c: evidence in favour of comprehensive.
s : in favour streamed system. Indications within parenthesis means that the association is weak.
1. For sources, see the Annex.

Comparing the results within each grouping, it can be seen that, in the first category, the two studies concerned with physical amenities both found them to be unimportant when all the other factors considered were held constant. The same was true for the measure of overall quality of the school.

It is difficult to say whether the size of the school or class makes any difference, as there is little agreement on this point.

As for the teacher variables, the quality of staff and teacher experience seem to be of importance. In-service teacher training apparently has little effect.

Among the organisational and policy variables, the two studies that considered homework found it to be very important. Modern teaching techniques have little effect. There is no agreement on the effect of streamed versus comprehensive classes.

Summing up, the most important school variables for these three studies were:

National Survey: teacher variables.
Manchester Survey: homework, size of class, streaming.
Mathematics Study: homework, size of school.

Can any further results be obtained by looking at the complementary studies ? Certain patterns do appear; for example, the evidence concerning the size of classes is only very slightly in favour of small classes. Either size of class is unimportant when other variables are allowed for, or larger classes are more effective, at least up to a certain size and for the younger age groups with which we are mainly concerned. *

The controversial question about the effects of streamed and unstreamed schools cannot be answered in this survey as far as achievement tests are concerned. However, there seems to be some agreement that the school-leaving age, transfer to secondary academic schools, and the passing of examinations increase where comprehensive education operates. **

Similar conclusions were reached in another study with regard to school and teacher quality, namely, that these variables have a positive effect on school-leaving age and examinations passed, but no effect on test scores. ***

These simpler studies also corroborate the earlier conclusion about teacher training. While the quality of the staff is important for pupil achievement, it results less from formal training than from experience and interest.

As for the pupil/teacher ratio, this seems to have no influence as far as our evidence . . .

There is conflicting evidence about equipment, buildings and modern teaching techniques. The positive effects observed in the smaller studies are very loosely established. Perhaps not too much stress should be laid on them.

Concerning the size of school, no new evidence has been produced from which any conclusions could be drawn.

* See the Annex.
** See the Annex and Table 38.
*** See Tables 39, 40.

Lastly, three points not covered by the major studies can be made.

i) Though pre-school education is often extolled, research evidence on this point is sparse. Nursery education as practiced in one enquired instance did not seem to have much beneficial effect.*

ii) The possible effects of the social composition of the student body have also not been investigated to any large extent. A Swiss study** shows that lower class children have a greater chance to succeed in a gymnasium where they are not just a small minority.

iii) Social action and co-operation between home and school had hardly any significance in the regression analysis of the National Survey. Some schools where the relations between parents and teachers were particularly good were studied but there was little difference in achievement between the children in these schools and the rest of the sample. However, an experiment carried out in one school gave more encouraging results. Here an attempt was made to influence the attitude of parents. For these children, a small but definite improvement in results was registered.

It is obvious that research is needed to find out how parents react to different initiatives taken by the school. It is possible that formal meetings do not make them feel closer to, or more interested in, the school, and that other channels for contact have to be opened up to get rid of the alienation of parents, and to make them realize their responsibility for the performance of their children.

In Brussels*** similar social actions were coupled with pedagogical and psychological measures within the limits of the ordinary time-table and curriculum. After two years of experiment, the conclusion was reached that social handicaps can, to a more than negligible extent, be remedied within the existing school system.

Conclusions

The information on the existing school system does not permit any generalizations about the relative importance of school factors for pupil achievement. A policy aimed at improving the achievement of pupils could perhaps devote extra resources, not so much to the improvement of material circumstances (including size of class and pupil/teacher ratio) as to teachers and organisational matters. However, the problem with regard to teachers is difficult to solve as the present teacher training system seems to be inefficient. It would have to be reformed in the light of the social problems implied by the democratization of the school system.

The only general conclusion that can be drawn is that more research is needed. However, as so little is known about the present system, there are no valid indications as to the areas that are most promising.

D. Final Remarks

The results of this discussion about the effect of school and other variables on achievement give rise to the following remarks.

i) Apparently variations observed in the school factors explain to only a small extent (varying from 6% to 22%) the variations in test scores. This is perhaps less than expected and might seem discouraging when one considers the strong influence of the social background (23% - 59%, disregarding the results of the Mathematics Study).

* See Table 41.

** See Table 42.

*** F. Hotyat, "Le handicap scolaire des milieux défavorisés est-il fatal ?", Revue de l'Institut de sociologie, N° 2, Bruxelles, 1964.

However, as long as 100% of variation in test scores is not explained by factors outside the realm of policy parameters, e.g., genetic factors, the situation is not hopeless. This is apparently the case, and it is, therefore, interesting to investigate what these operational variables are. We then find that they are more likely to lie within the realm of social than traditional educational policy. This might surprise but not necessarily discourage. For one thing, it does not mean that educational policy is ineffective, and, secondly, it should be possible to intervene in the factors that lie behind the social background. Of course, if the intention was to democratize society through democratizing educational opportunities indirect action being preferred in such a delicate matter, it is somewhat disappointing to find that one of the best ways of democratizing school is to democratize society.

ii) The pattern of achievement can apparently be changed by policy actions, but little is known about how this is to be done. In the educational field, some research has been done, but the results are few and inconclusive. However, it is clear that no simple solutions, such as fewer pupils per class or teacher, will do. Still less is known about relationships, ways and means, in the social field. Common to both fields is the lack of cost-effectiveness analysis.

iii) Traditional educational policy does not give any indications about the effects of future changes in educational policy. If the explanatory variables were truly independent, the unexplained residual (41 - 77%) would set an upper limit to the importance of new variables and new ranges of old variables. In fact, the explanatory variables are hardly ever independent in this statistical meaning. Thus regression analysis cannot set even these upper limits.

iv) Educational policy could itself become more socially oriented. Such a development might pay more dividends in terms of democratization of the school than a purely pedagogically oriented development. As was pointed out in the introduction, differences in achievement are only one cause of social inequalities in participation rates. There are other factors which have only been alluded to in this paper. However, it is probable that these factors lie still further away from traditional educational policy than does achievement. For this very reason a socio-educational policy could be expected to have a greater impact on democratization of enrolment.

III

EDUCATION AND OCCUPATION

After schooling, leavers have to take up occupations for which the earnings vary. Can the type and length of education explain variations in occupational choice and rewards? Do pupils with equal education but differing social backgrounds get the same kind of jobs? Generally, the data available on this subject consider only "educational level" as determined by the number of school years or certificates obtained, and not the level of achievement attained at given stages of the school system. It would have been preferable to consider both "educational level" and achievement. When the occupational chances of people from different social backgrounds having reached the same "educational level" are compared, we do not know to what extent (if any) the occupational differences can be explained by achievement differences. Thus the role policy measures aimed at improving pupil achievement can play in equalizing occupational opportunities cannot be estimated. However, even at equal achievement levels, social disparities in occupations may persist. As an English interview study* shows, the occupational aspirations vary between social classes, even for pupils at equal ability levels.

The conclusions drawn here are merely speculations about the effect which increased participation of the lower social classes could have on their occupational possibilities, if all other factors remained unchanged.

Different concepts can, however, be distinguished in this context. There is the first occupational choice that is made after leaving school, and the occupational career or occupational mobility of the subject. Moreover, intergenerational mobility studies compare the social position of the son with that of the father.

To analyse the effect of education on the labour market situation of those who have left school, evidence has been collected on the relationship between education and occupational choice, education and earnings, and lastly, on the role played by education in intergenerational social mobility.

The Section A on occupational choice belongs to the category "first occupational choice", although, in the case of England, some of the effects of occupational mobility enter the picture, as the subjects investigated were twenty-five years old.

The findings discussed in the Section B on earnings are to an even greater extent influenced by occupational mobility, as, for instance, the earning position of thirty-five year olds was examined in Sweden. We have not been able to include any data which are more specifically concerned with occupational career, as they are seldom given both by education and social background.

The Section C is devoted to intergenerational mobility studies. The data contained in these studies can provide much the same information as that given by the "occupational choice" studies. They give

* See Table 43.

the social position of the subject investigated (the son) which can be related to his education and social background (his father's social position). The difference is that, in this case, one will normally have persons of varying ages (the sons) and thus at varying stages of their occupational career - which the "occupational choice" studies do not have. In the first part of Section C, the mobility data will be arranged so as to permit an analysis of this link between education and occupation by social class.

Mobility data can, of course, also be used to study the upward-and downward-moving streams of sons as compared to the social position of their fathers. A few analyses along these lines will be shown in the second part of Section C.

A. Occupational Choice

We have some interesting data on this subject from two longitudinal studies, one conducted in England, the other in Switzerland. *

In 1952, a sample of 600 English 13-14 year olds was chosen. Their occupational situation at the age of twenty-five was then investigated. The correlation between their educational attainment, as judged by examinations passed, and their occupational level at the age of twenty-five was + 0.66. A four point occupational scale was used, distinguishing upper and lower middle class, and upper and lower working class occupations.

Besides the influence of education, there is, of course, the impact of home. However, in this respect, there is a difference between types of school, grammar schools, almost eradicating the influence of social background.** The distribution by occupational groups of the pupils who finish grammar school is very similar for the middle and working classes, the latter being only slightly less successful. The kind of jobs that fall to children coming from secondary modern schools is much more dependent upon their social origin. The authors of the article thought of the grammar school as a "strong" system having well-defined goals and methods. Such a system will orientate its pupils in certain directions irrespective of the attitudes of parents. The secondary modern school is not such a "strong" system and the outcome will be conditioned to a larger extent by family background. This may be the effect of a restricted as contrasted with a more general school system.

For secondary modern pupils, the correlation between the father's occupation and that of the son was 0.31 (when IQ was taken into account, it became 0.30). For grammar school children, this correlation is 0.09, i.e., insignificant.

This effect of school on occupation has little to do with initial ability. A certain number of pupils had been assigned to grammar schools, though their general level of ability was a great deal below the average. On the other hand, some pupils had been allocated to secondary modern schools, although on tests they showed ability which would have permitted them to go to grammar schools. In spite of this, both these groups followed rather closely the occupational patterns of their respective type of school.***

The Swiss study followed 2,500 children born in 1942-43 through school and the beginnings of occupational life (only children at school in Geneva were investigated). Some were still at school, i.e. at university, but the remainder showed the distribution among different occupations by social class and educational level.

* H. Himmelweit, B. Swift, "A Model for the Understanding of School as a Socializing Agent", in New Directions in Developmental Psychology, ed. Mussen, etc, New York, 1969.

** R. Girod, Milieu social et orientation de la carrière des adolescents. Quatrième Partie, Geneva, 1968.

*** See Table 44.

The majority of pupils leave school altogether and do not go to a superior secondary school or a professional school. These were divided into four categories according to the educational level attained before leaving school. As far as the five-point occupational scale shows, it would seem that, at these low levels of education, the differences in social origin do not have any marked influence on the first steps of the occupational career. Most children become workers, qualified or not. The percentage becoming qualified clerical workers increases with the level of instruction at about the same rate for each social class.

The children having gone to superior secondary schools but not passed the matriculation examination become at least qualified workers. A minority become administrative workers. We do not have the data by social class, and there might be a social bias here.

We know that the chance of reaching different educational levels is heavily dependent upon social class. The passage from school to practical life seems, in this case, to be less dependent on social origin, at least at the lower levels of education.

The occupational careers of children who had repeated two, one or no years at the age of twelve were also studied. Girod found that those who had repeated two or more years got low jobs irrespective of social class. Those who had repeated one or no year chose jobs very much in accordance with sex and social origin. This is not in contradiction with the results just discussed, i.e., distribution by occupations at each educational level irrespective of social background. The "capable" pupils reach higher educational levels in proportions varying by social class. After that, they may have equal occupational chances, though not equal ability as expressed by the amount of repeating.

Conclusions

Thus, in both cases, the link between education and occupational level is undeniable, but it is not rigid. The dispersion among occupations is great at each educational level, and there is overlapping between levels. There are clearly other important causal factors besides education and these rather crude measures of social background. However, to a certain extent, the link between education and occupation seems to be of the same kind for all social groups. This is the case in Geneva, at least for the educational levels for which we have full information, i.e. the lower educational levels. In the English study, this holds good for grammar schools. Thus the effect of a general school system at low levels and a restrictive system at higher levels is the same. Another more general system does not have this effect, as pupils from secondary modern schools are much more subject to social pressure in their occupational choice.

This limited evidence might perhaps give rise to more questions than it answers. First of all, there is the problem of the level of aggregation chosen for the occupational classifications. Would the conclusions have been different with a finer occupational classification or with earnings?

The situation at higher educational levels is far from clear. The higher the level, the more restrictive and selective it often becomes. In such cases, does the social origin influence less occupational choice, as suggested by the grammar school data? Could this feature be retained if the grammar school system were to be extended? Do countries with a less selective school system follow the pattern of the secondary modern school? These are questions which still remain to be answered.

B. Earnings

In France, as in other countries, income is, on average, related to the amount of education*. The question is how far this is true when other factors are considered. Another French

* See Graph 3.

study* produces some evidence on this topic. The salaries in 1962 of directors, administrative and managerial workers (cadres supérieurs) who had pursued their studies for sixteen years or more were investigated. Their incomes were found to depend upon the occupation of the father.** The sons probably earn more than they would have done with less education. However, the dispersion around the mean is not random, but a function of social class origin.

Professor T. Husén*** reports the findings of a follow-up study made in Sweden. A sample of 1,500 pupils in the third grade of elementary school was followed during their school career. In 1962, when they were thirty-five years old, their earnings were investigated****. Within each status group, mean income increases with the length of education. However, at each level of education, there are great differences among social classes. For example, with 11-14 years of education, the son of a professional (status group 1) earns on average S.cr. 35,000 a year, while the corresponding average for the son of an unskilled worker (status group 4) is 18,000. The only exception is provided by those who have only elementary schooling. Here income seems to be rather independent of social origin - which is in line with our findings on occupations. Of course, very few of the upper class children belong to this group. It may even be that the mental abilities of those who do are below the average of the rest of the children in the same group. For the children of unskilled workers, extended schooling from junior to senior secondary school is not very rewarding. A substantial increase in salary comes only after having attended university.

Generally, those from status group 1 earn more than those from status group 4 on the next higher educational level. Taking into consideration how highly selected the latter are, the author concludes that earnings are determined to a greater extent by social origin than by length of formal schooling and ability. However, with high income, and, especially, for status group 1, the standard deviation is considerable. Social origin and education cannot alone explain variations in income or in occupation, as we have just seen.

Conclusions

These data on earnings corroborate one conclusion drawn in connection with occupational choice. At the very lowest levels of education, the labour market situation, whether judged by earnings or occupations, is very similar for people with different social backgrounds. Of course, it must be remembered that only a minority of the children from the upper classes leave school at this early stage.

At higher educational levels, both the French and Swedish data show important earning disparities according to the social origin of the students. Comparing these results with those of the English study on occupational choice, they resemble more the pattern of secondary modern schools than of grammar schools. Apparently, education at higher levels does not have strong enough effects to eliminate the influence of social background on earnings.

It would be interesting to know if the absence of social disparities, which seems to be the outcome of grammar schools, also holds for earnings and has a durable effect on occupational careers. If this were so, it would be advisable to go deeper into this problem and elicit the factors responsible in this sole case for such a close relationship between education and occupation irrespective of social background. Both the French and the Swedish educational systems were rather selective at this time, so that this is not a special feature of the grammar school system.

