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ABSTRACT

EQUALITY OF EDUCATIONAL OPPORTUNITY IN TURKEY (A Quantitative Approach)

By

Nurettin Fidan

The Problem

The purpose of this study was to evaluate the practices of providing equal educational opportunities to the children at primary and secondary levels during the decade of 1960. The study focused on quantitative expansion of the educational opportunities. More specifically the answers were sought for the following questions:

1. What are the differences or inequalities in the availability of school opportunities at primary and secondary levels among the provinces of Turkey?
2. What are the differences in the growth of school opportunities between the years 1960 and 1970 among the provinces, and what factors seem to account for these differences?
3. Among the regions of the country what are the differences in the socio-economic backgrounds of students who had access to schools above primary level?

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By seeking answers to those questions it was aimed to provide more accurate and systematic data on the differences in school opportunities so that better criteria for allocations of resources and more realistic policy decisions for provision of equal opportunities to all could be developed.

The Design of Study

The data for the analysis of differences of school opportunities at primary and secondary level among the provinces and for the explanation of the differences in terms of socio-economic variables were taken from the publications of the State Statistical Institute. Educational statistics for the year 1970 were obtained from the files of several general directorates of the Ministry of Education. The data related to population characteristics were obtained from the Census Reports for the years 1960 and 1965. The data on student background characteristics were obtained from questionnaires distributed to nationwide samples of students in the lower and upper secondary schools of Turkey.

The samples contained 203 lower secondary and 125 upper secondary schools. Data were collected successfully in March 1971. The return rates for questionnaires was 88.8% for both upper and lower secondary schools. The data were processed in an IBM 1620 computer in the Planning, Research and Coordination Department of Ministry.

In the analysis the differences among the provinces were presented in terms of school participation ratios and

development categories based on the average values in school participation in 1960, 1965, and 1970.

In order to explain the differences in growth of educational opportunities in the context of demographic changes, of educational attainment levels of population, and of socio-economic level of the provinces, the technique of multiple-regression analysis was employed. In the analyses the school participation ratios for 1960, 1965, and 1970 in terms of number of students per thousand school age population were taken as dependent variables, and urban population, population with maximum primary education, population with minimum lower secondary education, male population engaged in agriculture and density of population per unit of area in respective years were taken as independent variables.

Findings of the Study

The analyses of data revealed the following results:

1. In the 1960s, the greater increases in enrollments in primary education occurred in educationally less developed provinces of the country.
2. Accelerating progress toward full participation at primary school levels will be dependent upon increasing the portion of girls in total enrollments.
3. Increases in school participation ratios at lower secondary school levels also did not substantially change the positions of provinces relative to the national averages over the ten years 1960-1970.

4. Provinces which had low rates of growth at primary levels tended also to have low rates of growth at lower secondary level.
5. Inequalities in school participation ratios were more acute in southeastern sections of the country at all levels of schools throughout the 1960s.
6. Differences in primary participation ratios were best explained by differences in educational attainment levels (population with maximum primary education).
7. Primary school participation ratios varied independently from measures of urbanness, population density, agriculture as economic activity, and volume of population.
8. At lower secondary levels, school participation rates did not associate substantially with differences in socio-economic factors.
9. Urban and socio-economically developed provinces benefited more between 1960-1970 from the expansion of educational opportunities at upper secondary levels.
10. The children of urban areas and economic centers of the regions have better chances for further schooling than the children of the areas where agriculture is the main economic activity and the population is widely distributed.
11. In addition to the few most populous and developed provinces of Turkey, those provinces where there was a relative population concentration and which served as economic service-centers to surrounding areas

benefited most from and dominated the increases in school participation at both lower and upper secondary schools.

12. In lower secondary and upper secondary schools one-third of the students were those with parents residing in villages.
13. Relatively more students from rural residential origin were enrolled in primary teachers' training schools.
14. In the regions where rural population exceeds the national average, children of rural families have relatively greater access to lower secondary schools.
15. The share of girl students with village origin is low when compared to boys with rural origin.
16. The children of fathers who are administrators or professional men are over-represented in the secondary schools.
17. Private lycees attract the children of persons who are in professional occupations, in business, or in administrative occupations.

EQUALITY OF EDUCATIONAL OPPORTUNITY IN TURKEY

(A Quantitative Approach)

By

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CHAPTER I

THE PROBLEM

Statement of the Problem

Turkey is a developing nation committed to a democratic way of life and to accelerating its economic and social development, with special emphasis on the realization of social justice throughout the country. The realization of social justice has been the main target of the national development plan, which aims to create equilibrium between income groups and to provide social services to all.

Education plays an important role in the processes of democratization and economic and social development. In the first place, the important responsibilities of an educational system are considered to consist of preparing the manpower required for the economy and developing basic skills, knowledge and attitudes required for the nation as a whole. Second the development process requires a balanced interregional planning of the sectors of agriculture, industry, and educational services. From this point of view, education needs to be integrated into

balanced interregional planning. Third, education provides the necessary knowledge and skills which increase the employment opportunities of individuals. For these reasons, the education system, in providing equal opportunities to all, contributes significantly to the realization of "social justice" throughout the country.

With this end in view, this study attempts to find out just what are the differences or inequalities in the provision of educational opportunities at both the primary and secondary levels of schooling between the years 1960 and 1970 in the provinces of the country, and the differences in socio-economic background of students who had access to schools above primary level in the regions of Turkey in 1970.

Need for the Study

The problem in this study has come out of the experience of the investigator in the Department of Planning, Research and Coordination of the Ministry of Education in Turkey (in Turkish this department bears the initials PAKD-- "Planning, Arastirma ve Koordinasyon Dairesi"). Over recent years, the need for evaluation of educational practices in order to establish investment priorities among the provinces has been one of the important issues faced in this relatively newly established department. Past practices for allocating resources dealt with only one or two indicators of educational development, such as increase

in enrollments, pupils per classroom, or pupils per teacher. There is a pressing need for the establishment of more objective criteria which may provide better information on educational growth and the educational needs of the provinces. Also, the distribution of resources is closely related to the problem of providing equal opportunity to all. A need for a comprehensive study has long been felt, to assess what is provided in the provinces and what the differences are in terms of educational developments among the provinces.

In the last decade, through efforts of planned development, special attention has been given to the elimination of disparities among the regions of the country. For that purpose several studies, descriptive in nature as described in detail in Chapter II, have been conducted between the years 1960 and 1970. Almost all of the studies revealed that there were marked differences among the provinces in terms of enrollment ratios and age group participation ratios, especially between those in the Western and those in the Eastern part of the country.

The findings of these studies were based mostly on data collected for a specific year, such as 1963, 1964 or 1970. There was no study which dealt with progress in education over a period of time. However, there has been a strong need for establishing the educational growth patterns of the past, in order to foresee the growth in the future and to plan ahead over the long range.

In this study an attempt is made partially to meet these needs by investigating growth patterns in provinces in five year intervals between 1960 and 1965 and between 1965 and 1970.

Another important issue is the evaluation of educational practices among the regions in a socio-economic development context. Growth in education is never fully explained by the amount of investment. Besides material resources, sociological, geographical, cultural, and other factors also play important roles in the expansion of school opportunities. In order to understand better the nature of differences in educational growth, socio-economic factors need to be observed and the relationships between these and educational development need to be specified. By doing so, a better understanding of the inequalities or differences between provinces may be reached. Past studies do not provide uniform explanations because of differences in methodologies and measures employed. In the present study, a great deal of emphasis has been placed on socio-economic correlates and other explanatory variables of educational development.

During recent years, a great deal of expansion has been achieved in primary and secondary school enrollments in Turkey. Who benefitted the most from this expansion? This is a question with wide policy implications. Is the expansion still in favor of children from urban areas or still in favor of those children who come from the upper

strata of the society or from well-to-do families? This study takes a further step by studying differences in terms of socio-economic backgrounds of students who had access to school above the primary level.

The Purpose of the Study

In the light of needs specified above, the purpose of this study is to seek answers to the following main questions:

1. What are the differences or inequalities in the availability of school opportunities at primary and secondary levels among the provinces of Turkey?

2. What are the differences in the growth of school opportunities between the years of 1960 and 1970 among the provinces, and what factors account for these differences?

3. Among the regions of the country what are the differences in the socio-economic backgrounds of students who had access to schools above primary level?

Objectives of the Study

The study attempts to achieve the following objectives:

1. To provide more accurate and reliable data on differences in educational opportunities among the provinces of Turkey.

2. To provide better criteria for allocation of resources to eliminate disparities among the provinces.

3. To provide systematic evidence on factors which influence differences in educational opportunities.

4. To examine possible relationships among educational and socio-economic factors so that this knowledge may have beneficial impacts upon educational policy decisions.

Limitations of the Study

The first part of the study attempts to explain differences of educational growth and expansion in terms of increase in enrollments, increase in age cohorts enrolled in school, girls' share in the composition of enrollments, and teacher expansion in the provinces of Turkey, for 1960, 1965 and 1970. With respect to qualitative growth in schooling, pupil per teacher ratios at primary levels and science teachers per one hundred students at secondary levels, are taken as indicators of quality. The three levels of schooling--primary, lower secondary, and upper secondary--constitute the scope of study. For this part of the study, data were gathered from the official publications of the State Statistical Institute and from the official files of the Ministry of Education,

Secondly, in order to examine socio-economic background characteristics of students, two samples of students were drawn from the populations of the first and third grade students of lower secondary schools and from first and third grade students of upper secondary schools.