* Darras, Le partage des bénéfices, Paris, 1966.
** See Table 45.
*** "Ability, Opportunity and Career. A 26-year Follow-Up", Educational Research, Vol. 10, N°3, June 1968.
**** See Table 46.

C. Intergenerational Social Mobility

Studying intergenerational social mobility, sociologists have sometimes introduced education as an explanatory variable. Data on the son's education and social position and the social position of the father are assembled and certain conclusions are drawn as to the importance of education in mobility. Some of this type of research material will be discussed here. First, the mobility data will be arranged along the same lines as data in the two foregoing sections: social position of the subject investigated (the son), his education, and his social background (the social position of his father). In this way, we obtain more evidence on the link between occupational choice and career in relation to education and social background.

Second, the role played by education in upward and downward mobility will be discussed. In this case, the object of the study is those who reach a higher, lower, or remain at the same, social position as their father. These three groups will not be occupationally homogeneous, since the person's membership of a group does not depend upon the social position he himself has reached, but, his social position in relation to that of his father - whether he has moved up or down or remained at the same position as his father. To what extent can education explain this mobility or immobility?

a) Mobility data as evidence on occupational choice and career

G. Boalt and T. Husén* concluded from two sets of Swedish data** (one concerned with the situation of sons in 1949, and the other in 1955) that the amount of education received by the son will highly influence his final social position. How close this relationship between education and social position will be will depend, to a certain extent, on the situation of the labour market in relation to the capacity of the educational system.

Thus, the link between education and social position seems to be closer in the first sample than in the second. In the former, almost everyone who entered or remained in the top class had obtained university entrance qualification, and none with this qualification moved down or remained in status category 3 (the lowest of the three point status scale used).

The second sample depicts a situation where social position is certainly associated with education, but apparently there were so many top positions to be filled that a number of persons could move up or remain in status group 1 without the qualifications that are usually demanded.

However, the two samples do not differ only as to the point in time at which they were drawn. The most important difference lies in the geographic area covered: the first was drawn from the Stockholm population, while the second covered the whole country. Educational opportunities in Stockholm are better than in the rest of the country. School attendance can, therefore, be expected to be of less importance when the whole country is studied. Because of the different coverage and labour market situation, no conclusions should be drawn as to a long-term trend of diminishing connection between education and mobility.

An effort was also made to disentangle the relative importance of social origin and education for the social positions of sons. For the Stockholm sample, the conclusion was that the social background had its greatest impact on the kind of education the sons get. After this indirect effect on social position has been accounted for, social origin is not so important. With equal education, the sons from different classes get about the same occupational status.

For the country as a whole, social origin had less indirect influence on social position via education, but a much more direct effect. With equal education, sons were distributed by occupational levels in accordance with their social origin.

* Educational Research and Educational Change, New York, 1968.

** See Tables 47, 48.

Examining more in detail the chances of reaching top positions for people with varying social background, it seems clear that education is an effective means of doing so. In the first sample, for example, out of the sons from the lowest social group, 52% of those with the highest education reached top positions, while none of those with less education did. The rest of those with the highest education all moved up to social group 2. However, there are differences among the social classes. A greater proportion of those with the highest education from social class 1 (which is the highest) reach top positions than their educational equals from social class 3. The figures for the three social classes are (going from the highest to the lowest), in the first sample: 78%, 70% and 52% in the second sample, 69%, 19% and 40%.

Judging from the number of people who reach top positions without the highest education, the discrepancies between the social classes increase when the relationship between education and occupations diminishes, as in the second sample. In the first sample, no one from any class without the highest education reached a top position. But in the second sample, the top class manages to keep a high proportion of its sons there without any higher formal training (35% of the boys with realskola and 15% of those with only elementary school). It is not so easy to move up to this class with lower education. The corresponding figures for social group 2 are 3% and 2% and for social group 3, 5% and 2%. However, in absolute figures, these latter percentages represent large numbers, as large as those from social group 1.

It can be added that, even at the lowest level of education, there are social class disparities in the social positions obtained. Among the sons with the lowest education in the first sample, the percentage distribution in social groups 1, 2 and 3 respectively, is, for those with highest social origin: 0,75 and 25, and for those with the lowest social origin: 0,44 and 56.

Similar conclusions can be drawn from English mobility matrices*. The picture that emerges resembles that of the second Swedish sample, with a general relationship between education and social position of a rather loose nature, and differences among the social classes at all educational levels.

For France**, we have a sample of 2,000 persons in top positions by education and social origin***. Top positions are defined as high-ranking posts in government and private business, and leadership in the field of politics, the sciences and fine arts. Here it is less clear whether education has any independent effect on social position.

Even though 85% of the persons in leading positions have a higher education, there is no proof that it was their education that got them this position. The majority of them come from the higher socio-economic strata and have at the same time higher education. The lower the original socio-economic status of the sons the smaller their proportion in the total of top positions and the smaller the proportion having higher education. The chances for a boy of working class origin to reach a top position are very small. Whether or not he has higher education seems to be of less importance, as 50% of them have only primary or secondary education.

Conclusions

How do these conclusions fit in with those drawn for occupational choice and earnings? In this context of inter-generational mobility, the occupational mobility will in many cases have had much more time to make its effects felt. What is found is that, even though a general link between education and social position persists, it is different for the various social groups. This is true not only at the highest educational levels, but even at the lowest, which was not the case for earnings, for example.

The available material does not enable us to judge whether this difference in conclusions is due to the effects of occupational mobility and/or other circumstances, such as samples drawn at different times, at different places, in different labour market situation, etc.

* See Table 49.
** A. Girard, La réussite sociale en France, Paris, 1961.
*** See Table 50.

These differences in the link between education and social position for different social classes can be due to the fact that the subjects in question are faced with different situations. Someone coming from the highest status group has greater chances, at each educational level, to remain at this level than someone from the lower classes to move up to it. For the former, it is a question of preventing downward mobility, for the latter, a possibility of achieving upward mobility. These different situations may stimulate different kinds of energies. Therefore, it is also of interest to analyse the importance of education for mobility, lumping together all those who move upward and all those who move downward. This is done in the following pages.

b) Social mobility and education

The object here is to focus interest on the position of sons in relation to that of their fathers, and not in relation to a status hierarchy, as was done before.

An international cross section analysis* has been undertaken in order to find variables explaining this intergenerational social mobility. It was based on mobility studies made in different countries at approximately the same time. Nine western European** countries plus Hungary, Japan and the U. S. were included in the study. Only two social groups were distinguished, i.e., manual and non-manual working class. The dependent variables thus became the amount of upward mobility (from manual to non-manual working class) and the amount of downward mobility (from non-manual to manual working class). There is a great deal of difference in upward and downward mobility as between these countries. To explain these differences a multiple regression analysis was made.

The explanatory variables were: gross national product per capita, primary and secondary school enrolment as a percentage of population aged 5-19, percent of total population in localities over 20,000, degree of political stability, and achievement motivation.

These five independent variables explained more than 80% of the variation in mobility. ***

As for upward mobility, the educational variable is the one that best explains the variations (56%). It has a high simple correlation coefficient (0.80) which is not much reduced even when the linear effects of the other variables are kept constant, as seen from its partial correlation coefficient (0.76). Next in importance seem to be political stability and achievement motivation. GNP per capita and percentage in localities with more than 20,000 inhabitants make uncertain contributions. Their positive simple correlation coefficients are turned into negative partial correlation coefficients.

For the downward mobility, the three most important variables are: political stability, urbanization, and GNP per capita. Education is of very little importance.

In interpreting these results, the authors recommend great caution. The statistics on which they are based are very imperfect. The statistical reliability of most of the net regression coefficients is also rather weak. However, the positive and close relationship between education and upward mobility seems to be less doubtful. This means that the higher the rate of participation the greater the amount of upward mobility. This would hold true even if the standards of living, the degree of urbanization, political stability and achievement motivation remained constant. However, a regression analysis never proves that a causal relationship exists, only that there is a certain association between variables.

Other authors have also studied these upward and downward moving streams. C.A. Anderson**** concluded that, in the case of both Great Britain and Sweden, mobility in these terms was almost

* T.G. Fox, S.M. Miller, "Economic, Political and Social Determinants of Mobility: An International Cross-Sectional Analysis", Acta Sociologica, Vol. 9, fasc. 1-2, Copenhagen, 1963.

** Denmark, Finland, France, Great Britain, Italy, Netherlands, Norway, Sweden, West Germany.

*** See Table 51.

**** C.A. Anderson, "A Sceptical Note on Education and Mobility", in Education, Economy and Society, Ed. A.H. Halsey, Glencoe, 1961.

unrelated to education*, the educational profile of those moving up and down being almost identical. In the case of Great Britain, the author even constructs an efficiency index for education as a factor in mobility. Sons with only elementary schooling make up the group for which education can, to a certain extent, explain mobility or the lack of it, though even here it does explain less than half of the mobility pattern. For the higher educational groups, the index implies that education had no effect. This may reflect the fact that boys from the top strata get a high education regardless of their abilities, though they may later lose status in spite of their training. (This can be interpreted as revealing defects in the selection system, as the selection criterion does not seem to fit the individual's potentialities.)

When a study in Germany** was undertaken along the same lines as the Anderson study, a much firmer relationship emerged between education and mobility.***

With increasing education, the proportion of those moving upward increases and the proportion of those remaining at the same level diminishes. There is also a tendency for downward mobility to be negatively correlated with education. Thus we find that the ratio between those who move upward and those who move downward increases rapidly, ranging from 0.8 at the "Volkschule" level to 6.4 at the university level. Especially for those with university training, the chance of moving upwards is very good.

Conclusions

The results of the studies of intergenerational mobility for individual countries are somewhat contradictory. In the case of Sweden and Great Britain, there is almost no relation between education and mobility, while in Germany there is a rather firm link. A number of possible explanations can be advanced. In Germany, the selection process of the school system may be much stronger than in the two other countries. The outcome of the selection at school and in the labour market may still result in about the same social disparities in occupational opportunities in the three countries. The German selection system at school might be better than that of the other countries in sorting out the right person for the right job. Maybe it is quality that counts more than connections, etc. Whether this hypothetical characteristic would remain with a more massive participation of the lower classes in higher education is doubtful. Moreover, in Germany, rather stiff regulations are applied to a large part of the labour market. For certain posts, well-defined qualifications are absolutely necessary. Differences in these respects may also explain the dissimilarity observed as between these countries. Purely technical questions, such as the number of social groups and educational levels distinguished, can also account for part of the difference. In the case of Germany, it is not quite clear how the classification of social groups was made.

A firm relationship between education and mobility or occupational possibilities is not necessarily an advantage for people with a modest social background. A highly selective school system with less close ties between education and mobility might be preferable for them. On the other hand, if possibilities to reach high occupations by other means than education are used only or mainly by the upper classes, they are not very useful for the people coming from the lower classes.

The conclusions drawn here with regard to Great Britain and Sweden are not necessarily in contradiction with those drawn earlier in this section. Even though mobility as defined here is not highly correlated with education, occupational opportunities may be. Earlier in this section, we saw that social position and education seemed to be linked to each other, even though the link was not the same for all social classes. In this study of upward and downward mobility, the different social classes were not distinguished. It is possible that the relationship between mobility and education will increase if it is analysed by social

* See Tables 52, 53.

** Morris, Janowitz, "Soziale Schichtung und Mobilität in Westdeutschland", Köhlner Zeitschrift für Soziologie und Sozialpsychologie, No. 1, 1958.

*** See Table 54.

class. However, it seems clear that education is not so strong a force as to break through the influence of other factors on mobility. Whether Germany really is an exception is hard to say, as the social barriers to education seem to be so high that education has so far had no chance to prove what it can or cannot do for mobility. The mobility data by social class* reveal that almost no one from the lower working class got as far as the Abitur or the university.

D. Final Remarks

What conclusions can be drawn from these rather heterogeneous data on the occupational situation of pupils and students as to the effect of more equal educational participation on occupational opportunities? If the relationship between education and occupations were to remain the same as that revealed by the studies surveyed here, it is clear that equalization of educational participation will not ensure equal occupational opportunities and earnings.

The educational requirements of different occupational levels are often so loosely defined that persons with widely differing qualifications can enter the same occupation. It is especially the upper classes that know how to take advantage of this situation. It might be that the occupations in question are open only to them, and that they have, to a certain extent, created this situation. Even during an economic expansion, when the number of top positions increases and cannot be filled to any substantial extent by highly educated people from the upper status groups, they seem to be filled rather by upper class persons with low qualifications than by middle or lower class persons with the highest education. The few exceptions where people from different social groups have equal occupational or earning possibilities, or where education is clearly linked to mobility, are in situations where:

a) the school system is highly selective (and there is no guarantee that this would not change if the system became less restricted);

b) the very lowest levels of education are considered (which for the majority of the children of higher status groups are not the final stage and moreover not a premise on which a progressive policy could be based).

However, these facts should not be interpreted to mean that extended education for people of modest social origin would not improve their occupational opportunities. The data indicate that they would (though the reaction of the labour market to a great increased output of highly qualified personnel may reduce the benefits). What education seems incapable of doing is to erase the influence of social background on occupational opportunities. Thus equal participation rates in education will be consistent with unequal occupational chances. So far, not much is known about the factors that cause these occupational differences at equal "educational levels". Would achievement differences be an important explanatory variable? How about discrimination on the labour market or differences in aspiration?

Data in this field are, however, scarce. It would be helpful to have more time-series. Also the studies ought to be extended so as to embrace not only the relationship between education and occupation, but also other factors, such as the situation on the labour market, etc.

Education may make individuals available and motivated to seek new and more prestigious roles. Whether this propensity is to be effective is largely determined by factors outside the educational system. It can also be increased by means other than education.

* See Table 55.

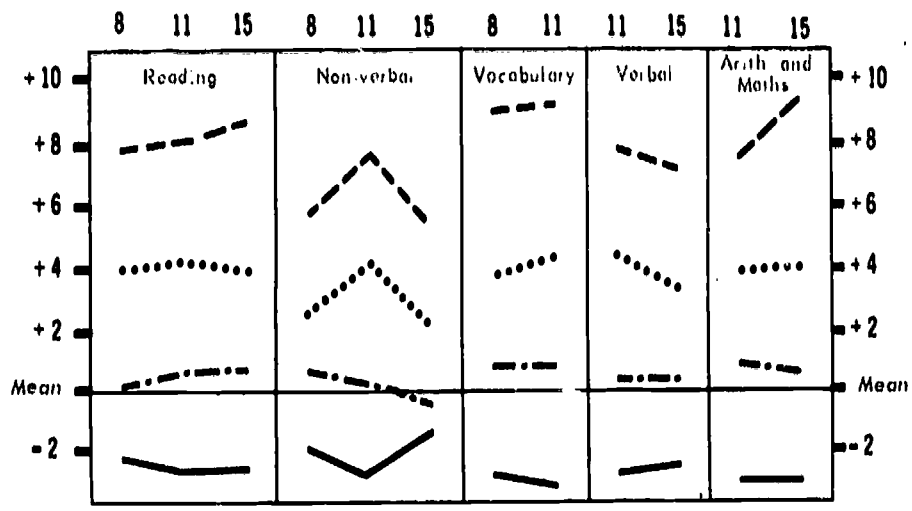
ANNEXES

Graph 1

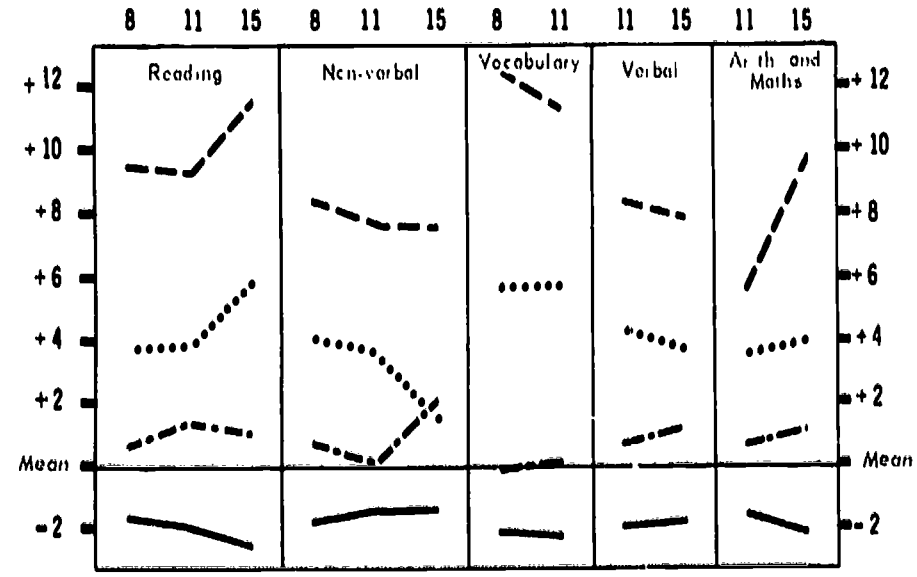
ACHIEVEMENT IN PRIMARY SCHOOL

ENGLAND, WALES AND SCOTLAND

The individual test scores of pupils in England and Wales grouped by their social class
(Differences from the means of all classes)



The individual test scores of pupils in Scotland grouped by their social class
(Differences from the means of all classes)



Source J W B Douglas *All our Future*. London, 1968.
National Sample of more than 5,000 children born during the first week of March 1946

The tests of "pure intelligence" are more the non-verbal than the verbal tests. The widening of the gap on those tests that occurs for England and Wales between 8 and 11 is considered by the author as an artifact due to the English selection system. Disregarding such disturbances, the differences remain constant or diminish.

At 15, the divergence in measured intelligence is at a minimum while social class differences in school subject achievement are at a maximum. Middle class children are considered as "over-achievers", as they perform better in school than could be expected from the results of tests measuring intellectual capacity. The manual working class children are on the contrary "under-achievers".

Table 1. TEACHER RANKING

BELGIUM

NATIONALITY AND OCCUPATION OF FATHER	1 (HIGHEST)		2		3		4 (LOWEST)		TOTAL	
	N.	%	N.	%	N.	%	N.	%	N.	%
Miner (foreign)	55	18.8	72	24.6	85	29.0	81	27.6	293	100
Miner (Belgian)	21	12.8	35	13.2	51	31.9	57	34.8	164	100
Unskilled Worker (foreign)	40	21.4	47	25.1	57	30.5	43	23.0	187	100
Unskilled Worker (Belgian)	95	15.4	151	24.6	158	25.7	211	34.3	615	100
Skilled Worker	155	27.8	144	25.9	141	25.3	117	21.0	557	100
Low-grade civil servant	124	28.1	110	24.9	126	28.5	82	18.5	442	100
Self-employed	141	27.0	131	25.1	133	25.5	117	22.4	522	100
Clerical Worker	209	37.0	145	25.7	125	22.1	86	15.2	565	100
Executive Management	138	39.3	92	26.2	68	19.4	53	[illegible]	351	100
Other and unknown	110	27.0	96	23.6	91	22.4	110	27.0	107	100
TOTAL	1,088	26.5	1,023	24.9	1,035	25.2	957	23.4	4,103	100

SOURCE: P. Minon, Facteurs sociaux de la première orientation, Liège, 1966.
Sample of over 4,000 children in the Liège region 1960/61 in the 6th form of primary school.

Table 2. TEACHER RANKING

FRANCE

Percentages

OCCUPATION OF FATHER	EXCELLENT	GOOD	AVERAGE	MEDIOCRE	BAD	TOTAL
Farm labourer	4	25	33	25	13	100
Farmer	8	28	33	21	10	100
Manual worker	5	23	34	25	13	100
Craftsman and small merchant	8	29	34	20	9	100
Low-grade non-manual worker	9	29	34	21	7	100
Non-manual of intermediate grade	17	39	27	12	5	100
Professionals, Industrialists	15	35	34	13	3	100
Higher administrative, Managerial, Executive worker	19	36	29	13	3	100

SOURCE: A. Sauvy and A. Girard, "Les diverses classes sociales devant l'enseignement", Population, No. 2, Paris, 1965. National sample of more than 20,000 pupils in the 5th grade of primary school, 1962.

Table 3. SCHOOL POSITION AT 13 YEARS

SWITZERLAND

Percentages

SOCIAL CLASS	NORMAL POSITION	ONE YEAR RETARDED	2 YEARS RETARDED OR AT SPECIAL SCHOOL	TOTAL
Unskilled workers	36.5	36	27.5	100
Skilled workers	47.5	30	22.5	100
Middle class	61	27	12	100
Upper class	77	18	5	100
All classes	58	26	16	100

SOURCE: R. Girod (in collaboration with J.F. Rouiller), Milieu social et orientation de la carrière des adolescents, Nos. I and II, Geneva, 1961.
All children born between 1st September, 1942, and 31st August, 1943, who lived in Geneva or went to school in Geneva 1958/59 (private schools excluded). Sample size: 2,500.

Table 4. TRANSFER RATES

BELGIUM

NATIONALITY AND OCCUPATION OF FATHER	SCHOOL CHOSEN AFTER 6th FORM IN PRIMARY SCHOOL										TOTAL	
	ACADEMIC SECONDARY SCHOOL		TECHNICAL SECONDARY SCHOOL		TERMINAL GRADES IN PRIMARY SCHOOL		OTHER		UNKNOWN			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Miner (foreign)	24	11.0	143	65.6	8	3.7	31	14.2	12	5.5	218	100
Miner (Belgian)	11	9.2	69	58.0	8	6.7	22	18.5	9	7.6	119	100
Unskilled Worker (foreign)	25	20.7	77	63.6	3	2.5	12	9.9	4	3.3	121	100
Unskilled Worker (Belgian)	108	25.5	232	54.8	27	6.4	40	9.5	16	3.8	423	100
Skilled Worker	149	39.6	163	43.4	28	7.4	20	5.3	16	4.3	376	100
Low-grade civil servant	142	50.7	96	34.3	15	5.4	17	6.1	10	3.5	280	100
Self-employed	168	54.0	84	27.0	14	4.5	23	7.4	22	7.1	311	100
Clerical worker	239	70.3	65	19.1	19	5.6	7	2.1	10	2.9	340	100
Executive Management	174	83.7	10	4.8	11	5.3	7	3.4	6	2.8	208	100
Other and Unknown	104	37.7	86	31.2	15	5.4	47	17.0	24	8.7	276	100
TOTAL	1,144	42.9	1,025	38.4	148	5.5	226	8.4	129	4.8	2,672	100

SOURCE: P. Minon, op. cit.

Table 5. SOCIAL CLASS DISTRIBUTION OF STUDENTS TRANSFERING FROM GRADE 4 TO A REALSKOLA

SWEDEN

Percentages

SOCIAL CLASS	STOCKHOLM 1936	STOCKHOLM 1938	STOCKHOLM 1955
1 (highest)	25	20	34
2	57	61	46
3	18	19	20
TOTAL	100	100	100

SOURCE: G. Boalt, T. Husén, Educational Research and Educational Change, New York, 1968.

Table 6. KIND OF SCHOOL CHOSEN AT THE AGE OF 13-14

SWITZERLAND

Percentages

OCCUPATION OF FATHER	ACADEMIC SECONDARY SCHOOL	TECHNICAL SECONDARY SCHOOL	TERMINAL GRADES PRIMARY SCHOOL	SPECIAL CLASS	REPEATING IN PRIMARY SCHOOL	TOTAL
Unskilled worker	4	17	10.5	19	49.5	100
Skilled, semi-skilled worker	10	28	6	17	39	100
Lower non-manual worker	24	31.5	5.5	6	33	100
Clerical and related worker	28	41	2	3.5	25.5	100
Administrative and executive worker	51.5	28	1	1	18	100
Professional and managerial worker	62	20	1	3	14	100
All social groups	22	29	5	10.5	33.5	100

SOURCE: R. Girod, op. cit.

Of all the students included in this table only 7% changed from one type of school to another as they passed through the school system; 2% changed to a "higher" type of school. This movement was independent of social class origin. The 5% who changed to a less prestigious type of school came more from the upper than the lower classes.

Table 7. SITUATION OF PUPILS IN 1964 BY OCCUPATION OF FATHER AND SCHOOL POSITION IN 1962

FRANCE (Reorientation)

Percentages

FATHER'S OCCUPATION AND SCHOOL SITUATION OF SON IN 1962		SON'S SITUATION IN 1964								
		AT WORK SINCE 1962, 1963, 1964	TERMINAL GRADES IN PRIMARY SCHOOL	VOCATIONAL TRAINING	5th CLASS AT		4th CLASS AT		TOTAL	4th CLASS
					CEG CC	LYCEE OR PRIVATE COLLEGE	CEG CC	LYCEE OR PRIVATE COLLEGE		
Terminal grades in primary school										
Without occupation and others	1.4	49.5	13.3	26.9	7.7	0	1.7	0.9	100.0	2.6
Farm labourer	2.3	54.2	17.9	15.4	6.9	2.8	2.7	0.1	100.0	2.8
Farmer	9.1	35.5	22.7	27.6	6.9	3.1	2.4	1.8	100.0	4.2
Manual worker	21.9	41.8	18.1	27.4	6.4	1.5	2.5	2.3	100.0	4.8
Craftsman and small merchant	3.5	35.8	19.2	22.3	11.6	4.6	1.9	4.6	100.0	6.5
Low-grade non-manual worker	5.4	28.9	17.8	33.7	9.5	2.2	3.3	4.6	100.0	7.9
Low-grade administrative worker	0.7	14.7	26.6	24.0	15.0	8.6	3.4	7.7	100.0	11.1
Professional	0.4	26.0	13.0	23.5	6.1	17.4	3.8	10.2	100.0	14.0
Higher administrative, managerial and executive worker	0.3	12.5	11.5	11.5	22.1	18.3	10.6	13.5	100.0	24.1
6e CEG or Private CC										
Without occupation and others	0.6	9.4	3.9	6.6	30.9	5.0	39.8	4.4	100.0	44.2
Farm labourer	0.7	7.1	5.3	2.2	15.0	-	64.2	6.2	100.0	70.4
Farmer	3.5	5.4	2.8	9.8	22.6	1.0	52.8	5.6	100.0	58.4
Manual worker	11.3	4.7	4.4	10.7	24.8	1.2	48.4	5.8	100.0	54.2
Craftsman and small merchant	3.5	2.8	2.0	7.5	30.5	2.6	43.7	10.9	100.0	54.6
Low-grade non-manual worker	5.6	2.8	2.6	7.6	26.7	3.5	48.6	8.2	100.0	56.8
Low-grade administrative worker	1.3	3.2	5.9	5.1	19.8	2.2	47.9	15.9	100.0	63.8
Professional	0.7	2.6	0	4.7	12.8	6.8	48.5	24.6	100.0	73.1
Higher administrative, managerial and executive worker	0.9	2.3	1.7	8.3	20.9	9.0	35.9	21.9	100.0	57.8
6e Lycée or private college										
Without occupation and others	0.3	3.5	1.8	0	15.0	40.8	9.7	29.2	100.0	38.9
Farm labourer	0.4	4.9	3.3	4.9	4.9	18.0	8.2	55.8	100.0	64.0
Farmer	2.5	2.0	0.5	8.8	7.6	16.9	7.1	57.8	100.0	65.9
Manual worker	6.2	2.7	4.2	6.6	5.1	25.1	5.9	50.4	100.0	56.3
Craftsman and small merchant	3.4	2.6	1.0	3.5	6.2	27.8	5.8	53.1	100.0	58.9
Low-grade non-manual worker	5.5	0.7	2.9	5.6	5.5	26.9	4.5	53.9	100.0	58.4
Low-grade administrative worker	2.4	0.3	1.4	1.7	7.1	23.3	2.8	63.4	100.0	66.2
Professional	2.4	0.4	0.3	2.3	3.6	26.4	2.1	64.9	100.0	67.0
Higher administrative, managerial and executive worker	3.8	0.4	0.6	0.6	4.9	25.6	2.1	65.8	100.0	67.9
	100.0									

SOURCE: A. Girard: "Les facteurs psychologiques et sociaux de l'orientation et de la sélection scolaires" in Population, No. 4, Paris, 1966.

Table 8. DROP-OUT RATES

DROP-OUT AND RETENTION BY SOCIO-ECONOMIC GROUPS

FRANCE

Per thousand

SCHOOL YEAR	WITHOUT OCCUPATION AND OTHERS	FARM LABOURERS	FARMERS	MANUAL WORKERS	CRAFTSMEN AND SMALL MERCHANTS	NON-MANUALS OF LOWER GRADE	NON-MANUALS OF INTERMEDIATE GRADE	PROFESSIONALS	HIGHER ADMINISTRATIVE MANAGERIAL AND EXECUTIVE	TOTAL
					Number not at school out of 1,000 at school 1961/1962					
1961-62	-	-	-	-	-	-	-	-	-	-
1962-63	87	54	26	29	9	10	1	2	1	22
1963-64	251	181	96	104	51	41	10	17	4	81
1964-65	374	394	236	254	140	110	35	35	15	194
1965-66	491	515	329	357	198	179	62	60	22	275
1966-67	552	556	401	428	253	227	97	78	27	332
					Number still at school					
1961-62	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1962-63	913	946	974	971	991	990	999	998	999	978
1963-64	749	819	904	896	949	959	990	983	996	919
1964-65	626	606	764	746	860	890	965	965	985	806
1965-66	509	485	671	643	802	821	938	940	978	725
1966-67	448	444	599	572	747	773	903	922	973	668

The table is based on figures in A. Girard, A. Sauvy: "Les diverses classes sociales devant l'enseignement", Population, No. 2, Paris, 1965.

Table 9. DROP-OUT AND RETENTION AT A BIG CITY GYMNASIUM IN BADEN-WURTTEMBERG 1955/56 - 1963/64

SUCCESS AT SCHOOL

GERMANY

SOCIAL CLASS	SEX	DROP-OUT AT:						DROP-OUT TOTAL		ABITUR EXAMINATION		TOTAL	
		5-10 CLASS		MITTLERE REIFE		11-13 CLASS							
		ABS.	REL.	ABS.	REL.	ABS.	REL.	ABS.	REL.	ABS.	REL.	ABS.	REL.
Upper class	Boys	4	22%	3	17%	3	17%	(10	56%)	8	44%	18	100%
	Girls	1	8%	3	23%	3	23%	(7	54%)	6	46%	13	100%
	Total	5	16%	6	19%	6	19%	(17	54%)	14	46%	31	100%
Middle class	Boys	9	19%	12	25%	5	11%	(26	55%)	21	45%	47	100%
	Girls	12	39%	11	36%	2	6%	(25	81%)	6	19%	31	100%
	Total	21	27%	23	29%	7	9%	(51	65%)	27	35%	78	100%
Working class	Boys	21	47%	12	27%	1	2%	(34	76%)	11	24%	45	100%
	Girls	5	46%	2	18%	2	18%	(9	82%)	2	18%	11	100%
	Total	26	47%	14	25%	3	5%	(43	77%)	13	23%	56	100%
Total	Boys	34	31%	27	25%	9	8%	(70	64%)	40	36%	110	100%
	Girls	18	33%	16	29%	7	13%	(41	75%)	14	25%	55	100%
	Total	52	32%	43	26%	16	9%	(111	67%)	54	33%	165	100%

SOURCE: Der vorzeitige Abgang vom Gymnasium, "Schriftenreihe des Kultusministeriums Baden-Württemberg", Reihe A, No. 6.