The present study is descriptive in nature. Educational development or growth in school opportunities are studied in quantitative terms. The State Statistical Institute's documents are the main source for the part of the study which deals with increase in enrollments and numbers of teachers. Reliability of the data of the State Statistical Institute was checked where possible against the files of the Ministry of Education, but in some cases the State Statistical Institute's data were the only data available, and it was not possible to check them against Ministry of Education information. 1970 data, on the other hand, are based only on the files and publications of the Ministry of Education. However, these data also were checked subsequently against the data published by the State Statistical Institute for the 1970-71 school year. Both sources of data were found comparable to each other, and substitutable. Nevertheless, the reliability of the findings of this study is subject to all of the limitations inherent in the reliability of official statistics.

Definition of Terms

The following are terms which are extensively used and need to be specifically defined for this study. In order to give an understanding of the Turkish educational system to a foreign reader, a few terms relating to the Turkish educational system also are given.

Primary School: This is the school which provides education for children between 6 and 14 years of age. Primary education is compulsory for all children. It lasts for five years.

Primary School Leaving Certificate: A certificate awarded at the end of the fifth year, through a leaving examination before a board.

Secondary Education: The level of education which starts after primary. It is comprised of both lower and upper secondary education cycles.

Lower Secondary School (The Middle School): A three-year general school, which accepts those who have successfully completed the primary school.

Lycee: This is one of the types of upper secondary schools. The middle school graduates are accepted into it and its course lasts for three years. At the end of the first class, courses are divided into science and art sections.

Teacher's Training School (for primary school teachers): This is one type of upper secondary school. It aims at training teachers for the primary level of education. It is a boarding school, free of charge. This school accepts graduates from middle schools, subject to an entrance examination.

Imam-Hatip Okullari (Theological Schools): This is a two-level school. The first level, now abolished, was for three years and accepted primary school graduates. The

second level, which became three years in length effective 1971, now accepts graduates directly from the middle school.

Commercial Lycee: This is a three-year vocational school.

These schools accept the graduates of lower secondary school. The students specialize in commercial subjects.

Boys' Vocational School: This is a three-year trade school.

These schools accept the graduates of lower secondary schools. They aim to train their students as skilled workers to meet the needs of the economy.

Girls' Vocational Institute: This is an establishment providing, in addition to general education, instruction in home economics. The course lasts 3 years and is open to the graduates of lower secondary school.

School Enrollment: In this study enrollment is defined as the figure which shows the number of the students who are listed on the schools' records prepared at the beginning of the school year in 1960, 1965 and 1970.

School Participation Ratios: This is the ratio of enrollment over the related age cohort which is specified as the age group for the type of school given. For primary education the normal age group is 7 - 12; for middle school 13 - 15; and for upper secondary school 16 - 18.

Expansion: Expansion is defined as the amount of increase in total student population over n years. In this study the year 1960 is taken as the base year, and the

difference between 1960-1965, 1965-1970 and 1960-1970 gives the measures of expansion in primary and secondary school enrollments.

Girls' Share in Student Composition: This measure is obtained from the ratio of girls' enrollments over total enrollments.

Pupil Teacher Ratio: This measure is taken as one of the indicators of the quality of schooling. It is obtained for a given province by dividing the number of students enrolled in the province's primary schools by the number of the primary teachers employed in the province.

Educational Development: This expression is used synonymously with the meaning of development of schooling opportunities which are studied quantitatively in this study. Increases in school participation ratios over the years are taken as the main indicators of development in education.

CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

This chapter presents (1) basic theoretical and practical issues related to the concept of equality of educational opportunity; (2) the evolution of the meaning of the concept; and (3) a review of research dealing with practices in the United States, in Europe, and in Turkey.

First, discussions of moral, socio-psychological and economic issues related to the concept of "equality of educational opportunity" are reviewed. Second, the evolution of the operational definition of the concept in the United States, in Europe and in Turkish society is described in historical perspective. The last part of the chapter presents a discussion of the cultural and legal foundations of equality of educational opportunity in Turkish society and a review of recent related research.

Studies Related to Central Issues

Moral Considerations

The concept of equality of educational opportunity has gained importance through debates and practices of

democratic political life, upon the establishment of nationwide public instruction departments, and upon the concept of education as a means toward social and economic development. Parallel to these, the rise of communism, with its claim to create a classless society, has brought the issue more into international focus. The principle of the equality of individuals in a democratic society, and the principle of equality of all individuals before the power of the State, have been the main sources from which democratic laws, policy decisions, and practices in relation to social welfare have been derived and implemented.

Today, in the western world where democracy has been practiced, and in those nations in which there exists a clear, definite orientation and a determined direction toward the establishment of a democratic society, the rights of the individual, and the claims of individuals to be afforded an opportunity for the attainment of their full stature, has become a moral right universally conceded.¹

In the second half of the Twentieth Century, education is seen as the principal means of self-development, and the idea has grown up that the rights of citizens should include the right to be educated. The 26th article of the Declaration of Human Rights expresses the point very clearly:

¹A. H. Halsey, Ability and Educational Opportunity, O.E.C.D., 1961, p. 16.

Everyone has the right to education. Education shall be free at least in elementary and fundamental stages. Elementary education shall be compulsory; technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit, without regard to race, sex, or any economic or social distinctions.¹

The same idea reflects itself in the constitutions of democratic nations.

Not only in a democratic society, say Anderson and Bowman:

Equality of educational opportunity has been widely proclaimed as a universal human right. At least in form, this faith is set forth in societies with the most diverse political systems. The task of pressing towards the ideal of an 'educative society' offering to all citizens every possible access to the cultural heritage is one which now engages the imagination of all nations.²

Contemporary national and international policy makers have engaged in, and have felt responsible for, the realization of equality of formal educational opportunities. In addition to efforts of the United Nations, the efforts of O.E.C.D. need also to be mentioned here. At the Kunglav Conference sponsored by O.E.C.D., and later in special study groups on the issue of "Social Objectives of Educational Planning," the equality of educational opportunities was studied more extensively. The main burden of the conference papers was their conclusion that in the developed

¹Tnsan Haklari Evrensel Beyannamensi, Resmi Gazete, Vol. 30, Basbakanlik Matbadsi, Ankara, 1949, p. 1019.

²C. Anderson Arnold and Mary Jean Bowman, Educational Planning, edited by Don Adams (Syracuse: Syracuse University, 1964), p. 14.

countries of O.E.C.D. educational opportunity had not yet followed recognized ability within the population. Instead, the educational systems in these countries continued to leave large reserves of the population's ability underdeveloped. As expressed by the Swedish Ministry of Education, the Kunglav Conference elicited a great concern for fostering the self development of the individual:

If we are really bent on fostering individual ability, we must first organize the compulsory school in such a way as will give everyone the same right and opportunity to an education regardless of socio-economic background and geographic location.¹

At the follow-up conferences in 1965, it was expressed that the Twentieth Century opinion, in most countries, had converged toward a consensus in accepting the principle of equality of formal educational opportunity. As interpreted by Henning Friis:

This moral conception of education in the Twentieth Century, furthermore, is matched by a new understanding of the nature of ability which leads to abandonment of the idea of a fixed 'pool of ability' in the population. It is increasingly recognized that economic and social development, which includes educational input, actually constitutes a process of creating ability among a population. The limits of this ability reserve, if such limit exists, have for practical purposes not yet been reached in any country.²

Socio-Psychological Considerations

Up until today, equality of educational opportunity has been interpreted in the context of social class,

¹Halsey, op. cit., p. 17.

²Henning Friis, Social Objectives in Educational Planning, O.E.C.D., 1967, p. 8.

socio-economic status, sex, race, and other distinctions. The allocation of educational opportunities had been based upon the concept of a pool of ability, which was understood to be fixed in the population. The O.E.C.D. Conference in 1965, where American, English, Swedish, and other European scholars brought this issue into focus, opened up two general challenges for the sociology of education:

1. There is a challenge to applying general knowledge concerning obstacles to the release of human ability through educational opportunity. Every country can see education as a means towards a richer and more just life for its members, but every country has its own special history of education and its own constellation of social forces making up a unique set of conditions in terms of which social and educational policy should be formulated.
2. There is a challenge to develop a workable theory of relationships between education and social structure. The notions of a technological society and the centrality of the educational process need to be worked out, not only in relation to such economic considerations as the return to investment, but also in terms of the social determinants of educability, the sociology of school, the professionalization of new sectors of the labor force, and the problems of cohesion and consensus in a differentiated society.¹

The ability to profit from education is itself increasingly seen to be a result of social experience. As a result of sociological and psychological studies, the influence of social factors upon measured intelligence and upon educational achievement are such that a moral conclusion may be drawn--that the concept of equality of educational opportunity must be radically redefined to include also the

¹Ibid., p. 8.

opportunity to overcome such obstacles to the development of one's ability.¹

The close connection between measured ability and social background is one of the major discoveries of the Twentieth Century, and it is a discovery with a universal application.

In every country people who live in towns get more education and are more successful in education than are the people in the country. In every country children from homes where the parents have professional or white collar jobs succeed more in education than do children from homes where the parents are manual workers. Consequently, in most countries, educational reform, to a considerable extent, depends upon bringing the opportunities which are available to the more favored sections of the community within reach of all children.²

Studies in several countries³ revealed occupational structure to be the variable providing the best explanation of differences in access to school and in participation in schooling. Regional inequalities in terms of access or participation seemed merely to reflect other social inequalities.

Among these O.E.C.D. countries, studies seeking explanatory factors for regional disparities in school participation rendered largely similar results. Explanatory factors included: distance from school to home as a function

¹Halsey, op. cit., p. 17.

²John Vaizey, Education in the Modern World (New York: McGraw Hill, 1967), p. 166.

³O.E.C.D. Conference on Policies for Educational Growth, Background Study No. 8: Educational Planning Methods (O.E.C.D., 1970), p. 8.

of the country's degree of urbanization, availability of the material resources of families, employment possibilities for young people with low level education and the child's past achievement in school.