Table 10. DROP-OUT AND RETENTION AT A SMALL TOWN GYMNASIUM

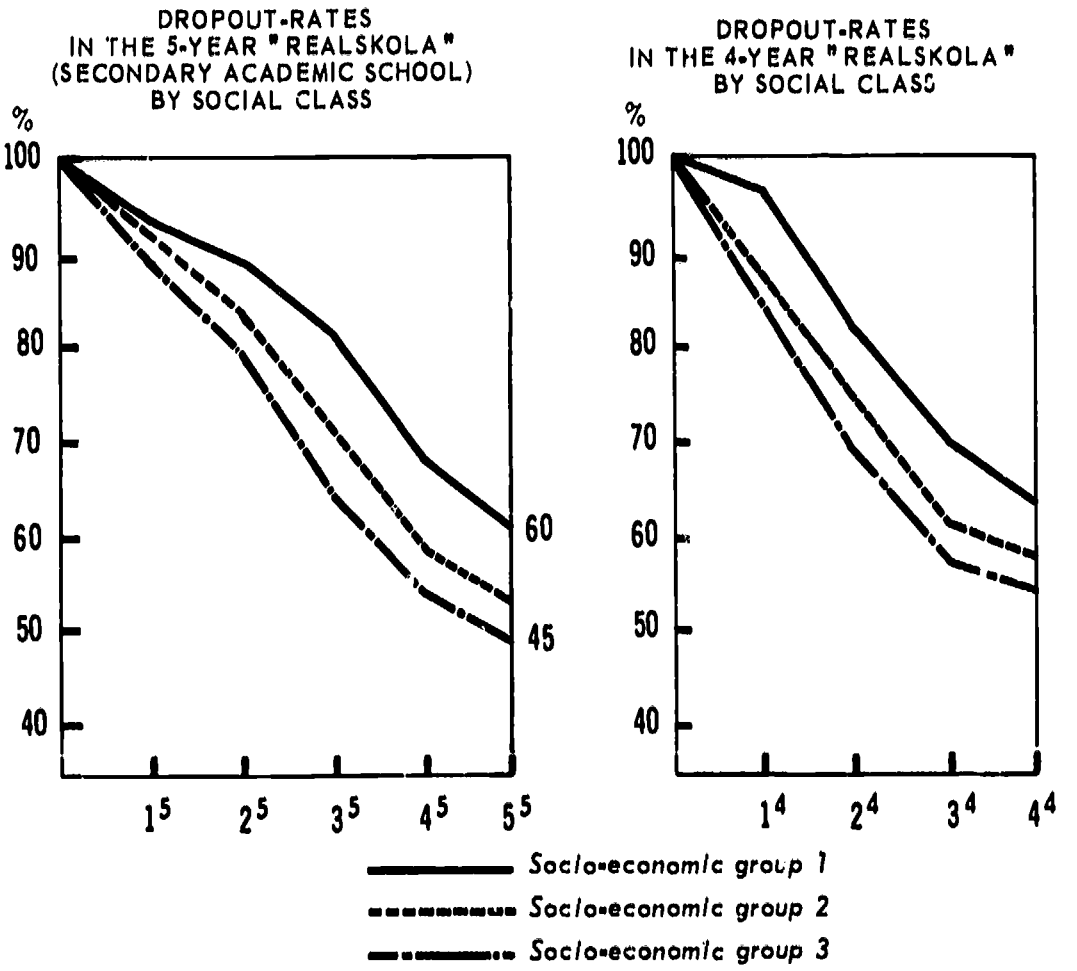
GERMANY

DROP-OUT AT:	OCCUPATION OF FATHER													
	PROFESSIONALS AND RELATED		SELF-EMPLOYED		ADMINISTRATIVE WORKERS		CLERICAL WORKERS		MANUAL WORKERS		OTHER		TOTAL	
	ABS.	REL.	ABS.	REL.	ABS.	REL.	ABS.	REL.	ABS.	REL.	ABS.	REL.	ABS.	REL.
5-10 Class ...	-	-	5	38%	6	46%	3	20%	8	47%	8	42%	35	35%
Mittlere Reife	1	12.5%	1	8%	5	39%	4	27%	5	29%	5	26%	21	25%
11-13 Class...	1	12.5%	-	-	-	-	3	20%	-	-	2	11%	6	7%
Drop-out total	2	25%	6	46%	11	85%	10	67%	13	76%	15	79%	57	67%
Abitur exam ..	6	75%	7	54%	2	15%	5	33%	4	24%	4	21%	28	33%
Total	8	100%	13	100%	13	100%	15	100%	17	100%	19	100%	85	100%

SOURCE: Der vorzeitige Abgang vom Gymnasium, "Schriftenreihe des Kultusministeriums Baden-Württemberg", Reihe A, No. 6.

Graph 2

SWEDEN



Source : G. Boalt, T. Husén- op. cit., 1/5 sample of all admitted to realskola.

Table 11. PUPILS STILL AT SCHOOL BY AGE AND SOCIAL BACKGROUND

SWITZERLAND

Percentages

OCCUPATION OF FATHER	AGE 16	AGE 17
Unskilled worker	25	13
Skilled, semi-skilled worker	37	22
Lower non-manual worker	57	44
Clerical and related worker	68	59
Administrative, executive worker	86	71
Professional, managerial worker	85	77
TOTAL	53	41

SOURCE: R. Girod, op. cit.

Table 12. PROPORTIONS STAYING AT SCHOOL AND GAINING CERTIFICATES RELATED TO ABILITY AND SOCIAL CLASS

ENGLAND

Percentages

SOCIAL CLASS		ABILITY AT 15 YEARS: 60 AND OVER	55-59	50-54	45-49	44 AND LESS
		% completing session 1961-1962				
Middle	(Upper	97	93	86	69	40
	(Lower	94	79	59	36	17
Manual	(Upper	90	67	35	22	6
	(Lower	80	46	27	12	3
		% starting session 1961-1962				
Middle	(Upper	90	82	71	42	20
	(Lower	78	52	37	20	8
Manual	(Upper	67	43	20	10	3
	(Lower	51	20	12	4	2
		% gaining good certificates				
Middle	(Upper	77	33	11	4	-
	(Lower	60	18	6	-	-
Manual	(Upper	53	15	2	1	-
	(Lower	37	9	3	-	-
		% gaining general certificates				
Middle	(Upper	94	79	54	27	20
	(Lower	87	69	38	13	1
Manual	(Upper	86	45	17	5	-
	(Lower	69	31	12	2	-

SOURCE: J.W.B. Douglas, 1968, op. cit.

Table 13. ACHIEVEMENT AND TRANSFER RATES

CHOICE OF SCHOOL AFTER 6th GRADE PRIMARY SCHOOL (BOYS) BY TEACHER RANKING AND FATHER'S OCCUPATION

BELGIUM

NATIONALITY AND OCCUPATION OF FATHER	1 (HIGHEST ABILITY)			2			3			4 (LOWEST ABILITY)			TOTAL
	ACADEMIC SECONDARY SCHOOL	TECHNICAL SECONDARY SCHOOL	OTHER	ACADEMIC SECONDARY SCHOOL	TECHNICAL SECONDARY SCHOOL	OTHER	ACADEMIC SECONDARY SCHOOL	TECHNICAL SECONDARY SCHOOL	OTHER	ACADEMIC SECONDARY SCHOOL	TECHNICAL SECONDARY SCHOOL	OTHER	
Miner (foreign)	3	10	–	3	4	–	2	9	–	–	6	3	40
Miner (belgian)	3	1	–	3	1	–	–	4	–	–	5	2	19
Unskilled worker (foreign)	6	3	2	4	5	–	2	8	–	–	4	–	34
Unskilled worker (Belgian)	23	14	2	15	17	2	16	26	–	3	12	10	140
Skilled worker	54	13	6	27	10	1	8	22	7	3	5	5	161
Low-grade civil servant	41	6	1	26	6	5	18	9	7	4	14	3	140
Self-employed	50	4	2	29	5	3	17	9	3	5	5	6	138
Clerical worker	90	3	1	51	3	3	17	5	5	4	4	10	196
Executive management	62	1	1	32	2	1	16	2	2	10	–	7	136
Other and unknown	37	–	3	12	10	4	5	7	3	3	5	5	94
TOTAL	369	55	18	202	63	19	101	101	27	32	60	51	1,093

SOURCE: P. Minon, op. cit.

Table 14. TRANSFER TO SECONDARY SCHOOL (LYCEE + CEG), BY TEACHER RANKING, AGE AND SOCIO-ECONOMIC GROUPS

FRANCE

Percentages

	FARM LABOURERS	FARMERS	MANUAL WORKERS	CRAFTSMEN, SMALL MERCHANTS	NON-MANUAL OF LOWER-GRADE	NON-MANUAL OF INTERMEDIATE GRADE	PROFESSIONALS AND INDUSTRIALISTS	HIGHER ADMINISTRATIVE MANAGERIAL, EXECUTIVE WORKERS
Excellent and good pupils								
Age – 11	65	69	79	94	95	84	98	98
11	72	78	90	96	96	99	98	99
12	60	60	79	88	91	96	96	98
13	–	7	45	48	63	77	92	69
14 + ...	–	–	–	–	–	–	–	–
Average pupils								
Age – 11	–	23	69	77	90	87	86	96
11	43	35	57	78	78	81	92	99
12	27	34	45	61	59	71	96	90
13	12	18	11	40	33	65	60	86
14 + ...	–	–	14	15	27	–	–	–
Mediocre and bad pupils								
Age – 11	–	–	–	–	–	–	–	–
11	–	19	81	39	45	73	80	85
12	–	6	9	18	15	29	42	52
13	–	6	3	11	10	12	16	59
14 + ...	21	8	8	6	8	–	–	–

SOURCE: A. Girard, P. Clerc: "Nouvelles données sur l'orientation scolaire au moment de l'entrée en sixième", Population, No. 5. Paris, 1964.

Table 15

GERMANY

SOCIAL CLASS	WESTPHALIA (about 1960)	HANOVER 1946	SCHLESWIG-HOLSTEIN 1951	
	% FINISHING EDUCATION IN PRIMARY SCHOOLS WITH HIGHEST ABILITY [1]		% TO ACADEMIC SECONDARY SCHOOL	
			OF THOSE WITH LOWEST ABILITY [1]	OF THOSE WITH HIGHEST ABILITY [1]
Upper class	–	13	40	93.7
Upper middle class	11	20	8	76.1
Lower middle class	54	33	1.4	51.0
Skilled workers	87	59	0.8	37.3
Unskilled workers	80	74	0.2	15.0

1. On a three point scale.

SOURCES: Westphalia, Schleswig-Holstein, two studies cited in F. Hess, P. Latscha, W. Schneider, Die Ungleichheit der Bildungschancen, Olten, 1966.
Hanover: a study referred to in Loehrke, Gebauer: Gründe für oder gegen die Wahl weiterführender Schulen in verschiedenen Bevölkerungskreisen, Franckfurt/Main, 1967.

Table 16. PERCENTAGE APPLYING TO SECONDARY ACADEMIC SCHOOL BY SOCIAL CLASS AND ACHIEVEMENT TEST SCORES, STOCKHOLM, 1955/56

SWEDEN

SOCIAL CLASS	TEST SCORES								
	9 (highest)	8	7	6	5	4	3	2	1
1 (highest)	91	90	88	74	58	40	44	-	-
2	88	86	75	66	43	20	10	6	3
3	79	74	66	42	21	9	2	1	2
	% REJECTED								
1	-	7	19	53	83	93	100	-	-
2	-	9	28	54	85	93	81	75	100
3	2	5	28	52	81	77	75	50	100

SOURCE: N.E. Svensson: Ability Grouping and Scholastic Achievement, Stockholm, 1962. Sample size: 6,000.

Table 17. SWITZERLAND

Percentages

OCCUPATION OF FATHER	TRANSFER TO SECONDARY ACADEMIC SCHOOL	TOP PERFORMANCE IN TEST'S	BRILLIANT PUPILS NOT ENTERING SECONDARY ACADEMIC SCHOOL
Professionals	67	4	8
Administrative, executive, managerial workers	33	16	29
Teachers	28	17	-
Foremen	25	18	33
Clerical workers	15	7	67
Mechanical workers	8	5	51
Other craftsmen	7	4	75
Farmers	2	2	95
Semi-skilled workers	1	1	62
Unskilled workers	3	2	35

SOURCE: P. Dupont, "Essai de sélection scolaire au début des études du second degré, Canton de Neuchâtel", Travail Humain, Nos. 1-2. All children (1,800) in 5th form 1956.

Table 18. PERCENTAGE AT SELECTIVE SECONDARY SCHOOL

ENGLAND

TEST SCORES AT 11 YEARS	UPPER MIDDLE	LOWER MIDDLE	UPPER MANUAL	LOWER MANUAL
-54	40.1	17.0	10.2	7.9
55-60	80.3	65.9	49.8	51.6
61	99.0	93.9	96.3	92.3

SOURCE: J.W.B. Douglas, The Home and the School, London, 1964.

Table 19. THE IMPORTANCE OF ACHIEVEMENT DIFFERENCES FOR TRANSFER RATES

BELGIUM

NATIONALITY AND OCCUPATION OF FATHER	ACTUAL AND HYPOTHETICAL PERCENTAGES OF BOYS UNDERTAKING ACADEMIC SECONDARY STUDIES		
	ACTUAL	HYPOTHESIS[1] A	HYPOTHESIS[1] B
Miner (foreign)	11.0	21.9	60.9
Miner (Belgian)	9.2	38.3	62.9
Unskilled Worker (foreign)	20.7	28.9	69.3
Unskilled Worker (Belgian)	25.5	38.6	70.8
Skilled Worker	39.6	49.9	74.0
Low-grade civil servant	50.7	60.8	77.4
Self-Employed	54.0	61.9	75.3
Clerical Worker	70.3	73.0	83.6
Executive Management	83.7	83.7	83.7
Other and unknown	38.1	58.2	70.6
TOTAL	42.9	57.3	71.5

1. For explanation of assumptions behind hypotheses A and B, see next page.

SOURCE: P. Minon, op.cit.

Table 20

FRANCE

OCCUPATION OF FATHER	PERCENTAGE ENTERING LYCEE		
	ACTUAL	HYPOTHESIS A	HYPOTHESIS B
Manual workers	12	20	54
Clerical workers	22	29	57
Craftsmen and small merchants	36	42	60
Administrative workers of lower grade	36	40	62
Professionals, executive and managerial workers	65	65	65

SOURCE: P. Clerc: "La famille et l'orientation scolaire au niveau de la sixième" Population, N°4, 1964. Sample size: 1,096, Paris region, 1962.

Table 21

SWITZERLAND

SOCIAL CLASS	ACCORDING TO SCHOOL MARKS ENTITLED TO APPLY FOR GYMNASIUM %	ENTITLED AND APPLYING %	ACTUAL TRANSFER RATE %	HYPOTHESIS A %	HYPOTHESIS B %
Upper class	85	97	82	82	82
Middle class	52	85	44	72	51
Working class	23	41	9	35	22

SOURCE: F. Hess, F. Latscha, W. Schneider, Die Ungleichheit der Bildungschancen, Olten, 1966.

Boys leaving primary school Spring 1962 in Basel.
Sample size: 1,214.

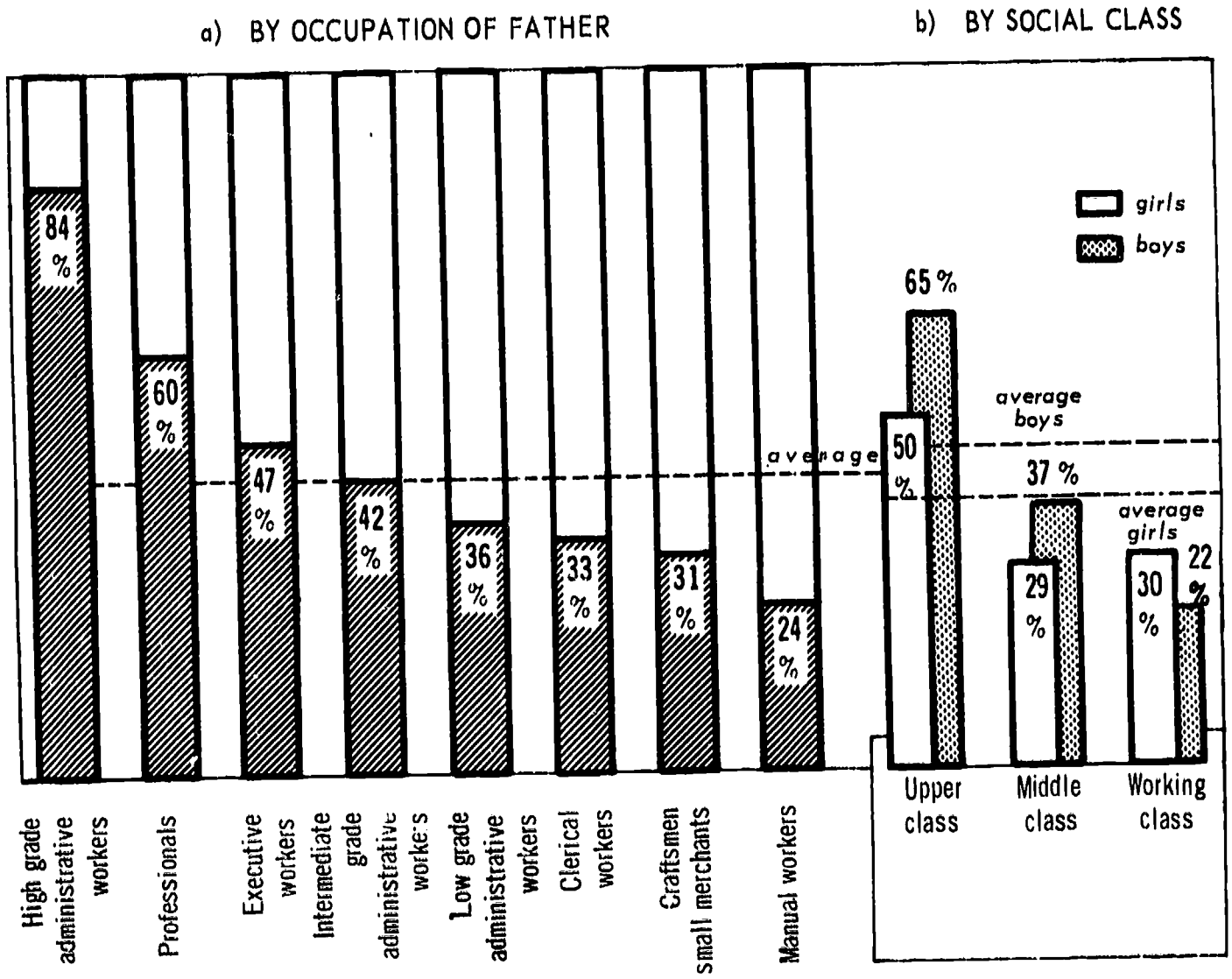
The actual transfer rates can be compared with hypothetical ones.

- Hypothesis A. Each social class has the same achievement rates as the highest social class, but retains its own rates of application at these achievement levels.
- Hypothesis B. Each social class keeps its specific achievement distribution, but to this is applied the rate of application for transfer of the highest social class.

Diagram 1

EXAMINATION SUCCESS

SUCCESS RATES AT THE ABITUR EXAMINATION



Source : Der vorzeitige Abgang, op. cit.
1/5 sample of Gymnasia in Baden-Württemberg.
13,000 pupils. 1955/56 - 1963/64.

Table 22. SCHOOL PROMOTION WITHOUT REPEATING

SWITZERLAND

Pupils entering the first class of the three Gymnasia in Spring 1953 followed up to the Matur examination.

	TOTAL	UPPER CLASS	MIDDLE CLASS	WORKING CLASS	UNKNOWN
a) Entering 1st class	416	77	212	108	19
b) Remaining at beginning of second class	307	61	149	81	16
In % of a)	74	79	70	74	84
c) Remaining at beginning of third class	250	47	127	62	14
In % of a)	60	61	60	57	74
d) Matur in 1961 (8th class)	110	27	56	19	8
In % of a)	26	35	26	18	42

SOURCE: Hess, etc, op. cit.
Boys in three Basel Gymnasia.

Table 23

ENGLAND

ABILITY RANKING	OCCUPATION OF FATHER	% OF LEAVERS OF ALL AGES WITH 2 "A LEVELS"AT LEAST	% OF LEAVERS OF ALL AGES LEAVING AGED 18 OR MORE	% OF LEAVERS AGED 18 OR MORE WITH 2 "A LEVELS" AT LEAST
Upper third	Professional, managerial worker	57	55	79
	Clerical worker	44	39	74
	Skilled manual worker ...	38	40	77
	Semi, unskilled worker ..	21	23	81
Middle third	Professional, managerial worker	33	42	63
	Clerical worker	18	29	56
	Skilled manual worker ...	18	27	59
	Semi, unskilled worker ..	10	15	58
Lower third	Professional, managerial worker	14	32	43
	Clerical worker	16	22	58
	Skilled manual worker ..	10	18	51
	Semi, unskilled worker ..	4	7	53

SOURCE: Statistics of Education cited in Robbins Report: Higher Education, London/1963.

Table 24. PROMOTION WITH OR WITHOUT REPEATING

(LYCEE)

FRANCE

			TOTAL	PROMOTED WITHOUT REPEATING	REPEATING		
					1 CLASS	2 CLASSES OR MORE	TOTAL
Manual workers							
1962-63	6e	.....	100.0	100.0	-	-	-
1963-64	5e	.....	100.0	80.4	19.6	-	19.6
1964-65	4e	.....	100.0	67.7	31.7	0.6	32.3
1965-66	3e	.....	100.0	54.2	43.9	1.9	45.8
1966-67	2e	.....	100.0	59.8	36.2	4.0	40.2
Administrative, executive and managerial workers							
1962-63	6e	.....	100.0	100.0	-	-	-
1963-64	5e	.....	100.0	84.7	15.3	-	15.3
1964-65	4e	.....	100.0	70.9	29.1	-	29.1
1965-66	3e	.....	100.0	58.9	39.8	1.3	41.1
1966-67	2e	.....	100.0	50.9	44.8	4.3	49.1

SOURCE: The table is based on figures in A. Girard, H. Bastide: "Orientation et sélection scolaires". Population, Nos. 1, 2, 1969.

Table 25. LEVEL ATTAINED AT THE AGE OF 20-21 YEARS BY THE PUPILS AT GYMNASIUM AT THE AGE OF 17 BY SOCIAL (BOYS ONLY). ORIGIN. PERCENTAGES (BOYS ONLY)

SWITZERLAND

SOCIAL ORIGIN	MATURITY (UNIVERSITY ENTRANCE EXAM)	LOWER DIPLOMA	CLERICAL WORKER WITHOUT DIPLOMA	QUALIFIED SEMI-QUALIFIED WORKER	SUB-TOTAL (= 100%)	OTHER CASES	TOTAL
Sons of manual workers	82.0	7.0	11.0	-	56	7	63
Sons of craftsmen and small merchants	96.0	-	4.0	-	28	9	37
Sons of clerical workers	84.5	11.0	4.5	-	45	9	54
Sons of administrative, executive and managerial workers	89.0	9.0	1.0	1.0	79	19	98
Others	(2)	-	-	-	2	2	4
TOTAL	87.5	7.5	4.5	0.5	210	46	256

PUPILS OBTAINING UNIVERSITY ENTRANCE QUALIFICATION BY AMOUNT OF REPEATING AND SOCIAL ORIGIN. PERCENTAGES (BOYS ONLY)

	MANUAL WORKING CLASS	MIDDLE CLASS	UPPER CLASS	TOTAL
Without repeating	51.0	46.5	60.5	52.5
With repeating	49.0	53.5	39.5	47.5
TOTAL (= 100%)	51.0	85.0	81.0	223.0

SOURCE: R. Girod, op. cit.

Table 26. TRANSFER TO UNIVERSITY

SWEDEN

FATHER'S OCCUPATIONAL GROUP	PERCENTAGE OF MALE STUDENTS WITH "STUDENTEXAMEN" GOING TO HIGHER STUDIES					
	1910	1920	1930	1937	1943	1952
Agriculture and ancillary	79	73	77	67	58	66
University graduates	77	81	81	76	72	83
Business with larger enterprises and executives	61	68	72	68	61	68
Officials in public and private service	59	61	71	63	56	74
Public service workers, artisans and manual workers	64	56	62	53	45	60

SOURCE: G. Boalt, T. Husén, op. cit.

Table 27. PERCENTAGE OF STUDENTS GOING TO HIGHER STUDIES

SWEDEN

	1957	
	MEN	WOMEN
Agriculture and ancillary	74.6	55.6
Teachers	75.6	58.7
University graduates	78.6	69.6
Military Officers	59.4	53.1
Businessmen with large enterprises and executives	66.8	55.7
Small business	66.2	58.4
Higher officials in public and private service	71.0	62.6
Lower officials	67.0	54.3
Manual workers	69.3	49.2

SOURCE: "Studentrekrytering och studieekonomi", SOU, No. 53, 1963.

Table 28. PERCENTAGE OF STUDENTS ENTITLED TO ENTER UNIVERSITY AND PLANNING TO DO SO, BY SOCIAL CLASS, 1961

SWEDEN

	SOCIAL CLASS				
	1 (Highest)	2	3	OTHERS	TOTAL
Boys and girls	68	58	56	60	62
Boys	85	73	67	-	78
Girls	49	43	37	-	44

SOURCE: Härnkvist, Gram, "Vägen genom gymnasiet", SOU, No. 15, 1963. 1/10 Sample.

Table 29. PERCENTAGE OF STUDENTS GOING TO HIGHER STUDIES

SWITZERLAND

	SOCIO-ECONOMIC GROUP OF HEAD OF FAMILY														
	UNSKILLED WORKERS		SKILLED WORKERS		LOWER NON-MANUAL WORKERS		CLERICAL WORKERS		ADMINIS-TRATIVE AND EXECUTIVE WORKERS		PROFESSIONALS, MANAGERIAL WORKERS		OTHERS	TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%	N	N	%
Total sample (boys and girls)	258	100.0	853	100.0	487	100.0	370	100.0	186	100.0	225	100.0	113	2,492	100.0
Pupils at upper division of secondary academic schools winter 1959/60 (at 17 years)		7.5		14.5		28.0		38.0		52.0		54.5	(9)		26.0
University entrance exam (1960–64)		2.0		8.0		16.0		23.5		39.0		40.5	(9)		16.5
Non-university higher education (1962–63 1963–64) ...		0.5		2.5		4.0		6.0		5.5		5.5	(2)		3.5
Students at University of Geneva (1962–63 1963–64) ...		1.5		3.0		7.5		11.5		20.0		21.5	(3)		8.0

SOURCE: R. Girod, op. cit.

Table 30. DROP-OUT AT UNIVERSITY

SWEDEN

1962 Status of Students Enrolled in 1960 at the University of Lund by Social class

Percentages

	SOCIAL CLASS		
	1 (HIGHEST)	2	3
Continuing at University of Lund	68	78	70
Other university or equivalent institutions	17	8	8
Other occupation (drop-out)	13	10	13
No information	2	4	9
	100	100	100

SOURCE: G. Carlsson, B. Gesser, "Universities as selecting and socializing Agents", Acta Sociologica, Vol. 9, fasc. 1-2, 1965.

Sample of 500 first-year students in Lund in 1960. Interviewed in 1960 and 1962. Humanities (including social sciences) and natural science.

Table 31. SUCCESS RATES AT UNIVERSITY

FRANCE

Rate of success by social class

Percentages

NUMBER OF FAVOURABLE CHARACTERISTICS (1)	1 (HIGHEST)	2	3	TOTAL
3, 4	74	78	70	75
2	47	50	43	47
1, 0	25	25	23	24

(1) Age, not working, "baccalauréat avec mention", classical studies.

Sample size: 7,000.

SOURCE: Noëlle Bisseret, "La 'naissance' et le diplôme", Revue de sociologie française, No. Special, 67-68; Students registered 62-63 for Propedeutic, Faculté des Lettres, Paris.

Table 32. SAMPLE SURVEY OF 1955 ENTRANTS

UNITED KINGDOM

Percentage of home undergraduate entrants in 1955 (excluding medical students) who left without success by Spring 1958

UNIVERSITY GROUP	SOCIAL CLASS	MEN	WOMEN
Oxford, Cambridge	Non-manual	4	6
	Manual	3	6
London	Non-manual	13	13
	Manual	12	10
Civic	Non-manual	12	8
	Manual	10	11
Wales	Non-manual	11	12
	Manual	10	8
Scotland	Non-manual	13	8
	Manual	18	14

Table 33. CLASS OF DEGREE OF 1955 HOME ENTRANTS (EXCLUDING MEDICAL STUDENTS) GRADUATING IN 1958

Percentages

SOCIAL CLASS	1sts	1sts OR UPPER 2nds	1sts OR 2nds	TOTAL
Non-manual	8	34	58	100
Manual	8	32	61	100

SOURCE: Robbins Report, op. cit.

Table 34. PERCENTAGE OF STUDENTS QUALIFIED FOR UNIVERSITY WHO OBTAINED AN ACADEMIC DEGREE, BY SOCIAL BACKGROUND AND ABILITY

NORWAY

FATHER'S OCCUPATION	MEN	
	HIGH ABILITY[1]	LOW ABILITY[1]
Occupation requiring university training	73	31
Commerce	78	20
Teacher	47	20
Other white-collar occupation	61	21
Farmer	51	19
Craftsman	68	16
Mutual worker	64	17
Other, unknown	71	24

1. 70 or more points in the examination qualifying for university = high ability.
69 points or less = low ability.

SOURCE: "Lindbekk Embedsexamenshyppighed blant etterkrigs - artianere", in Tidskrift for Samfunnsforskning, No. 2, 1964.