In France, at the level of first cycle secondary schooling, the distance between home and school was held to be the primary factor in explaining participation of some categories of children. In the Netherlands, a region's occupational structure appeared to be the factor exercising the greatest influence on gymnasium participation rates.

In one of the O.E.C.D. papers it was concluded that all these factors are also closely interrelated, so that it is not possible statistically to separate their respective effects on enrollment ratios. Occupational structure changes largely as a function of economic variables (per capita income, industrialization) all of which are linked to enrollments. In this regard, the problem of cause and effect is fundamental. The only way for progress to be made in this area may be to remove the obstacles to enrollments one by one. It may be fruitless to disguise the fact that some of the obstacles are deeply rooted in the society. A policy designed to iron out inequalities, if unaccompanied by social reform, would appear to be illusory.

Torsten Husen¹ in his study of the effect of school structure upon utilization of ability, points out that

¹T. Husen, "The Effect of School Structure upon Utilization of Ability," Social Objectives of Educational Planning (O.E.C.D., 1965), p. 54.

pupils from working class families and agricultural families are greatly under-represented in secondary academic schools in all countries of Europe, and that social factors play an important role in competitive examination. In his words:

Ability and school achievements admittedly carry great weight but they are far from being the sole determinant of study careers.

In competitive selection wide latitude is allowed to social factors, perhaps not first and foremost the economic status of parents, but rather their own level of education and social aspirations. This turns out to be surprisingly true even in societies like Sweden where economically based class differences are fairly small. The home's cultural standard ranked with scholastic ability as a crucial determinant of success in school.

Recent Socio-economic Studies in the United States

Extensive studies were recently conducted in the U. S. in relation to assessment of the provision of equal opportunities to all. In the decade of the 1960s the definition of the concept and explanations of the differences in educational opportunity shifted from investigation of the differences in participation rates and from differences in the material and human resources provided to the school over to investigations of differences in the effects of the school and to outcomes in terms of pupil growth and achievement. The survey conducted by Coleman and his associates brought this issue into focus and led to wider considerations of more complex ways of measuring educational opportunity.

In their nation-wide study, Coleman and his associates administered standardized achievement tests measuring students' skill in reading, writing, and problem solving, to some 645,000 children in grades 1, 3, 6, 9 and 12 in 4,000 schools in all fifty states and the Washington, D. C. area. On all the tests administered, students from minority groups (Indian American, Mexican American, Puerto Rican and Blacks) scored substantially below the White students. The average Black's score, for example, tended to be about one standard deviation below the White average. About 85 per cent of the Blacks scored below the White average. In terms of grade level achievement, the disparity between achievement of minority and majority groups widens as they go through school. For example, in the third grade the average Black in the metropolitan northeast is almost one year behind the average White student in reading ability; by grade six he is behind more than one and a half years; by grade nine he is more than two and a half years behind; and by the 12th year he is almost three years behind the average white in reading ability.¹

For Blacks in the rural south, the most disadvantaged group, the gap widens even more as they go through school: by 12th grade they are almost two years behind the Blacks in the metropolitan northeast.

¹James S. Coleman, and others, Equality of Educational Opportunity (Washington, D.C.: U. S. Government Printing Office, 1965), p. 224.

The most important finding of the Coleman Report is that the wide disparities in academic achievement referred to above could not be attributed to differences in the qualities of the school which the minority group attended. Coleman and his associates expected to find inequalities in the quality of the schools, as measured by such factors as age of school buildings, number of textbooks, library facilities, average class size, teacher's education and background, etc. They assumed that these inequalities would help explain inequalities in academic achievement. This assumption also had been the principal basis for U.S. federal policies and educational programs--that the differences in school inputs largely explained the differences in output. The main idea had been to equalize the inputs by providing resources and programs necessary to bring the school up to the level of the best.

Surprisingly, the Coleman study revealed nothing of this sort. It was found that black schools did not spend significantly less money per pupil than white schools, did not have substantially larger classes, did not operate in older and more crowded buildings, and so on.

Coleman and his associates found that differences in school quality were not closely related to differences in school achievement and inadequate educational input that they expected to find simply did not materialize. On the contrary, neither black, nor white, nor Mexican American,

nor Puerto Rican, nor Indian American children from a given socio-economic background did significantly better in schools with high per-pupil expenditure, new plants, large libraries, or up-to-date curricula, than they did in schools with low expenditure, outdated plants and curriculum, or small libraries. Schools appeared to be remarkably uniform in their effects on students' learning. Differences in students' achievements from school to school seemed to be due more to differences in the students' own family background and in the backgrounds of their fellow students than to differences in the quality of the schools themselves.

The social origin and aspirations of school children appear to condition their achievement to a very large extent. Interestingly enough, it was pointed out that the relationship between social origin and achievement does not change during the course of the school career. In other words, schooling does not appear to have the corrective effects on inequalities that one might be entitled to expect.

In the words of the investigators, the overall findings of the study stated as such:

That schools bring little influence to bear on a child's achievement that is independent of his background and general social context, and that this very lack of an independent effect means that the inequalities imposed on children by their home, neighbourhood, and peer environment are carried along to become the inequalities with which they confront adult life at the end of school. For equality of educational opportunity through the school must imply a strong effect of the schools

that is independent of the child's immediate social environment, and that strong independent effect is not present in American schools.¹

There have been some strong objections to Coleman's findings on both methodological and theoretical grounds. It has been asserted that there were shortcomings in his method of survey research due to the inability of surveys to explain complex processes and causes of educational achievement. Secondly, it has been claimed that some of his generalizations, such as "schools don't matter" and "schooling does not have corrective effects on inequalities," have been misstated in view of only a few significant associations between measured school resources and pupil achievement, and that teacher expectations also may heavily influence pupil learning. Another important issue is that Coleman's findings do not provide adequate answers concerning the interaction effects of various configurations of teachers, pupils and setting, which interactions are likely to produce the most significant differential effects on student achievement. Grant,² for instance, points out that other research shows that children with similar background and ability in the same school setting achieve at different levels in different classrooms. Another important criticism deals with the statistical distinction

¹Ibid., p. 325.

²Gerald Grant, "Review of Equality of Educational Opportunity," papers deriving from the Harvard University Faculty Seminar on the Coleman Report, Harvard Educational Review, Vol. 42, No. 11 (1972), p. 114.

between causation and association, which makes interpretation of the findings of the Coleman Report less definite. However, Coleman's major findings were confirmed in later studies. These are:

Black and white school children generally enjoy comparable school resources.

Family background factors may be even more strongly related to pupil achievement than Coleman originally asserted.

The average achievement of children who are poor or who are members of minority groups is lower at every level of schooling than that of the average white pupil.¹

Economic factors do not seem to play a more important role than do the attitudinal ones. The attitudes of children toward their school work are deeply affected by the degree of encouragement from their parents, by the social composition of the schools, and by their self conception of ability. Intelligence and other human capacities have to be seen less as the property of individuals and more as the properties of social and cultural forces. In this respect, Brookover and Erickson² assert that the belief in a fixed intelligence has dominated the American school:

Over the years, evidence contrary to the belief in a fixed learning ability has been ignored The emphasis on the identification of people with various learning abilities or 'talents' and through this the selection of people for various types of education and training, have overshadowed any

¹Ibid., p. 110.

²W. B. Brookover and Edsel L. Erickson, Society, Schools, and Learning (New York: Allyn and Bacon, Inc., 1969), p. 5.

efforts in American schools to cultivate the appropriate social climates or environments which would develop the academic abilities of school children in the appropriate fields.

They suggested that the task immediately ahead for American education is the mobilization of resources to develop an educational environment in which higher and higher levels of learning will occur. The creation of social environments, with both new norms and beliefs about human behaviour, and also new organizational patterns which will foster maximum learning, must occur. New horizons for an ever-expanding human educability must provide the foundation for the Twenty-First Century, and new challenges to the definitions of equality of educational opportunity.

Economic Considerations

In recent years, there have been encouraging attempts to establish quantitatively the interwoven relationships between economics and education. It has been maintained that one of the functions of education is to adapt the human resources of a society to the requirements of its production processes.

As expressed by Parnes:¹

One of the functions of an educational system is to provide the society work force with the skills and know-how required for productive activity. It

¹H. S. Parnes, "Assessing the Educational Needs of a Nation," in Educational Planning, edited by Don Adams (Syracuse: Syracuse University, 1964), p. 55.

follows that the system must be reasonably well geared to the production requirements of the economy.

It has become an established belief that education has an effect upon the technical process and upon the general advance of knowledge, as well as upon the productive efficiency of the labor force. In all of the developed and underdeveloped countries, the direction of social change is toward a technological society, in which human material welfare is continuously increased by the application of science to the production process. A technologically oriented society places education in a central institutional position, as both a source of technological and cultural change, as well as a vast training apparatus for the highly diversified manpower requirements of a technological economy.

Some claim that the approach to education as a means for manpower requirements contradicts the ideals of the equality of educational opportunity. In order to develop a nation, priorities should be recognized for economic development. Otherwise, equality of opportunity could never be realized. Accordingly, equality without economic well-being has no meaning at all. However, some, on the contrary, see that investment in education as a means to satisfy manpower requirements is not simply a one-way process. Instead, this economic necessity makes

it possible to mobilize new reserves of talent. As expressed by Wolfe:¹

The democratic ideals of equality of educational opportunity are now reinforced by economic necessity. Countries may not be able to sustain economic growth unless all the reserves of talent in the population are actively sought out and attracted into needed educational channels. This applies particularly to science and technology where the need for talented individuals is expanding more rapidly than in most other sectors. Thus the importance of fully developing the talents of young people, which is important in its own right, quite apart from economic needs, is reinforced by the imperatives of economic development.