Annex to Chapter II

THE IMPORTANCE OF GENETIC FACTORS FOR IQ

1. Quantitative genetics. Burt, 1958.

Source of variation	
Genetic factors	77.1
Environmental factors	16.5
Unreliability	6.4
	100.0

2. Correlation between IQ's and ratings of environment done for adopted children and where no selective placement policy is practised.

18% of variation in IQ is explained by environment.

Source: A. Jensen, "How Much Can We Boost IQ and Scholastic Achievement?", Harvard Educational Review, Winter 1969.

3. Twin studies. To hold the genetic factors constant, data for identical twins have been studied e. g. :

Correlation coefficients of IQ's of identical twins reared apart:

Burt	UK	0.87
Newman	US	0.77
Morgensen	DK	0.79
Shields	UK	0.77

Source: Lynn, "Genetic Implications of the Brain Drain", New Scientist, 20th March 1969.

Why would this high correlation exist if it was not for the common heritage of identical twins?

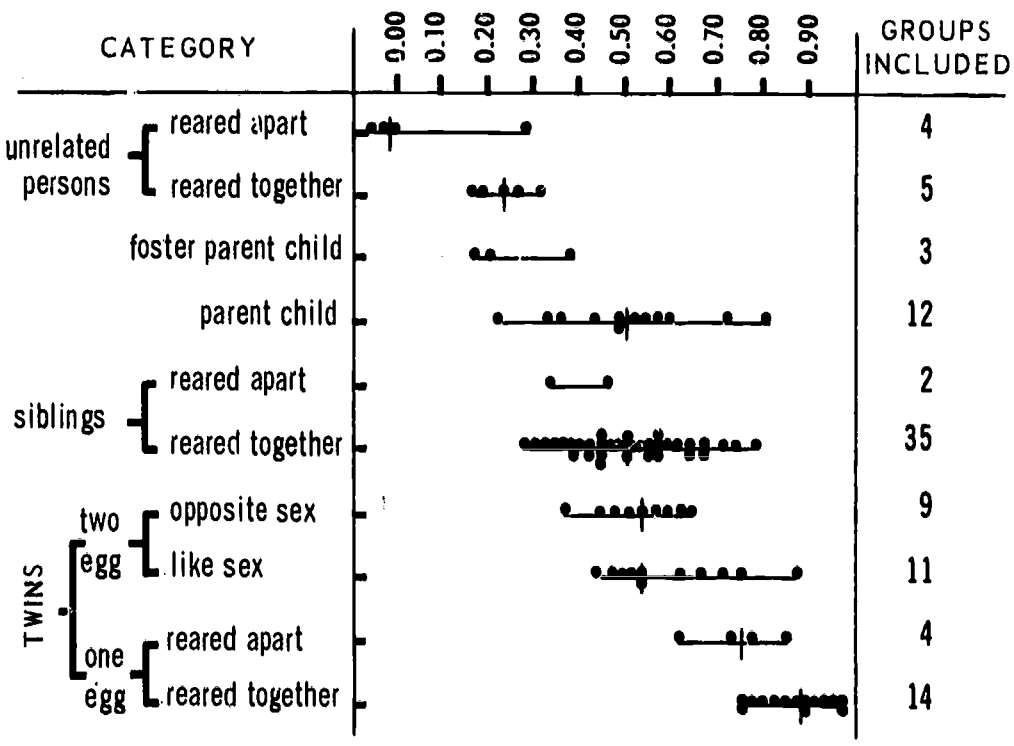
A neat summary of 52 studies done in this field can be found in Diagram 2. Some studies reported data for more than one relationship category; some included more than one sample per category, giving a total of 99 groups. Over two-thirds of the correlation coefficients were derived from IQ's, the remainder from special tests (for example, Primary Mental Abilities). Midparent-child correlation was used when available, otherwise mother-child correlation. Correlation coefficients obtained in each study

are indicated by dark circles; medians are shown by vertical lines intersecting the horizontal lines which represent the ranges.

There is a clear tendency for increasing correlation of IQ's as the degree of genetic relationship increases. At the same time on average it makes a difference whether the different categories have been reared apart or not. The overlap in range of correlations for unrelated persons, siblings and twins reared together or not is, however, big. It is thus possible that the differences in environment encountered in these studies do not have a great impact on IQ tests. This does not exclude the possibility that other variations in environment might have greater influence.

Diagram 2

CORRELATION COEFFICIENTS
FOR "INTELLIGENCE" TEST SCORES FROM 52 STUDIES



Source : *Intelligence and Ability*, edited by S. Wiseman, 1967.

Table 35. PERCENTAGE OF VARIATION EXPLAINED BY VARIOUS VARIABLES

COUNTRY	POPULATION	SOCIAL BACKGROUND	SCHOOL				OTHER					GRAND TOTAL [1]
			TOTAL	(TEACHER	SCHOOL I	SCHOOL II)	TOTAL	(OPPORTUNITY	LEVEL	INTEREST	AGE AND SEX)	
Australia	1a	3.4	3.8	(-0.9	4.1	0.6)	31.7	(-	23.5	7.8	0.36)	39
	1b	3.1	6.0	(0.8	2.7	2.5)	14.8	(-	-	10.8	4.0)	26
	3a	0.3	7.3	(-0.2	6.1	1.4)	32.5	(6.4	11.5	14.6	-	41
Belgium	1a	3.0	8.4	(2.4	4.6	1.4)	24.5	(-	16.1	5.0	3.42)	37
	1b	2.4	11.6	(2.0	7.0	2.6)	18.7	(-	10.1	6.0	2.62)	33
	3a	1.1	28.4	(1.8	0.4	26.2)	12.3	(-	2.0	7.2	3.10)	46
	3b	0.0	4.3	(7.5	2.2	-5.4)	24.8	(-	-	10.2	14.6)	30
England	1a	7.1	11.5	(4.0	2.9	4.6)	29.9	(18.1	2.7	8.6	0.51)	50
	1b	6.9	14.1	(4.2	4.5	5.4)	29.3	(14.8	3.5	10.9	0.12)	50
	3a	1.7	6.7	(1.3	1.3	4.1)	13.9	(1.7	2.7	7.2	2.3)	23
	3b	0.7	5.8	(-	0.2	5.6)	24.8	(-	8.2	12.9	3.7)	31
Finland	1a	0.2	15.0	(5.3	2.0	7.7)	17.6	(-0.2	12.2	5.1	0.46)	33
	1b	2.1	16.1	(5.9	4.0	6.2)	9.9	(-0.1	1.0	8.0	1.0)	27
	3a	0.0	5.9	(2.9	2.1	0.9)	27.4	(0.1	-	22.4	4.9)	36
France	1a	0.2	3.7	(-0.5	3.0	1.2)	41.8	(1.6	32.9	5.4	1.93)	46
	1b	4.2	-0.7	(1.3	-1.6	-0.4)	40.9	(2.4	30.2	6.4	1.92)	44
Germany	1b	-0.6	6.4	(1.0	2.5	2.9)	17.2	(-0.1	10.6	6.4	0.34)	24
	3b	1.1	7.8	(2.8	0.8	4.2)	16.0	(-0.1	-	8.4	7.7)	25
Israel	1b	10.2	10.8	(4.0	3.2	3.6)	6.0	(0.6	-	4.6	0.80)	26
Japan	1a	11.9	3.2	(0.4	1.7	1.1)	16.7	(0.4	0.0	15.1	1.16)	33
	1b	11.9	3.2	(0.4	1.7	1.1)	16.7	(0.4	-	15.1	1.24)	33
	3a	0.9	17.9	(2.5	7.2	8.2)	23.8	(13.2	-	10.0	0.6)	42
	3b	1.8	13.7	(0.6	4.8	8.3)	21.3	(4.0	7.2	9.0	1.1)	37
Netherlands	1a	5.6	12.0	(-0.3	-1.1	13.4)	50.1	(-	42.9	5.9	1.26)	67
	1b	6.0	5.4	(-0.2	1.2	4.4)	27.9	(-	19.8	6.2	1.9)	38
	3a	2.4	8.8	(3.7	0.3	4.8)	25.1	(-	-	23.4	1.7)	38
Scotland	1a	4.5	9.6	(1.1	5.1	3.4)	30.4	(22.4	1.8	6.0	0.20)	44
	1b	4.0	7.3	(0.8	4.4	2.1)	37.7	(28.8	1.4	7.4	0.11)	47
	3a	0.5	18.5	(1.7	15.0	1.8)	18.3	(1.5	5.8	10.8	0.2)	37
	3b	-0.2	5.0	(-	3.3	1.7)	34.4	(-	19.9	6.1	8.4)	40
Sweden	1a	1.3	6.2	(1.3	1.3	3.6)	18.8	(-	6.4	12.1	0.26)	28
	1b	1.6	4.6	(1.3	1.0	2.3)	16.8	(-	5.1	12.2	-0.5)	28
USA	1a	10.7	3.0	(0.5	2.1	0.4)	13.6	(2.1	6.5	3.6	1.40)	28
	1b	9.7	2.8	(0.5	1.3	1.0)	13.7	(1.7	2.7	5.0	4.25)	27
	3a	8.2	11.1	(1.3	3.6	6.2)	24.5	(3.5	6.2	11.6	3.2)	44
	3b	11.9	7.0	(0.4	1.3	5.3)	7.1	(0.1	1.4	2.7	2.9)	28

1. The grand total has been taken from a separate table in the original source. The fact that these rows often do not add up to the grand total can be due to the distortions by rounding off.

PLOWDEN NATIONAL SURVEY: LIST OF INDEPENDENT VARIABLES

1. Parental attitudes

Responsibility and initiative taken by parents over child's education.

Relations between parents and teachers.

Parental interest and support.

Attitude to corporal punishment.

Whether parents devote time and attention to child's development.

* Educational aspirations for child.

Whether parents have taken any recreational or leisure courses.

Whether parents took steps to find out about school when child was starting there.

Whether antagonism shown to the school or not.

* Literacy of home.

* Parental interest in and knowledge of work child is doing at school and progress.

Attitude to starting age.

Whether school should be stricter or less strict.

Whether teachers have enough to do already without having to talk to parents.

Whether streaming preferred or not.

Whether child should be given homework.

Whether parents bought copies of school books.

Whether there is too much concentration on working for the 11+ exam.

Whether parents find child easy to control.

Whether schools which give a lot of freedom are good.

Whether grammar school particularly disliked for child.

Whether secondary school should be decided by exam or teacher.

Whether husband is lenient or strict with the children.

Whether family goes on outings together.

Whether parents ever asked for permission for child to go to a different school.

Whether child went to a nursery school or class.

Age child started to go to school in morning and afternoon.

2. Home circumstances

* Physical amenities of home.

Number of types of amenities in area.

Number of types of amenities in area used.

Whether family has a car.

Whether family lives in whole house.

Whether family owns dwelling.

Whether father on shift work.

Whether child has changed schools.

Total number of persons in household.

Total number of children in household.

Whether natural or substitute parents in family.

Whether mother only in family, no father.

Whether selected child is eldest or only child.

* Total number of dependent children.

Bedroom deficiency index.

* Occupation of father.

Mother's hours of work.

Income of father or head of household.

Income of family.

Whether parents born in UK.

* Age at which father completed full-time education.

* Age at which mother completed full-time education.

Whether any member of child's family has been to a selective secondary school.

Whether father has any further education since leaving school.

Whether mother has any further education since leaving school.

Whether any qualifications obtained by father.

Whether any qualifications obtained by mother.

3. School and teacher variables

Age range of school.

Status of school (county, voluntary).

Zoning (strict, broad or not).

Parent-teacher association in school.

Parents' meetings arranged on educational matters.

Social functions arranged for parents.

Parental help for school.

Number of social functions for parents arranged when fathers probably working.

Number of social functions for parents arranged when fathers available.

Number of meetings arranged when fathers working.

* Number of meetings arranged when fathers available.

Number of families seeking interviews.

Number of children on school-roll.

Average size of class.

Classes streamed in the school.

Number of school and class library books/100 pupils.

Average expenditure/pupil on library books.

Allowed to take library books home.

Men stayers on staff %.

Women stayers on staff %.

Transient men staff.

Transient women staff.

* Teacher's sex.

Age of teacher.

* Marital status of teacher.

* Teacher's responsibility.

Years of teaching experience since break.

* Total years of teaching experience.

Average length of service.

* Short courses in-service training.

* Long courses in-service training.

* Teaching mark.

Size of class of sample child.

Sample child in streamed class.

Sample child's sex.

Sample child's age.

Sample child's height.

Sample child's half-day absence.

Reasons for absence satisfactory.

All-round quality of school.

Head's leadership.

Average teaching competence of staff.

Modern teaching.

Quality of books provided.

Backwash of selection procedures on curriculum.

Local Educational Authority/public relations.

* Continuity home to school.

* Continuity infant to junior school.

* Continuity with Junior Mixed and Infants school.

Sex of head teacher.

* Variables making up short list.

Manchester Survey: List of independent variables

Social background

Free meals.

Free clothing.

Footwear: full payment.

Mother tongue not English.

Appearance and sociability.

Verminous.

Children's height.

Criminal record: children.

Out of school activities.

Housing standard.

School breaking and entering.

Crime: neighbourhood.

Play areas.

Parental occupation.

Mother working.

Material needs.

Cleanliness of home.

Corporation housing.

Disrupted homes.

Crime: family.

Crime: house address.

School variables

Size of school.

Size of class.

Pupil/teacher ratio.

Attendance.

Children qualified for special school.

Teachers: <30 years of age.

Teachers: > 50 years of age.

Graduate teachers.

Teacher turnover.

Male teachers.

"Sex" of school.

Married women teachers with children.

Attitude to enquiry.

Quality of head teacher.

Quality of staff.

Progressiveness (Local Educational Authority).

Progressiveness (Observer).

Examination technique.

Social atmosphere of school.

Homework.

First impression of school.

11+ success.

Streaming.

Corporal punishment.

Recently reorganised.

Quality of building

School equipment.

Classroom space.

Library.

Age of buiding.

International Mathematics Study: List of independent variables

a) Social Background

Mother's education.

Father's education.

Father's occupation (status).

Father's occupation (scientific or non-scientific).

School standard deviation in father's occupational status.

Place of parents' residence.

b) School

Teacher variables

Description of mathematics teaching and school learning.

Length of training.

Sex of teacher.

Recent in-service mathematical training.

Degree of freedom given to teacher.

School variables I

Time for all schooling.

Time for all homework.

Time for instruction in mathematics.

Time for mathematics homework.

School variables II

Total roll of school.

Percentage men teachers.

Number of subjects in grade 8.

Number of subjects in grade 12.

Cost/student (teachers' salaries).

Educational differentiation.

c) Other variables

Student's opportunity of learning the test items.

Level of instruction (courses taken by the student).

Student's interest in mathematics.

Sex of student.