Several countries have sought to determine the size of the intellectual reserve that is being neither fully educated nor utilized. The intellectual reserve of a nation is not a fixed quantity which the nation can use or neglect. Rather, it is a variable that can be increased or decreased, a variable that depends upon the customs and policies of the nation, its system of education, and the manner in which young people are encouraged and motivated to improve themselves.

The idea, even when derived from economic considerations, contributes to the interpretation of the concept of equality of educational opportunity: intellectual reserves may be manipulated through the customs and economic policies of the nation.

Another point of view is that an advanced industrial economy requires a well-educated, adaptable, and

¹Dael Wolfe, "Reserve of Ability," in Halsey, op. cit., p. 49.

geographically-occupationally mobile labor force. This view is not contradictory to the concept of equality of opportunity, since, with a high rate of social mobility, it is possible to minimize and even eliminate social factors which create imbalances and inequalities.¹

Social and Economic Constraints to Equality of Educational Opportunity

Scholars engaged in studies of social stratification believe that the equality of educational opportunity is a very idealistic concept, and that its realization is impossible--especially in developing nations. They tend to claim that in every society duties and privileges are allocated in different kinds and amounts. Certain individuals and certain numbers of groups are granted or excluded from designated privileges, either by custom, by legislative or judicial act, or by administrative decision.

Every educational system involves differential treatment. In all societies there are vertical status gradients. In educational attainment, a country's overall economic level and its occupational structure are manifest in the basic educational structure and in the general level of educational opportunity. In a differentiated modern society, it seems extremely difficult to eliminate or

¹A. H. Halsey, Jean Floud, and C. Arnold Anderson, Education, Economy and Society (New York: Free Press, 1964), p. 4.

minimize the influence of the social factors.¹ As also expressed by John Vaizey:

There is considerable evidence to suggest that the inherent advantages given to students, particularly in their early years, by a favorable human environment (possibly aided by genetic factors) will certainly always be likely to lead to the greater academic success of those children coming from high income homes, however passionately egalitarian the administrators of education may be.²

Vaizey also draws attention to the single factor of unequal distribution of income by arguing that:

When social and economic aspects of education are considered during a period of rapid change, it seems likely that any egalitarian doctrine embodied in a social service like education is unlikely to be operationally feasible as long as the income distribution is unequal and it is held that this source of inequality is probably ineradicable. No nationwide social service can easily be more egalitarian than the income distribution.³

He suggests that equality needs to be evaluated in a broad socio-economic context.

Bowman and Anderson,⁴ dealing with the dilemmas of social democratization, put the criterion of efficiency against the criterion of equality or equity. Their ideas

¹C. Arnold Anderson and Foster Philips, "Discrimination and Inequality in Education," Sociology of Education, American Sociological Association, Vol. 38, No. 1, p. 5.

²John Vaizey, "Some Dynamic Aspects of Inequality," Social Objectives in Educational Planning (O.E.C.D., 1951).

³Ibid., p. 49.

⁴Bowman and Anderson, op. cit., pp. 14-18.

and criticism of the concept of equality of educational opportunity may be summarized as follows:

In a developing nation, equity is an aim, but quick economic returns are an equally pressing aim. It forces more considered choices about where to make expenditures, and it directs attention to the relations between education and economic multipliers. Invest in education where the expected ratio of gains in economic output costs are highest and extend these investments--so long as the economic benefit cost ratios exceed the ratios in the alternative use of resources. To distribute schools and school places proportionately among a population, if the resources are scarce, would cause a great wastage. Bowman and Anderson conclude that it is only in the more advanced societies that equity can be regarded as essential to, or even consistent with, economic efficiency.

Gerald Read,¹ in a mimeographed article, reacts to the idea of schooling as the great social leveller. He points out that excessive hopes have been followed by excessive reactions in the USSR and USA. In the USA, a backlash has built up against such programs as "Headstart," "Busing of Black Students" and Compensatory Education. A similar backlash to polytechnical labor education and boarding schools has been experienced in the USSR. He also quotes the words of John Vaizey saying that schooling

¹Gerald H. Read, "Secondary Educational Trends in Europe and the United States of America" (Kent, Ohio: Kent State University, undated). (Mimeographed.)

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is something that very rich countries spend their money on to keep their adolescents occupied because of technological development, rather than being a basic cause of their wealth and development. On this basis, Read attacks the conventionally accepted assumptions that more can be learned in school than elsewhere and that the best way to compensate for social and economic inequality is to provide compulsory schooling for all. He claims it is more and more evident that this will not work, beyond a certain level of education, simply because schooling of children merely tends to be an extension of the family and social environments.

In Summary

Discussions of equality of educational opportunity are largely loaded with moral considerations. Both equality, being one of the ideals of democracy, and the great emphasis which democracy places upon individual's rights and the need for the realization of these rights, urge nations to take necessary actions. Education has been conceived as the most important sphere for the realization of individual rights and self-development.

Recent studies of the relationships between education, social stratification, and economy urge policy makers to create environments in which everybody should have a chance to develop his capacities in full. The new concept of ability as a variable, determined largely by environmental factors, has had strong implication for the

definition and provision of equality of educational opportunities.

But many of the obstacles in providing educational opportunity to all are deeply rooted in the society. Realization of equal educational opportunity may best be achieved in cooperation with equalization efforts in other social sectors of the society. Educational reforms for achieving equality have to be accompanied by social reforms.

Development of the Concept of Equal Educational Opportunity

Definition and Indicators of Educational Opportunity in the United States

In the words of Coleman, the concept of equality of educational opportunity has had an evolving character.¹

Historically speaking, according to the child's position in society, the concept of educational opportunity either had no relevance, was relevant only with respect to its connection to the structure of the economy and social stratification, or was broadly relevant to the society's basic philosophy or way of life. Coleman states that where the family carried the responsibility for its members' welfare "from cradle to grave," where the mobility of productive labor among the family's economic units was low, and where the family functioned as a unit of economic production and provided an appropriate context in which the

¹James S. Coleman, "Equality of Educational Opportunity," Harvard Educational Review (Winter, 1968).

child could learn the things he needed to know, the concept had no significance at all. The real emergence of the concept of the equality of educational opportunity started within the period of the industrial revolution. During and following the industrial revolution, changes occurred within both the family's functions as well as in the functions of organizations developed outside the household. Children began to be occupationally mobile outside their families. The training that a child received became the interest of all the community. Families lost their economic production function, lost their welfare function, and the poor, ill, or incapacitated became more nearly a community responsibility. These changes paved the way for public education.

Coleman points out that the emergence of public tax-supported education was not solely a function of the stage of industrial development. It was also a function of the class structure in the society. In most of the countries of the world where European systems of education were followed, school opportunities were differentiated according to the social class structure of the society; whereas, in the United States, without a strong traditional class structure, the idea of universal education became widespread.

In the United States, at the beginning, the focus of educational opportunity was upon equality--a problem of

democracy. According to Coleman, the meaning of educational opportunity has meant:

1. Providing a free education up to a given level, which constitutes the principal entry to the labor force.
2. Providing a common curriculum for all children, regardless of background.
3. Providing that children from diverse backgrounds attend the same school, partly by design and partly because of low population density.
4. Providing equality within the given locality, since local taxes provided the source of support for schools.¹

Coleman states that this conception of equality of opportunity is still held by many persons. In a historical context, he interprets five stages of development in the meaning of the concept:

1. All children must be exposed to the same curriculum.
2. All children should be exposed to differing curricula.
3. All children must have access to separate, but equal facilities.
4. Equality is regarded as the opportunity to attend the same school.

In the fourth stage, it was maintained that the effects of separate schools were likely to be different; therefore, the concept of the equality of opportunity shifted to a focus upon the effect of schooling,

5. The next stage of the evolution reflected itself in the Survey of Equality of Educational Opportunity, as conducted by the Office of Education.²

¹Ibid., pp. 11-12.

²Ibid., pp. 7-14.

- a. One type of inequality may be defined in terms of the differences of the community's input to the school, such as per pupil expenditures, school plants, libraries, and quality of teachers.
- b. A second type of inequality may be defined in terms of the racial composition of the school.
- c. A third type of inequality includes those intangible characteristics of the school, as well as the factors directly traceable to the community's input to the school--teachers' morale, teachers' expectations of the students, and the level of interest of the academically active student body.
- d. A fourth type of inequality may be defined in the terms of the consequences of schooling for individuals possessing equal backgrounds and abilities. (Equality of educational opportunity is equality of results given by the same individual input.)¹
- e. A fifth type of inequality may be defined in terms of the consequences of the school upon individuals of unequal background and abilities. (In this definition, equality of educational opportunity is the equality of result given a different individual input.)²

¹Such a definition--as in item (d) especially generates an inequality that might arise from the differences in school input, and/or from racial composition, and/or from more tangible things than described above. Such definitions would require that two steps be taken in the determination of inequality.

1. It would be necessary to determine the effects of these various factors upon the educational results. (This requires various measures of the schools' quality in terms of its effect upon its students.)
2. It would be necessary to take these measures of quality once determined and to determine the differential exposure of Negroids, Caucasoids, or other groups to schools of high and low quality.

²Ibid., pp. 16-17.

The first three definitions are concerned with input resources. The fourth and fifth definitions are concerned with the effect of schooling.

Definitions, Assumptions, and
Practices in Europe

In Europe, the issue of the provision of educational opportunity to all dates back in France to the French Revolution and further back in England. Today the movement has been led mostly by English and Swedish scholars and educators. The meaning of the equality of formal educational opportunities, and the practices for the realization of this goal, have differed somewhat from those in the United States.

Traditionally in Europe, the social class structure has had a great impact upon the provision of educational opportunities. There has been a significant difference in the availability and quality of schools provided for the different social strata. Furthermore, two main assumptions regarding the scarcity of educational resources and a belief in the "pool of ability" had a great impact upon the meaning given to the concept. It has been maintained that:¹

1. Educational resources will always be scarce, so that a choice must be made between the children of any age group as to those who should be adequately educated and those who should receive second best.