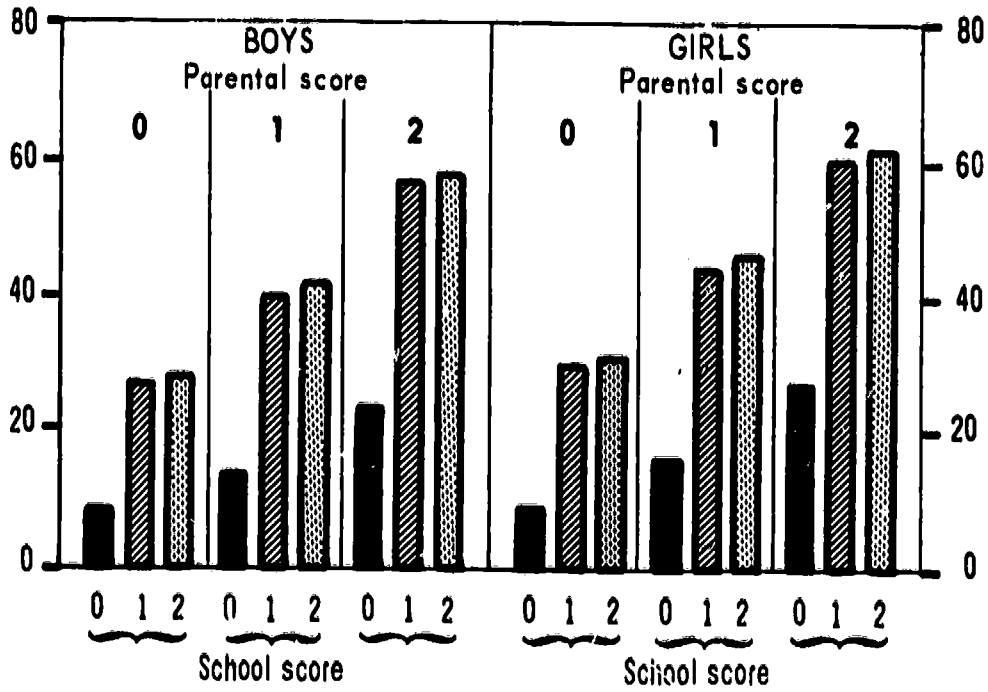
Age of student.

Diagram 3

ENGLAND

RETENTION RATES

SCHOOL AND PARENTAL CHARACTERISTICS



The percentages staying at least to the end of 1961/62 session related to parental attitudes and school characteristics - lower manual working class pupils of borderline ability and above, at secondary modern schools.

Source : J.W.B. Douglas, *All our Future*, London, 1968.

Table 36. ANALYSIS OF VARIANCE

RELATIVE IMPORTANCE OF VARIABLES IN AFFECTING TEST SCORES EXPRESSED BY THEIR MEAN SQUARES

ENGLAND

EXPLANATORY VARIABLES \ AGE	MIDDLE CLASS (NON-MANUAL)								WORKING CLASS (MANUAL)							
	BOYS				GIRLS				BOYS				GIRLS			
	8		11		8		11		8		11		8		11	
		ro		ro		ro		ro		ro		ro		ro		ro
Parents interest	1,501	1	1,758	1	962	1	1,759	1	1,368	1	1,915	1	1,745	1	3,245	1
Housing	664	2	424	4	711	2	s 390	3	538	2	794	2	ns 94	4	s 364	4
Family size	217	3	435	3	ns 208	4	ns 131	4	ns 507	3	491	3	633	2	487	3
(1)	s 138	4	472	2	s 26.	3	581	2	ns 70	4	ns 209	4	s 330	3	607	2

s = significant
ns = not significant - the rest of the figures are highly significant.
ro = rank order
(1) Judged by their success in sending pupils to grammar schools (whether this is a good explanatory variable rather than a criterion variable has been questioned).
Independent variable: 3 achievement tests in school subjects.
SOURCE: J.W.B. Douglas, 1964, op. cit. Sample size: 5,000 pupils.

Table 37. TEST SCORES AT 8 AND 11 YEARS ADJUSTED FOR THE INFLUENCE OF "HOME" VARIABLES

	BOYS		GIRLS	
	8	11	8	11
Middle Class				
Good school	55.6	57.7	56.2	57.5
Fair school	54.2	55.4	54.7	55.3
Poor school	53.6	54.0	53.1	52.8
Working Class				
Good school	48.9	48.8	51.4	51.7
Fair school	49.0	48.6	49.4	49.1
Poor school	48.0	46.9	48.4	47.6

SOURCE: J.W.B. Douglas, 1964, op. cit.
For all groups including the working class boys there is a difference between those who go to good and bad schools. The gap is widening. If a good school does not improve a working class boy's scores it at least keeps them from deteriorating.

FURTHER EVIDENCE ON THE RELATIVE IMPORTANCE OF HOME VERSUS SCHOOL VARIABLES

Dependent variable: tests in formal subjects

EXPLANATORY VARIABLES	SIMPLE CORRELATION	MULTIPLE CORRELATION	PARTIAL CORRELATION
Home – socio-economic background	0.56	0.76	0.30 (intelligence constant)
Individual – IQ score	0.73		0.62 (socio-economic status constant)
– interest	omitted, found to be a "quasi criterion variable"		
School – enrolment	0.30		0.30 (intelligence constant)
– atmosphere	0.51		0.23 (socio-economic status intelligence constant)
– class size	not significant		not significant (enrolment constant)
– progressiveness	not significant		
– quality of buildings, surroundings..	not significant		
– sex of head teacher	not significant		

When "intelligence" is kept constant the partial correlation coefficient for socio-economic background and the best school variable is the same 0.30. It is, however, difficult to draw any conclusions from this as to their relative importance. But even when both intelligence and socio-economic background are held constant the school variable still explains some of the variation in test scores.

Sample: 50 mixed London junior schools, 1,500 pupils, early 1950's.

Source: Kemp, "Environmental and other characteristics determining attainment in Primary School", British Journal of Educational Psychology, June, 1955.

FURTHER EVIDENCE ON THE RELATIVE IMPORTANCE OF HOME VERSUS SCHOOL VARIABLES

Morris, Standards and Progress in Reading, 1966.

Longitudinal Study 1954-1957. Kent, England.

Unfavourable characteristics often associated with bad reading ability were grouped under three headings:

1. Individual attributes
2. Home circumstances
3. School characteristics

Correlations were calculated between these groups of attributes for good and poor readers:

	POOR READERS	GOOD READERS
Individual - School	-	0.59
Home - School	0.15	n.s.
Individual - Home	0.59	n.s.

n.s. = not significant

For the poor readers unfavourable individual attributes are often associated with poor home conditions and on top of this comes the relation between bad homes and poor schools which might be the last straw.

POOR READERS 1954	SIGNIFICANTLY DIFFERENT FROM THE REST AS TO	
	HOME	SCHOOL
1. Still poor readers 1957	worse	-
2. Poorest readers 1957	worse	worse
3. Best readers 1957	better	-
4. Receiving extra training	-	better

Those receiving extra training were also the ones that made most progress.

The author seemed to conclude that for children with certain handicaps the quality of the school could have a decisive influence. Even disregarding this fact no justification could be made of the practice of having handicapped children in the worst schools.

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+ Kemp, op. cit., British Journal of Educational Psychology, June, 1955.

Pupil Teacher ratio

- Higher Education, Robbins Report, 1963.

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+ Morris, Standards and Progress in Reading, 1966.
- Kemp, op. cit.

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+ Social Class and Educational Opportunity, ed. J. Floud, 1956.
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Size of school

+ ↗ Kemp, op. cit.
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+ ↗ Children and their Primary Schools, Plowden Report 1967. Appendix 9.
(+↗) S. Wiseman, op. cit.
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+ s Morris, op. cit.

(+ s) Plowden Report, op. cit., Appendix II.

+ c, s J. W. P. Douglas, 1968, op. cit. (+ c as to school leaving age, examination passes: + s aspirations for higher education).
As to leaving age and "O" level passes, children of comprehensive schools seem to have an advantage over those at non-comprehensive maintained schools. This is especially true for the manual working class children of average ability. However, the children of highest ability leave earlier in comprehensive schools than in non-comprehensive schools, and the aspirations for higher education are higher in streamed schools.

J. W. B. Douglas, 1964, op. cit. Comparing test results between streams, a correlation between high test results and high streams was found.

H. Himmelweit, B. Swift, "A model for the understanding of school as a socializing agent" in New Directions in Developmental Psychology, ed. Mussen, New York, 1969. Comparing age of school leaving, a correlation between late leaving and high stream was found.

Parent-school co-operation

\- Plowden Report, op. cit., Appendix 4.

\+ Plowden Report, op. cit., Appendix 4.

Pedagogical and Psychological Action

\+ F. Hotyat, "Le handicap scolaire des milieux défavorisés est-il fatal?", Revue de l'Institut de sociologie, No. 2, 1964.

Table 38. PERCENTAGE CHOOSING ACADEMIC PROGRAMME AFTER GRADE 6
SCHOOL SYSTEM

SWEDEN

SOCIAL CLASS	BOYS		GIRLS	
	COMPREHENSIVE	DIFFERENTIATED	COMPREHENSIVE	DIFFERENTIATED
1 (highest)	92	87	94	92
2	85	72	91	83
3	68	54	72	65
4	43	26	72	41
5	55	32	53	40
Unknown	59	38	62	45
Total	58	42	66	51

SOURCE: G. Boalt, T. Husén, op. cit. Sample size: 10.000.

Table 39. GENERAL CERTIFICATES AND LEAVING AGE RELATED TO SOCIAL CLASS
AND TYPE OF SELECTIVE SCHOOL

ENGLAND

Percentages

GRADUATE STAFF		MIDDLE		MANUAL		RATIO
		UPPER (a)	LOWER (b)	UPPER (c)	LOWER (d)	(a):(d)
		Gaining Good Certificates				
< 70%	(Actual	37	30	21	11	3.3
	(Expected[1]	31	26	22	24	1.3
70-79%	(Actual	61	38	32	31	2.0
	(Expected[1]	47	39	41	39	1.2
80% or more	(Actual	60	50	48	39	1.5
	(Expected[1]	51	51	52	45	1.1
		Gaining General Certificates				
<70%	(Actual	76	65	48	37	2.1
	(Expected[1]	63	65	56	56	1.1
70-79%	(Actual	91	81	81	75	1.2
	(Expected[1]	85	81	82	82	1.0
80% or more	(Actual	89	85	81	78	1.1
	(Expected[1]	84	84	84	81	1.0
		Starting Session 1962/63				
<70%	(Actual	85	65	48	28	3.0
	(Expected[1]	61	59	57	58	1.0
70-79%	(Actual	92	71	62	56	1.6
	(Expected[1]	74	73	71	71	1.0
80% or more	(Actual	93	76	67	54	1.7
	(Expected[1]	76	76	76	73	1.0

1. The expected rates were calculated on the assumption that at each level of ability and for each sex the chances of getting a certificate or of being at school at sixteen and a half years were (for each type of school considered separately) unrelated to social class.

Selective Secondary Schools by percentage of graduate staff. Concerning leaving age and "O" level results, the lower manual working class pupils seem to be less handicapped in the schools with the highest proportion of graduate teachers. (As for achievement tests there is no suggestion that they are at less of a disadvantage at the best staffed schools).

SOURCE: J. W. B. Douglas, All our Future, 1968.

Table 40. GENERAL CERTIFICATES AND LEAVING AGE RELATED TO SOCIAL CLASS AND TYPE OF SECONDARY MODERN SCHOOL

Percentages

PAST RECORD OF SCHOOL		MIDDLE (a)	UPPER MANUAL (b)	LOWER MANUAL (c)	RATIO (a) : (c)
		% Gaining Certificates			
Poor	(Actual	6	1	+	28.0
	(Expected[1]	2	1	1	1.9
Fair	(Actual	7	6	3	2.1
	(Expected[1]	8	5	4	2.0
Good	(Actual	19	5	7	2.9
	(Expected[1]	12	9	9	1.5
		% Completing the Session 1961/62			
Poor	(Actual	20	9	5	3.9
	(Expected[1]	11	8	7	1.5
Fair	(Actual	29	20	9	3.2
	(Expected[1]	20	17	14	1.4
Good	(Actual	40	22	19	2.1
	(Expected[1]	30	25	24	1.2
		% Staying After Statutory Leaving Age			
Poor	(Actual	40	15	15	2.7
	(Expected[1]	27	14	18	1.5
Fair	(Actual	52	36	21	2.5
	(Expected[1]	37	32	28	1.3
Good	(Actual	62	44	37	1.7
	(Expected[1]	51	46	44	1.2

1. The expected rates were calculated on the assumption that at each level of ability and for each sex the chances of getting a certificate or of staying at school were (for each type of school considered separately) the same in each social class.

+ < 0.5 per cent.

Secondary modern schools by quality standards (past record). Although children from lower manual working class homes are at a disadvantage relative to middle class children in all types of secondary modern schools they are far less so at the schools with the best past record. This holds once again for exams and leaving age but not for test results.

SOURCE: J.W.B. Douglas, op. cit.

Table 41. TEST RESULTS FOR CHILDREN HAVING ATTENDED NURSERY SCHOOLS COMPARED WITH THE REST OF THE SAMPLE

ENGLAND

SOCIAL CLASS	AGE		
	8	11	15
Middle Class	+0.75	-0.24	-0.48
Working Class Upper	+0.97	+0.46	-0.14
Working Class Lower	+0.75	-0.34	-0.30

SOURCE: Douglas, Ross, "Subsequent Progress of Nursery School Children", Educational Research, Vol. VII, 1964.

The actual test result of these children was also compared with what could be expected in view of the differences in their social class distribution, the maternal care they got, the size of their families, their housing conditions as compared with the rest of the children.

	AGE		
	8	11	15
Boys	+0.70	+0.46	-0.15
Girls	+1.26	-0.04	-0.11

Table 42. SWITZERLAND. SOCIAL COMPOSITION OF STUDENT BODY GYMNASIA WITH EMPHASIS ON:

Percentages

	A. CLASSICAL LANGUAGES		B. GENERAL INSTRUCTION		C. MATHEMATICS AND NATURAL SCIENCES	
	FIRST YEAR	LAST YEAR	FIRST YEAR	LAST YEAR	FIRST YEAR	LAST YEAR
Upper Class	41	39	12	23	10	13
Middle Class	47	54	53	49	49	46
Working Class	7	-	30	12	39	35
Unknown	5	7	5	16	2	6
Total	100	100	100	100	100	100

SOURCE: F. Hess, F. Latscha, W. Schneider, Die Ungleichheit der Bildungschancen, 1966, 3 Basel Gymnasia.

Table 43. PROPORTIONS OF (a) PUPILS HOPING TO ENTER THE PROFESSIONS AND (b) BOYS HOPING TO ENTER MANUAL WORK RELATED TO SOCIAL CLASS AND ABILITY

ENGLAND

Percentages

	MIDDLE		MANUAL	
	UPPER	LOWER	UPPER	LOWER
Ability at 15	% hoping to enter the professions			
a) Boys				
60 and over	70	61	47	30
55-59	48	28	17	7
50-54	+	12	2	6
	% hoping to enter the professions			
Girls				
60 and over	71	55	57	35
55-59	47	28	20	14
50-54	+	15	0	7
	% hoping to enter manual work			
b) Boys				
60 and over	7	15	18	26
55-59	5	33	44	56
50-54	+	36	54	65
45-49	+	52	57	68
0-44	+	62	65	82

+ < 20 pupils

SOURCE: J.W.B. Douglas, 1968, op. cit.