¹John Vaizey, Education for Tomorrow (New York: McGraw Hill, 1962), p. 68.

2. Ability is a fixed quantum, which can be identified, and which to all intents and purposes remains constant throughout life. The metaphor of the "pool of ability," which suggests the idea of genetic qualities in a population, sets limits to the amount of human energy and intelligence that could be liberated by a program of education.

These two assumptions had underscored the ways in which the European system functioned for years. The system of selectivity, which correlates with the values of a social class system, became prominent; and the definition of the equality of educational opportunity took the following expressions:

1. All children of equal measured ability should have roughly the same start in life.
2. All the people of equal ability should have an equal opportunity to attend school.

In more specific terms, it is defined as:

. . . equal access to non-compulsory education for all youngsters of equivalent measured ability--regardless of sex, race, place of residence, social class, or other irrelevant criteria.¹

In Europe, practices concerning who should be permitted to a higher level of educational opportunity were based upon criteria of academic success and scores of academic aptitude. The educational system was so organized

¹Veila Susman, "Summary Review," Social Objectives in Educational Planning (O.E.C.D., 1967), p. 15.

that one consequence of the system resulted in a denial to many pupils from the lowest social classes, as compared to those from more privileged environments, of opportunities provided at higher levels of the educational system.

After World War II, the main stress was placed upon the rate of participation in schooling by social class. Meanwhile, the concept of the "pool of ability" had been challenged by scholars of social psychology. It was demonstrated that there was a close connection between the social class system and the distribution of academic ability. In this line, the meaning of equality of educational opportunity shifted to the provision of educational opportunity to social classes on the basis of equal rates of participation. This definition, "equal rates of participation in non-compulsory education by members of all classes," leaves out of account the unequal social class distribution of academic ability.

In the light of psychological and sociological studies, the "ability to profit" from education is itself increasingly seen to be a result of social experience. In this line, there has been a shift in interest toward the effects of schooling, and away from the availability of schooling, as in recent U.S. definitions of the concept of equality of educational opportunity.

Thus equality comes to mean "equal opportunity to acquire academic skills and enrichment for youngsters of

all social classes." This is in accordance with the definitions of Coleman regarding the effects of schooling.

In summary, as evidenced by the discussions cited above, equality of educational opportunity has been conceived for a long time in terms of the availability of schools. The concerns were with where schools should be located, and who should have access to higher levels of education. Studies which have accompanied and observed the rapid expansion of schools in recent years have revealed that upper levels of the socio-economic class scale of urban population and children of "white collar" or non-"blue collar" workers have dominated the higher levels of the educational ladder. Expansion of the educational system had not produced the results expected in terms of equality. Anderson demonstrated that educational expansion has not led automatically to a more equal participation among social strata. The demand of the upper strata for higher education has usually been fully met before further expansion has produced a lessening of class differences.¹

The Coleman study as summarized in previous pages indicated that availabilities and characteristics of schools were not closely correlated with the achievement of students. The social composition of schools, the aspirations of students, and the students' self-conception of their ability seemed more significantly related.

¹Ibid., p. 26.

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Today, the concern for providing equality of educational opportunity has shifted, not only to expanding the availability of schools to all children, but also to creating in schools more productive social environments based on new norms and beliefs about human behaviour, to developing organizational patterns which will foster maximum learning, and to directing attention to the effects of schooling.

Foundation for Equality of Educational Opportunity in Turkey

The Turkish people have reached the end of a long path, evolving from a medievalistic, authoritarian community to a modernistic, democratic society.¹ During the Ottoman Empire, society consisted of two major classes. The first included those to whom the Sultan delegated his religious and executive power-officers of courts, army and civil servants, and religiously learned men. The second class included the remaining population governed by the Sultans and by his ruling elite. The Ottoman society of the time was socially differentiated, but it was not marked by the existence of a closed aristocracy based only upon wealth and birth, as were the Western societies of that time. Inequalities existed in the distribution of wealth and power, and a bifurcation prevailed between the ruler and the subject masses.

¹Nuri Eren, Turkey Today and Tomorrow (New York: Frederick A. Praeger, 1965), p. 31.

However, the Ottoman system, unlike the West, maintained a comparatively fluid system of recruitment of talent.¹ Recruitment and advancement operated in a fairly open system. It was possible that a poor child, regardless of his ethnic and social background, could, through education, become Grand Vizier--the highest position next to the Sultan.

As in Ottoman society, so today also education provides a basic social distinction within the Turkish society. However, in the period of the decline of the Ottoman Empire, educational opportunities were circumscribed by social and economic factors.

The Ottoman Empire was an Islamic society. Islam rejects social classes and social privileges and insists upon the theoretical equality of all believers. From this point of view, the society is a community of people without any privileged social classes--with the exception of "One Commentator." A strong belief in the equality of birth stressed "achievement" as a criterion for social, political, and economic differentiation.

During the Ottoman Empire, the freedom to be educated took its place legally in the 1850 Statute of Reform. There it was mentioned that all the communities had to provide schools for their youngsters. The first

¹Andreas Kazamias and Byron G. Massialas, Tradition and Change in Education (Englewood Cliffs, N. J.: Prentice Hall, Inc., 1964), p. 31.

regulations were laid down in 1869, in the General Regulation for Education. The 1876 Constitution first set down the right of the individual for education.¹

With the establishment in 1923 of a new Turkish Republic, a democratic way of life was introduced into the society. Equality was one of the cardinal tenets of the revolution. The founder of the Republic claimed that the new nation was a populist state, governed by the people and for the people--the voice of the people was the voice of their God. In other words, populism meant equality of all citizens before the law.

In the 1924 Constitution, the provision for education in Article 80 reads: "Under the supervision of the state all kinds of education are free. Primary education is compulsory and it is free in public schools."²

During the Republic's initial period, and into the period of social democratization, the rights of the individual have been stressed. The Constitution of the Republic of 1961 is based upon human rights and the welfare of the individual and society. The Constitution denies special privileges to any individual or social group.

The 1961 Constitution spells out the right of individuals to learn. Article 21 reads:

¹Sevim Tunc, Turkiyede Egitim Esitligi (Basnur Matbasi, Ankara, 1969), pp. 29-30.

²1924 Turkish Constitution.

Everyone has the right to learn, teach, explain diffuse and study science and art. Training in education is free under the supervision and control of the government. No training or educational institutions can be opened contrary to contemporary scientific and educational principles.

The 1961 Constitution makes the provision of education one of the duties of the state. In that respect, Article 50 reads: "It is the primary task of government to meet the educational and training needs of the people."

By so stating, the 1961 Constitution not only accepts the right to be educated as a legal entity, but makes the right to be educated a social right as well as a legal right of the individual.¹ The year 1960 was a turning point in the history of Turkey. The May 27 Revolution brought a new constitution wherein education was seen as a legal and social right for individuals.

The Commission for the Preparation of an Educational Plan in 1960 stressed the importance of equality of education. In the Constitution's words, equality meant:

Equality in education is to give to every citizen, at any age, the education which fits his capabilities and his needs and to provide different educational opportunities for compensation to those who did not finish a proper school. In order to realize equality in education, to open the schools is not enough. Complementary aid to citizens (books, scholarships, etc.) have to be made. Parallel to these, ability and achievement have to be measured by objective means. The schools are the mechanisms of selections; they are bound to develop abilities, to create new interests and to educate according to needs and capabilities.²

¹1961 Turkish Constitution.

²Report of the Commission for Preparation of an Educational Plan (Ministry of Education, Printing Office, 1960), p. 2.

All the political parties' programs are in accordance with the idea of dedication to freedom and equality. Historically, equality among individuals has been one of the characteristic ideals of the Turkish society.

In recent years, through planned efforts or development, special attention has been given to the elimination of inequalities in the provinces, to balancing the distribution of income, and to extending employment and social services rendered to the people and regions of the country. This also affects policy decisions as they are related to the educational system. In the national development plan, the realization of social justice, by creating an equilibrium between income groups, by providing equal opportunity for employment, and by providing social services to all, has been the main target of the planning efforts.

As stated in the plan by the Prime Minister:

The first five year development plan has been prepared for the Turkish people who have definitely chosen the democratic way of life, which makes it possible to guarantee individual rights and welfare and prosperity of both individual and community. The plan accords with the will and resolution expressed clearly in the Constitution to direct economic and social life to the pursuit of standards of living which are compatible with human dignity on the basis of equity and full employment and, in so doing, to end, at once and for all, attempts at unplanned and arbitrary conducts.¹

¹Development Plan, 1963-67, pt. 11 (Ankara: State Planning Organization, 1964).

In the plan, the real aim is stated as social welfare. It is for that reason that "social justice" is emphasized in the objectives and strategy. Highlights of the plan on this point may be summarized as follows:¹

1. One of the social justice targets of the plan is to eliminate disparities between income groups by eliminating the factors causing disparities in the distribution of income.

2. Equality of opportunity and social mobility will be assured with a viewpoint toward encouraging the individual to develop his own ability.

It was believed that "to provide a job with a minimum income for every person who wants to work" is the first condition for realizing equality of opportunity. Full employment at adequate wage rates cannot be provided unless the social structure of the country is strengthened and educational as well as other services are promoted. The plan states that the first condition for equality of opportunity is to strengthen the industrial structure of the country, together with such public services as education, health, and social security.

In the first five year plan, it was accepted that there were great differences among regions, from the standpoint of the volume of social services and facilities. Several measures were proposed for eliminating the differences in those regions.

¹Ibid., p. 49.

1. Investments will be distributed among the geographic regions in compliance with the principle of balanced interregional development.

2. Priority will be given to the backward regions.

The second five-year plan is a continuation of the ideas, objectives, and strategies of the first five-year plan.¹ The points stressed in relation to social justice are:

1. To realize economic and social development through democratic ways within a mixed economic system; to secure a standard of living based upon the principles of justice and full employment compatible with human dignity.

2. To achieve a balanced development between various regions and income brackets, to secure possibilities of employment for a greater number of people, and to share the benefits and burdens of development--with equity and within principles of social justice.

3. To interpret social justice not as to reach an equity in poverty, but rather, as to raise the standard of living by providing a just share for all from rising income and increasing welfare.

4. To utilize as its principal tools for social justice policies oriented to increasing employment possibilities; progressive taxes, balanced distribution of public services, equality in education and in-training

¹Second Five Year Development Plan (Ankara: State Planning Organization, 1967), pp. 676-682.

opportunities for individuals, and other policies to reduce income disparities.

Special attention is given to the elimination of disparities among the regions. To determine interregional inequalities and polarization centers, several researches have been conducted. The research revealed that the East Anatolian region is less improved than that of the West Anatolian region. The less-developed regions have a potential for development. It is concluded that from a developmental point of view it is not enough to bridge the existing disparities between eastern and western Anatolian regions.

In order to provide an equilibrium among the regions, investments need to be concentrated in those urban centers which will accelerate the country's modernization processes.

The development plan, both in its first and second five years, has special provisions and directions for education in terms of equality of educational opportunity. The first plan stressed that in order to achieve social justice the educational sector should arrange itself so that individuals will be able to benefit from employment opportunities which require a basic education and trained skills.¹

Targets in education, one of the fundamental elements of human welfare, are to raise educational standards, to train individuals in

¹Ibid., pp. 676-682.

conformity with the needs and conditions of the Turkish society, and to enable individuals to take advantage of educational opportunities according to their abilities.

In this line, the directions are as follows:

1. Those possessing certain abilities and talents will benefit from the educational facilities--regardless of their social or economic status.

2. An extensive scholarship program will be established to enable promising students with limited financial means to attend the higher educational institutions.

The second five-year plan reflects the new trend, stated also in terms of ability. Education is considered to be the process of development of the student's ability:

The possibility to take advantage of the state provided educational facilities beyond the primary level will be secured according to the principle of the equality of opportunity. Accordingly, with the aid of scholarships and of boarding schools, the capable students will be allowed to obtain the highest levels of education without being hindered by economic difficulties and unfavorable environmental conditions. Changes in policies and practices will be made.¹

The plan anticipates that there will be a decrease in differences between rural and urban people who continue at higher levels of education. The plan also grants persons who do not continue to higher levels of education an opportunity to develop certain other skills and abilities.

¹Ibid., p. 75.

The brief descriptions above may serve to summarize how equality and the equality of educational opportunity are interpreted in contemporary Turkish society. Equality has traditionally been one of the ideals of the society. This ideal has been realized to some extent through the efforts of Ataturk reforms. In this line the most significant steps and measures have been taken since 1960 through planned development. Equality in educational opportunity is conceived as one of the requirements for the establishment of social justice within the Turkish democratic society. In this respect, Turkey is one of the countries of the democratic world in which the requirements of a democratic society underlie all the objectives and policies of the development efforts.

The Development Plan, especially in the second five years, interprets equality of educational opportunity in terms of the outcome of schools, as well as in terms of availability of teaching environments. A regional balance within the educational system attempts to cope with overall economic and social development balance among regions. Starting with the Republic of Turkey the aim has been to realize equality of educational opportunity through a program of school expansion. Today a rapid expansion of schools continues, but a new direction has been taken in terms of providing learning environments in which the opportunity to develop abilities and skills for higher

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levels of schools are extended to children of the rural sector and children of unfavorable or disadvantaged environments.

Research on Opportunities for
Schooling in Turkey

During the last decade, several studies have been made related to the distribution of school opportunities in Turkey. Most of them were conducted by outsiders. One doctoral thesis was presented to the Faculty of Education at Ankara University. Other studies especially dealt with the distribution of school opportunities with special attention to regional differences. All of these studies revealed interesting results, and pointed out the need for more refined work.

Kazamias' Study

In his book Education and the Quest for Modernity in Turkey,¹ Andreas Kazamias studied the expansion of school opportunities and examined the school as a social agency for change. After the establishment of the new Turkish Republic, Ataturk stressed the importance of science and scientific knowledge. In his words, the most important real guide to life, success, and civilization was science and knowledge. As Kazamias interpreted it, this meant school had to play an important role in

¹Andreas M. Kazamias, Education and the Quest for Modernity in Turkey (Chicago: The University of Chicago Press, 1966).

realization of this policy or ideal. Since the establishment of the Republic there has been a permanent commitment to the spread of education and to the expansion of educational opportunities for all parts of the country and all segments of the population.

In order to evaluate to what extent the policy of expansion of education has been achieved, Kazamias studied growth in education in terms of amount and level of schooling available for the relevant age cohorts, and the extent to which certain traditional, geographical, and socio-economic factors continued to play an important part in educational attainment and in opportunities available for the population. In order to assess more fully the progress in expansion of education, his investigation was based on indicators of comparative growth of girls' and boys' education, of the geographical distribution of these in a rural and urban dichotomy, and of the socio-economic background of the pupils who attended the schools in the school year of 1962-63. He found the following:¹

1. School attendance on the part of girls had consistently lagged behind that of boys. In the school year 1923-24, there were 63,000 girls attending public and private elementary schools, but in 1961-62 the number rose to over 1,200,000. According to figures available in 1963, in only nine provinces was the female pupil enrollment in rural elementary schools 45 per cent or over. In

¹Ibid., pp. 159-206.

23 provinces the percentages of girls was 30 per cent or less, and in three provinces it was less than 20 per cent (Adiyaman, Hakkari, Mardin). The average for Turkey as a whole was estimated to be 36 per cent.

2. The sharpest rural-urban disparities were evident in post primary levels of schooling (orta school and lycees). Almost all these schools were located in towns and cities and the students enrolled in them were predominantly urban in origin.

In the study of lycees, 76 per cent of the boys and 92.5 per cent of the girls described themselves as from an urban origin. On another index, 91 per cent of the boys and 98 per cent of the girls indicated cities and towns as parental place of residence. The majority of lycee students came from localities of over 20,000 inhabitants, which represented only 18 per cent of the total population of Turkey. The dominant urban character of the lycees student population was further evidenced by the fact that in the 1962-63 school year about 38 per cent of total enrollments in public lycee were in three provinces which were mainly urban--Istanbul, Ankara, Izmir.

3. On the question of social origins of lycee students, it was found that lycee students were overwhelming urban in origin, and even within the "urban" category they were recruited from relatively large towns and cities.

4. About 40 per cent of students in public lycees and about 32 per cent in the private Turkish lycees had fathers classified as professional, high technical and managerial, and high and low administrative and clerical, and yet these occupational categories constituted only 5-6 per cent of the male population of Turkey. This shows that the lycee group was not only urban, it was also a socially select group. Only 30 per cent of the students in all four types of lycees were drawn from categories of private traders, small businessmen and the like, who constituted over 70 per cent of the male labor force.

5. In the sample of lycee students, three major occupational categories were most heavily represented (23.6 per cent official, 23 per cent trade, and 22 per cent professional). Combining official and professional, 44 per cent of the students were drawn from white collar occupations, in comparison to 17.5 per cent who were drawn from the ranks of skilled and unskilled workers and trade and small business.

All these figures become more meaningful if they were interpreted against the background of the distribution of occupation in Turkey as a whole. It was clear that the professional and official occupational groups were over represented, the agricultural category under represented. The farmers, fishermen and related groups constituted over 60 per cent of the entire male population, but less than 10 per cent in the sample indicated that their fathers

were engaged in such occupations. On the other hand, 44 per cent of the students indicated that their fathers belonged to official and professional groups, yet such occupations constituted only 5.5 per cent of the male population of the country. From these findings Kazamias concluded that there were inequalities of access into the academic lycees in Turkey. In his terms, "although lycee is a socially selective institution it is by no means exclusively an elite school." Yet taken in conjunction with the urban-rural variable, it also shows that the children of urban traders, small business people and such, had greater chances for a lycee education than their rural counterparts.¹

Eastmond's Studies²

In 1964, N. J. Eastmond studied the distribution of educational opportunities on the basis of data collected by the Ministry of Education and by the State Statistical Institute in terms of distribution of enrollments, teaching force, and financial resources in the 67 provinces. His analysis revealed significant differences between geographical regions and especially between the provinces of West

¹Ibid., p. 174.

²N. J. Eastmond, Educational Opportunity in Turkey 1964. A Source Book of Facts on Education and Analysis (Ankara: M.O.E., Test and Measurement Bureau, 1964).

and East. In the light of his findings he concluded that:¹

While progress has been dramatic in the recent history of Turkey, not all Turks shared in this progress. In fact, the nation can be roughly divided in half geographically and the western half can be shown as highly favored educationally while the eastern half suffers from a widespread denial of educational opportunity. It is with the peasant, low-income people in sparsely settled areas that Turkey's cultural revolution is proceeding most slowly. Conversely in the more densely settled urban and wealthy areas of western Turkey, conditions for educational opportunity are greatest.

Eastmond estimated that if trends and conditions of 1964 continue until 1970 or 1975, an even more marked division will be apparent between the eastern and western parts of the nation. He further concluded that in widening these differences the proportions may become such that national unity and possibilities for further national progress may be seriously impeded. In his findings the nature of the differences are quite striking:

It should be shocking indeed to realize that in modern Turkey ones geographical place of birth can still make such a profound difference in his opportunities for being educated. That a citizen of Turkey may most likely be consigned to a life of ignorance because of his place of birth is a fact that should be hard to face by Turks in the 1960s.²

As can be seen from the statements above, Eastmond took a rather caustic view of an education system which operates in favor of the Western provinces. Specific

¹Ibid., p. 20.