Table 44

ENGLAND

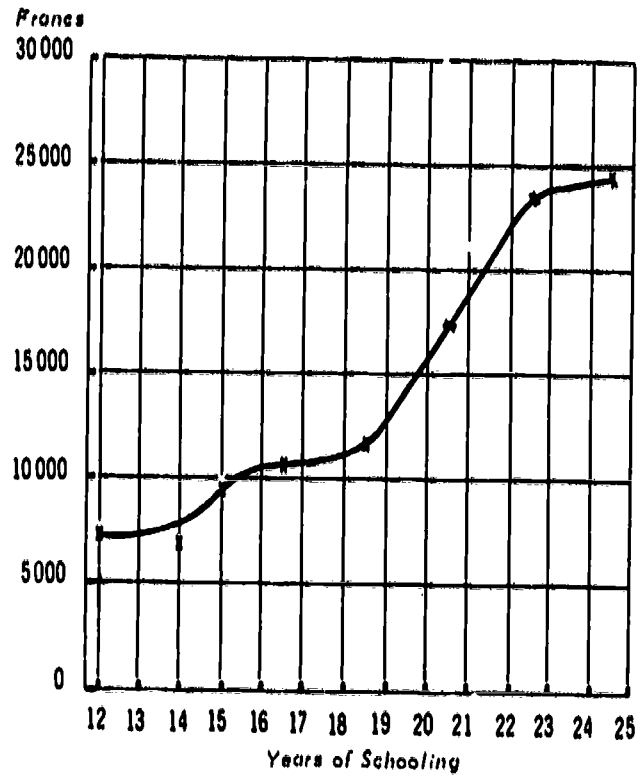
TYPE OF SCHOOL AND SOCIAL BACKGROUND	OCCUPATIONAL LEVEL AT 26 (PERCENTAGES)						
	1 (HIGHEST)	2	1+2	3	4 (LOWEST)	3+4	TOTAL
Grammar school:							
Middle class	70	19	89	11	-	11	100
Working class	62	22	84	12	4	16	100
Secondary Modern School:							
Middle class	20	22	61	39	10	49	100
Working class	14	16	30	46	24	70	100
	Occupational level						
Grammar school:							
Over-assigned			87			13	100
Remainder			86			15	100
Secondary Modern School:							
Under-assigned			43			57	100
Remainder			30			70	100

SOURCE: H. Himmelweit, D. Swift, op. cit.

Graph 3

FRANCE

AVERAGE SALARIES IN 1962
BY NUMBER OF YEARS OF EDUCATION



Source : "Une enquête sur la formation et la qualification des Français" (1964), Etudes et Conjonctures, février 1967
Sample size 27,000

Table 46

FRANCE

OCCUPATION OF FATHER	AVERAGE ANNUAL SALARY (FRANCS 1962)
Self-employed in industry, big commerce	29,470
Directors, managerial, administrative workers	28,322
Self-employed in small commerce, craftsmen	25,175
Subordinate administrative workers	23,859
Clerical workers	18,027
Manual workers	21,284

SOURCE: Darras, Le partage des bénéfices, Paris, 1966.

Table 46. MEAN TAXED INCOME (IN SWEDISH CROWNS) AT 35 BY LEVEL OF FORMAL SCHOOLING AND SOCIAL CLASS

SWEDEN

SOCIAL BACKGROUND STATUS GROUP	NUMBER OF YEARS OF FORMAL SCHOOLING			
	< 8 YEARS' ELEMENTARY SCHOOLING ONLY	8-10 YEARS' JUNIOR SECONDARY SCHOOLING	11-14 YEARS' SENIOR SECONDARY SCHOOLING	> 14 YEARS' UNIVERSITY
Professional, managerial	15,000	23,071	35,458	45,384
Sub-professional middle class	14,897	18,022	24,393	34,500
Skilled workers	16,297	18,571	21,778	28,000
Unskilled workers	15,580	17,614	17,909	29,667

SOURCE: T. Husén, op. cit., in Educational Research, Vol. 10, No. 3, June, 1968.
Sample size: 1,500.

Table 47. HORIZONTAL AND VERTICAL PERCENTAGE DISTRIBUTION OF SONS BY THEIR STATUS IN 1949, EDUCATION AND FATHER'S STATUS IN 1936

SWEDEN

EDUCATION	SON'S SOCIAL GROUP			
	1	2	3	TOTAL
a) Matriculation	99/78	27/22	-/-	/100
b) Gymnasium	1/2	37/98	-/-	/100
c) Realskola exam	-/-	11/100	-/-	/100
d) Classes in realskola	-/-	22/94	50/6	/100
e) Elementary school	-/-	4/75	50/25	/100
Total	100/	100/	100/	

Father's social group 1 (highest)

	SON'S SOCIAL GROUP			
	1	2	3	TOTAL
	100/70	11/30	-/-	/100
	-/-	14/97	1/3	/100
	-/-	21/93	5/7	/100
	-/-	22/80	13/20	/100
	-/-	32/55	78/45	/100
	100/	100/	100/	

Father's social group 2

EDUCATION	SON'S SOCIAL GROUP			
	1	2	3	TOTAL
a) Matriculation	100/52	4/48	-/-	/100
b) Gymnasium	-/-	2/85	-/15	/100
c) Realskola exam	-/-	17/83	4/17	/100
d) Classes in realskola	-/-	10/62	6/38	/100
e) Elementary school	-/-	68/44	90/56	/100
Total	100/	100/	100/	

Father's social group 3

	SON'S SOCIAL GROUP			
	1	2	3	TOTAL
	100/40	5/60	-/-	/100
	-/-	8/100	-/-	/100
	-/-	7/100	-/-	/100
	-/-	12/70	10/30	/100
	-/-	68/59	90/41	/100
	100/	100/	100/	

Father's social group unknown

SOURCE: G. Boalt, T. Husén, Educational Research and Educational Change, New York, 1968. Stockholm sample. Over 2,000 men interviewed.

Table 48. HORIZONTAL AND VERTICAL PERCENTAGE DISTRIBUTION OF SONS BY THEIR STATUS IN 1955, EDUCATION AND FATHER'S STATUS

SWEDEN

EDUCATION	SON'S SOCIAL GROUP			
	1	2	3	TOTAL
a) + b) Gymnasium or more	53/6	18/31	-/-	/100
c) Real-skola	35/35	45/59	25/6	/100
d) + e) Elementary school	12/15	36/62	75/26	/100
Total	100/	100/	100/	

Father's social group 1 (highest)

SON'S SOCIAL GROUP			
1	2	3	TOTAL
50/19	11/74	2/6	/100
8/3	13/82	4/15	/100
42/2	75/56	94/42	/100
100/	100/	100/	

Father's social group 2

EDUCATION	SON'S SOCIAL GROUP			
	1	2	3	TOTAL
a) + b) Gymnasium or more	20/40	3/60	-/-	/100
c) Realskola	10/5	11/52	4/43	/100
d) + e) Elementary school	70/2	86/28	96/70	/100
Total	100/	100/	100/	

Father's social group 3

SOURCE: G. Boalt, T. Hugén, op. cit.
National sample of 728 men 25-55 years old. Interviewed in 1955.

Table 40. HORIZONTAL AND VERTICAL PERCENTAGE DISTRIBUTION OF SONS' UPWARD AND DOWNWARD MOBILITY, BY THE STATUS OF THE SON AND THE FATHER, AND BY EDUCATION

GREAT BRITAIN

Father's status 1, 2 (highest)

SON'S EDUCATION	SON'S STATUS				
	3	4	5	6, 7	TOTAL
a) Senior elementary	24/26	40/18	43/36	50/21	/100
b) Senior elementary + some training	22/43	12/10	17/27	25/20	/100
c) Grammar school	15/32	20/18	17/29	25/21	/100
d) More than grammar school	39/61	28/18	17/21	-/-	/100
Total	100/	100/	100/	100/	

Father's status 3

SON'S STATUS				
1, 2	4	5	6, 7	TOTAL
23/8	35/16	61/51	80/25	/100
17/12	39/39	22/40	14/9	/100
15/27	17/42	7/31	-/-	/100
45/54	9/15	10/31	-/-	/100
100/	100/	100/	100/	

Father's status 4

SON'S EDUCATION	SON'S STATUS				
	1;2	3	5	6, 7	TOTAL
a) Senior elementary	23/3	36/8	67/58	81/31	/100
b) Senior elementary + some training	23/7	43/24	23/51	19/18	/100
c) Grammar school	10/18	4/12	5/71	-/-	/100
d) More than grammar school	48/41	18/27	5/32	-/-	/100
Total	100/	100/	100/	100/	

Father's status 5

SON'S STATUS				
1, 2	3	4	6, 7	TOTAL
19/2	40/8	60/20	85/70	/100
45/12	45/27	35/35	11/26	/100
11/23	2/9	2/14	3/35	/100
23/28	13/36	4/21	1/15	/100
100/	100/	100/	100/	

Father's status 6, 7

SON'S EDUCATION	SON'S STATUS				
	1, 2	3	4	5	TOTAL
a) Senior elementary	11/-	50/5	66/15	74/70	/100
b) Senior elementary + some training	33/3	31/10	34/24	19/63	/100
c) Grammar school	-/-	6/13	-/-	4/87	/100
d) More than grammar school	56/28	13/22	-/-	3/50	/100
Total	100/	100/	100/	100/	

SOURCE: Table based on the figures on page 316.

Table 50

FRANCE

FATHER'S OCCUPATION	EDUCATION OF SON (PERCENTAGES)				
	% DISTRIBUTION OF SAMPLE	PRIMARY	SECONDARY	HIGHER	TOTAL
Manual workers	2.8	36	13	51	100
Non-manuals of lower grade	3.7	8	20	72	100
Small business, craftsmen	10.6	12	13	75	100
Farmers	5.7	8	17	75	100
Industrialists	17.2	3	14	83	100
Executive, Administrative workers	5.2	5	7	88	100
Professional workers	22.3	3	9	88	100
Civil servants	32.5	1	6	93	100
Unknown	1.8	-	-	-	
TOTAL	100	5	10	85	100

SOURCE: A. Girard, La réussite sociale en France, Paris, 1961. Sample size: 2,000.

Table 51. INTERNATIONAL REGRESSION ANALYSIS CONCERNING MOBILITY

DEPENDENT VARIABLES	INDEPENDENT VARIABLES					
	X3	X4	X5	X6	X7	
	Simple correlation coefficients					
Manual Outflow mobility (upward mobility)	0.57	0.80	0.42	0.50	0.45	
Non-manual Outflow mobility (downward mobility)	-0.27	-0.15	0.47	0.39	-0.44	
	Partial correlation coefficients					
Manual outflow mobility	-0.52	0.76	-0.46	0.69	0.64	
Non-manual outflow mobility	-0.77	-0.63	0.78	0.77	0.39	
	Beta coefficients (standardized net regression coefficient)					
Manual outflow mobility	-0.55	0.70	-0.29	0.83	0.63	
Non-manual outflow mobility	-0.98	-0.43	0.63	0.94	0.28	
	Percentage of variation explained					TOTAL
Manual outflow mobility	-31	56	-12	42	28	83
Non-manual outflow mobility	26	6	30	37	-12	87

X3 = Gross national product/capita.
X4 = Primary and secondary enrolments rates.
X5 = % of population in localities over 20,000.
XC = Degree of political stability.
X7 = Achievement motivation.
SOURCE: T.G. Fox, S.M. Miller, op. cit.

Table 52. PERCENTAGE DISTRIBUTION OF ENTRANTS INTO EACH STATUS CATEGORY OF SONS, BY CATEGORY OF ORIGIN AND EDUCATION OF SONS

GREAT BRITAIN

		SONS' STATUS CATEGORY				
		1, 2	3	4	5	6, 7
Present number of sons		257	324	450	1,409	1,010
Number born there and staying		124	64	108	702	407
Number of entrants		133	260	342	707	603
Sons coming up, number		133	201	251	316	-
From (percentage)	3a	8				
	b	6				
	c	5				
	d	16				
	T	35				
	4a	5	10			
	b	5	12			
	c	2	1			
	d	11	5			
	T	23	28			
	5a	7	22	43		
	b	16	25	25		
	c	4	1	1		
	d	8	7	3		
	T	35	55	72		
	6, 7a	1	8	18	74	
	b	2	5	9	19	
	c	-	1	-	4	
	d	4	2	-	3	
	T	7	16	27	100	
Percentage distribution of all upward mobility by education						
	a	20	41	61	74	
	b	29	43	35	19	
	c	11	2	1	4	
	d	39	14	3	3	
Sons coming down, number		-	59	91	391	603
From (percentage)	1, 2a		24	11	5	2
	b		22	3	2	1
	c		15	6	2	1
	d		39	8	2	-
	T		100	28	12	4
	3a			25	19	6
	b			29	7	1
	c			12	2	-
	d			7	3	-
	T			73	31	7
	4a				37	13
	b				13	3
	c				3	-
	d				3	-
	T				56	16
	5a					63
	b					8
	c					2
	d					1
	T					74
Percentage distribution of all downward moves by education						
Senior elementary:	a		24	36	61	83
Senior elementary + training:	b		22	32	23	12
Grammar school:	c		15	18	7	3
More than Grammar school:	d		39	14	9	1

SOURCE: D. Glass, Social Mobility in Britain, London, 1954, cited in C.A. Anderson, 1961, op. cit.
Sample size: 3,600.

Table 53. VERTICAL AND HORIZONTAL PERCENTAGE

SWEDEN

SON'S SCHOOLING	SON'S SOCIAL STATUS RELATIVE TO FATHER'S			
	HIGHER	SAME	LOWER	TOTAL
	1949			
High (real school exam or more)	37/36	32/49	38/15	/100
Low	63/32	68/55	62/13	/100
	100/	100/	100/	

SON'S SCHOOLING	SON'S SOCIAL STATUS RELATIVE TO FATHER'S			
	HIGHER	SAME	LOWER	TOTAL
	1955			
Low (elementary)	80/16	84/63	85/21	/100
Medium (some or completed real school)	11/18	9/60	11/22	/100
High (some gymnasium or more)	9/22	7/65	4/12	/100
	100/	100/	100/	

SOURCE: C.A. Anderson, 1961, op. cit.

Table 54. PERCENTAGE DISTRIBUTION OF MOBILITY BY EDUCATIONAL LEVELS

GERMANY

	VOLKSCHULE[1]	MITTELSCHULE[2]	ABITUR[3]	UNIVERSITY
No mobility	61.4	58.7	45.2	38.9
Upward mobility	15.5	22.1	33.3	52.8
Downward mobility ...	19.9	16.3	21.5	8.3
Unknown mobility	3.2	2.9	-	-
	100	100	100	100
Ratio upward/downward	0.78	1.36	1.55	6.36

Table 55. PERCENTAGE DISTRIBUTION OF MOBILITY BY EDUCATION AND SOCIAL CLASS

FATHER BELONGING TO	SON'S MOBILITY	VOLKSCHULE[1]	MITTELSCHULE[2]	ABITUR[3]	UNIVERSITY
Middle class	No mobility	56.5	73.8	59.1	29.4
	Upward mobility	2.8	9.7	18.2	52.9
	Downward mobility	39.4	16.5	21.7	17.9
	Unknown mobility	1.3	-	-	-
		100	100	100	100
Upper Working Class	No mobility	44.0	23.5	-	25.0
	Upward mobility	30.5	58.8	100	75.0
	Downward mobility	24.1	11.8	-	-
	Unknown mobility	1.4	5.9	-	-
		100	100	100	100
Lower Working Class	No mobility	70.3	22.7	4	4
	Upward mobility	29.0	77.3	4	4
	Downward mobility	4	4	4	4
	Unknown mobility	0.7	4	4	4
		100	100	2	2

1. 8 years of primary school.
2. 10 years of non-academic school.
3. University entrance qualification.
4. Too few cases to permit an estimate.

SOURCE: Morris, Janowitz, "Soziale Schichtung und Mobilität in Westdeutschland", Kölner Zeitschrift für Soziologie und Sozialpsychologie, No. 1, 1958.

Sample of 3,000 men drawn in 1955.