²Ibid., p. 20.

findings of the study and the results of his indicators of educational opportunity are as follows:

1. In 1962-63 schools were not readily available to a large segment of the children and youth in Turkey. Of the 35,537 villages in the country, one in every three had no school of any kind.

2. At the time of the census in 1960, only two elementary school-age children out of every three were enrolled in school, only one middle school-age child out of every eight was enrolled in school, and only one lycee age child out of every fourteen was enrolled in school. These enrollment percentages were judged to be intolerably low by standards of any modern nation.

3. Of the relatively few youngsters who attended school in Turkey, the great majority were boys. Of every four students in the middle schools and lycees only one was a girl. The rural elementary schools enrolled approximately two boys for every girl, and in the urban elementary schools there were 15 per cent more boys enrolled than girls. In Eastmond's terms, these findings revealed a gross denial of educational opportunity on the basis of sex.

4. As far as holding power is concerned, schools of Turkey were very inefficient, having approximately one beginning student in every two drop out of middle school before graduation.

5. Teachers in lycees and middle schools, as is generally recognized, should be university graduates or

have equivalent preparation. The finding of his study disclosed that only 23.8 per cent of teachers in Turkey had this level of preparation during the 1963-64 school year. In ten provinces fewer than 10 per cent of the teachers were adequately prepared, and in three of these provinces not a single secondary teacher was a university graduate. There appeared to be some tendency for higher percentages of university graduates to be found in the northwestern provinces.

6. In 1964, most secondary school teachers (63.5%) were pedagogical institute graduates with the equivalent of about two years of university training. About one fourth of these teachers (23.8%) were university graduates, and one-tenth (10.3%) had only a secondary school education. Nearly 92.7 per cent of the elementary school teachers in Turkey had in 1960 completed a senior secondary level education. Eastmond weighed the provinces in terms of the indicators of facilitators of good schools (urbanness, semantic advantages, lightness of educational load, lack of pressure from increase in population). Overall ranking of the provinces showed that eastern Turkey was markedly handicapped in comparison with western Turkey on a composite index of the various facilitators of good schools. Moreover, the eleven provinces most "endowed" with these facilitators lay exclusively in the northwest sector of the country. The eleven provinces least "endowed" or most severely handicapped on these factors lay exclusively in

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the far eastern provinces and tended to be concentrated in the extreme southeastern sector of the nation.

Tunc's Study of Equality of Educational Opportunity¹

In this study, the investigator tried to find the differences between what was intended by the 1961 Constitution to be provided in equalization of educational opportunities and what was realized in that respect in practice. In the study a great deal of documentation and interpretation of the related articles of the Constitution are presented. According to the author, freedom for education meant the right of the individual to fulfill his potentialities and his capacities in full, and this freedom is given to all citizens by the 1961 Constitution. For that reason, freedom to have education is one of the basic rights of every Turkish citizen. To recognize freedom for every individual meant that each individual has the right to enjoy that freedom equally, and freedom could only be realized through equality. In the 1961 Turkish Constitution equality as a legal entity meant that there will be no discrimination in realization of individual freedom on the basis of religion, language, sex, ethnic background, political thought and philosophical beliefs. The author is of the opinion that one cannot meaningfully discuss educational rights and freedom without

¹Tunc, op. cit.

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considering the means provided to implement those rights. She asserts that to leave it to the people to get their own education is an abstract phenomenon. Individuals alone cannot utilize all the opportunities which to a large extent call for substantial financial and material resources. To fulfill himself through education an individual has to demand it from the state. The 50th article of the Constitution makes the State responsible for realization of educational freedom for each individual. The 21st article lifts all the legal barriers, and Article 50, the financial and material ones. However, the State's duty in providing opportunities is limited to the sufficient capacity of the nation's economic and financial resources.

In her study, she stated the following as discrepancies between what is intended by the Constitution and what is realized in practice:¹

1. Compulsory and free education was realized in 3/4 of the primary school-age population, 17 per cent middle school age children were in school, and at upper secondary level only 10.4 per cent of the school age population had the opportunity of being in school. A great majority of the school age population did not have opportunities to fulfill the right to have education because schools and teachers had not been provided sufficiently.

¹Ibid., pp. 212-214.

2. The stages where educational opportunities were very limited were those above primary levels. Fewer than 50 per cent of primary school leavers could continue their education.

3. Even though the State was supposed to provide scholarships and other means for those who did not have financial and economic capability, it seems that the State had failed to do so.

4. Political, geographical, social and economical barriers, and sex, were seen as the constraints against enlarging the opportunities at the primary level, and these constraints became increasingly strong after 1960.

Other Studies

Other studies have dealt with regional differences in origins of students taking entrance examinations to the university and to the science lycee. From a study by Cemol Mihcioglu, the following table provides data on average scores for lycees by regions on the University Entrance Examination in the 1965-1966 school year.¹

As can be seen from Table 1, in those regions which stand ahead of other regions socially and economically, and in regions where the most populous cities of Turkey are located (Marmara, Ege, IcAnadolu), it is apparent that the numbers of students, the ratios of successful students,

¹Cemil Mihcioglu, Entrance to University and Our Lycees (Ankara: Ankara University, Publication of the School of Political Science, No. 278, 1969), p. 144.

TABLE 1.--Average Scores for Lycees on the University Entrance Examination by Region.

Region	No. of Lycees	No. of Lycee Graduates taking the Exam	No. of Successful Students on Exam	Success per Thousand	Average Score
Marmara	81	9,157	2,893	315	360.7
Ege	32	4,264	1,175	275	356.2
İc Anadolu	37	9,124	2,712	297	255.5
Karadeniz	21	3,889	782		
Akdeniz	23	4,583	754	164	330.3
Güney Doğu Anadolu	8	1,622	271	167	328.5
Doğu Anadolu	14	2,567	350	136	311.0

and the average scores on the test were higher than in other regions. Furthermore it was found that the most successful lycees on the University Entrance Examination were located in Ankara, Istanbul and Izmir and were all in the western, more developed part of Turkey. The least successful lycees were in the eastern part of Turkey. The study also revealed that in general the foreign private lycees were the most successful.¹

Another study conducted by the Test and Measurement Bureau of the Ministry of Education provided an evaluation of the entrance examination scores for the Science Lycee in the years 1964, 1965, 1966.²

¹Ibid., p. 144.

²The Characteristics and Success of Students Who Took Science Lycee Entrance Examination in 1964, 1965, 1966 (Ankara: M.O.E. Test and Measurement Bureau, 1968).

In the study, the investigators developed a measure of expected success on the entrance examinations based on the aggregate average of the number of students who entered the examination over total students in the last grades of middle schools. The Science Lycee entrance examination consists of a sequence of two "elimination" or "screening" tests.

The study showed that a number of students who succeeded in the first elimination tests exceeded the expected number of successes in the provinces of Ankara, Istanbul, Izmir, Bursa, Eskisehir and Manisa; whereas in Agri, Bingol, and Gumushane no student was ever successful. The former provinces constitute the most populous and developed ones in Turkey.

In the three provinces of Ankara, Istanbul and Izmir, where the populations constituted 25 per cent of the total third grade middle school population, 44 per cent of the students took the tests.

On the second screening examinations, 53 per cent of those who succeeded came from the three provinces of Ankara, Istanbul and Izmir.

Over the three year period, 63 per cent of the students who entered the Science Lycee also came from those same cities, even though they enrolled only 25 per cent of the total last year students in middle schools. In terms of regional differences, averages for 1964, 1965 and 1966

were in favor of the regions of Ankara, Istanbul and Izmir, as can be seen from Table 2.

TABLE 2.--Expected and Actual Success on Science Lycee Entrance Examinations by Regions-Average of 1964, 1965, 1966.

Regions	Expected to take Exam (%)	Taking Exam (in %)	Success on Exam (in percentages)	
			Level I	Level II
Ankara (Middle Northwest)	17.9	26.1	30.5	31.0
Ege (West)	16.1	19.2	22.5	22.0
Marmara (Northern West)	18.9	15.0	22.0	33.5
Akdeniz (South)	11.7	9.0	6.7	4.0
Northern East	5.1	3.3	1.5	0.7
Southern East	3.8	4.1	2.0	1.3
Black Sea	10.5	8.0	5.5	2.7
Middle East	8.3	8.1	4.2	1.3
Middle West	7.7	8.0	5.1	3.0

The Ankara, Ege, (Izmir-Aegean) and Marmara (Istanbul) regions had the largest shares in number of successful students, appreciably exceeding the expected averages. The ratios for the rest of the regions were below the expected figures. This means that students of middle schools of the most populated and developed areas were better equipped for passing the Science Lycee Entrance Examination. On the basis of the findings of the study, it was concluded that educational opportunities were not the same and differences were large in the quality characteristics of the school leavers and the schools among the

provinces and the regions. As a matter of fact, in some of the schools in eastern provinces there were no science teachers whatsoever. As a result, it would be natural to expect that the graduates of those schools would fail on tests loaded heavily with science matters.

Another interesting finding is that those who score higher on the Science Lycee entrance examinations come from families at higher socio-economic levels. Forty seven per cent of qualified entrants came from private and foreign private schools, where in most cases the school program extends to a four year inclusion of the one-year preparation class, whereas public middle school is of three year duration only.¹

Bohnhorst's Study²

Bohnhorst's study intended to show in general how the distribution of primary and secondary level services are differently distributed among the sixty-seven provinces of Turkey. He provided several map charts showing how geography and population characteristics combined with distribution of enrollments and services. His data were based on population distributions in the 1965 census and school statistics of the 1968-69 school year from the files of Ministry of Education. Bohnhorst was concerned with a

¹Ibid., pp. 21-24.

²Ben A. Bohnhorst, "Profiles of Distribution of Educational Services in Turkey," in 6th Semi-Annual Report, Appendix E, National Educational Research and Planning Project (Ankara: USAID, 1970).

question which has important implications for educational policy:

In achieving universal primary education there has been effective progress since 1963 toward this goal. Are the efforts equally distributed over the nation as a whole? Are there problems in one region more acute than in another? Are there differences in opportunity at primary and secondary levels? Differences among regions may pose real conflicts between the twin goals of rapid expansion and equalization of opportunity. Where best spend limited funds?

Dealing with accomplishments at the primary level he found the following:¹

The nine provinces with lowest primary enrollment rates are all contiguously clustered in the southeast corner of Turkey. The next five lowest provinces are also contiguous to them and lie immediately adjacent.

In his conclusion he states that both geographical and social conditions may combine to retard growth of primary school enrollment rates in the south and in the east.

Regarding orta and lise level enrollments the three most populous provinces (Istanbul, Ankara and Izmir) have the highest level enrollments. Southeastern provinces tend to have the lowest ratios. In his overall findings, he found that the profiles of enrollments, school buildings, school classrooms, size of schools, and students per population show basic differences between patterns of development for primary and for secondary education. At the primary level, in order to achieve the goal of universal

¹Ibid., Appendix E.

primary education, a strong effort to distribute the services to relatively less densely populated areas is observed.

In this respect, he sees that increased migration to urban centers, and extending services into the south-east provinces with difficult terrain and climate and lower levels of concern for social development, are problems which will continue to confront efforts for achieving universal primary education. Dealing with development at secondary levels, he observed that numbers of centers or districts are emerging which appear to serve "as spear heads." According to his findings, these centers tend to be associated with population concentration.

On this point he further hypothesizes that these centers may function as "service areas," or that the emergence of these areas of concentrated secondary-level development may be a function of a general pattern of population migration in Turkey, or that development of secondary schools in a particular area may possibly serve as a kind of lodestone attracting immigrants to that area.

Summary

Discussions of equality or educational opportunity are largely loaded with moral considerations. Both equality, being one of the ideals of democracy, and the great emphasis which democracy places on the individual's rights and the need for the realization of these rights,

urge nations to take necessary actions. Education has been conceived as the most important sphere for the realization of these rights and of the individual's self development.

Education also plays an important role in democratization and in economic and social developmental processes. Preparation of manpower required for the economy, and development of basic skills, knowledge, and attitudes of a nation are considered to comprise the important responsibilities of an educational system. Some see that an approach to education as a means for manpower requirements contradicts the ideals of equality of educational opportunity. Some, on the contrary, claim that investment in education as a means to satisfy manpower requirements is not a one-way process, instead, this economic necessity makes it possible to mobilize new reserves of talent. The importance of fully developing the talents of young people, which is important in its own right, quite apart from economic needs, is reinforced by the imperatives of economic development. However the discussions of equality versus efficiency in a system may proceed, there is clear evidence that education is one of the determinants of social mobility and of social justice.

Increasing demand for education in developed and developing countries makes the realization of equality of educational opportunity an important issue. Another important point in this line is that some of the obstacles

to providing educational opportunity to all are deeply rooted in the society. Realization of equal educational opportunity should be achieved in cooperation with equalization efforts in other social sectors of the society. Educational reforms for achieving equality have to be accompanied by social reforms.

Recent studies of the relationship between education, social stratification and the economy urge policy makers to create environments in which everybody should have a chance to develop his capacities in full. The new concept of ability as a variable, determined largely by environmental factors, has had strong implications for the definition and provision of equality of educational opportunities.

The meaning of the concept of equality of educational opportunity has changed from (a) opportunity to attend the same school to (b) provision of schools with same quality characteristics for all, to (c) assuring that people of equal ability should have an equal opportunity to attend school, to (d) the provision of opportunity to acquire academic skills and enrichment for children of all social classes, to (e) providing equality in effects of schooling.

In the Turkish society, education has been the basic social distinction. To be educated is established in Turkey as a local right as well as a social right. In the national development plans, realization of social

justice is stated as the real aim. The plans have given special directions and provisions for education in terms of equality of educational opportunity. Assessments of the realization of equal opportunities throughout the country have revealed great differences between western and eastern regions of the country. The secondary schools are dominated by children of urban areas and children of professional families.

Political, geographical, social and economic barriers, and sex are the chief constraints against enlarging school opportunities. On entrance examinations to university and the science lycee, students from the most populous provinces scored higher.

Regions in the more developed sections of Turkey had the largest shares in the number of successful students who had access to universities and the Science Lycee.

CHAPTER III

DESIGN OF THE STUDY

The present study is descriptive in nature. Growth of and differences in educational opportunities among the provinces between 1960 and 1970 are studied in quantitative terms. In light of the main questions specified in Chapter I, this chapter indicates the types of data gathered, the methods and procedures for collecting the data, and the techniques of analysis employed.

Methods and Procedures for Gathering the Data

Sources of Data

In this study geographical regions and provinces were considered the units for observation and analysis. For the first and second main questions (see Chapter I, page 4), all provinces were included in the study. For the third main question, which is related to student background characteristics, fifteen geographic regions of the country were taken as the units of analysis.

The data for the analysis of differences of school opportunities at primary and secondary level among the

provinces and for the explanation of the differences in terms of socio-economic variables were taken from the publications of the State Statistical Institute. Educational statistics for the year 1970 were obtained from the files of several general directorates of the Ministry of Education.

The data related to population characteristics were obtained from the Census Reports for the years 1960 and 1965.

The data on student background characteristics were obtained from questionnaires distributed to nationwide samples of students in the lower and upper secondary schools of Turkey.

The educational publications of the State Statistical Institute are based on reports sent by school directors at the beginning and end of each school year. All educational data presented here was based on data for the beginning of the school years 1960, 1965 and 1970. The reliability of the data is largely dependent upon the efficiency of the reporting system of each school and the honesty of the school directors. Data obtained from the publications of the State Statistical Institute were checked against the data and files of the Ministry of Education. There were no major discrepancies between these two sources.

1970 data from files of the Ministry of Education similarly were checked against the latest publication of

the State Statistical Institute on 1970-71 school statistics and were found to be comparable.

The processing of the data was done on desk calculators and on the 1620 IBM computer in the PAKD. The raw data were transformed into percentages and ratios by PAKD personnel. Two groups, working separately, checked the data; the first group's calculations were rechecked by the second group. All the calculated national averages were also checked with the averages of the original data. Only small differences and errors due to the rounding of the figures were allowed. The reliability of official statistics is limited by the efficiency and quality of the reporting system from schools into the central offices in the capital of Turkey. The data presented were gathered from the only legal sources available.

Sampling

The data on socio-economic background characteristics of lower and upper secondary school students were obtained from questionnaires administered to two independent samples: one for the lower secondary school population, and the other for the upper secondary school population. The school was the unit for drawing the samples. The design of the sample and the sampling procedures were as follows:

1. The samples were taken so as to be representative of lower and upper secondary school populations of

the country as a whole and of the fifteen geographic regions defined in Appendix A.

2. Schools in each geographic region were stratified according to the type of school locations: schools in the capital city of the province; schools at the administrative centers of townships (Kaza); and schools in the villages. Students enrolled in those schools would be represented in the sample proportionately.

3. The school (lower secondary or upper secondary) was the basic sampling unit. From each school, one first grade and one third grade was included in the sample. Fifty students was arbitrarily set as the maximum class size.

4. A stratified proportionate cluster sampling procedure was employed in drawing the sample.

On the basis of the points specified above, the following steps were taken:

1. Taking into consideration the available time and the capacity of the data processing facilities, it was decided that arbitrary sample sizes of 2½ per cent for the lower secondary student population and 5 per cent for upper secondary would be large enough. The maximum size of the sample for lower secondary was 20,300 students, and 12,500 for upper secondary (figures based on 1969-1970 enrollment data of the Ministry of Education).

2. Turkey was divided into fifteen regions, and each region's share in percentage of total students was

calculated. Thus the number of students to be included in the sample for each region was determined. (See Appendix A.)

3. The student population in the regions was stratified in terms of the location of the schools, and the proportion of the students for each school location was then calculated, multiplying the percentage proportions of school locations by the total number of the students who would be drawn from each school location. (See Appendix A.)

4. In order to find the number of schools from which students would be drawn, the number of students included in the sample for each school location for a particular region was divided by 100. By doing so, the number of schools for each type of school location and the total number of schools to be included in the sample for a region were determined. (See Appendix A.)

5. After determination of the number of schools, the lists of the schools for each school location of a region were prepared. In that list each school was given a number. From those lists, by using the table of random numbers, the particular schools were selected. The list of the schools included in the sample are shown in Appendix A.

Finally, 203 schools were selected randomly from lower secondary schools, and 125 from upper secondary schools.

Instruments of Data Collection

Two questionnaires--one for lower secondary students, the other for upper secondary students--were prepared. The questionnaires asked information about birth place, characteristics of family residence, educational level of parents, father's occupational status, and previous schools attended by the students. The two questionnaires were parallel except that the questions related to previous educational experience of the students necessarily differed for lower and upper secondary students. In the process of construction of the questionnaires, the following procedures were employed:

1. A first draft of each questionnaire was submitted for criticism to ten persons who had previous teaching experience in secondary schools. They commented on the way the questions were presented and on clarity of meaning and style of wording. Two test construction experts from PAKD also checked the questionnaires from a technical point of view. The questionnaires were revised in the light of the constructive criticisms received.

2. The second draft questionnaires were administered in first and third classes of five middle schools and five lycees in Ankara. During the administration of the questionnaires, the students were instructed to raise questions with regard to ambiguity of statements, miswordings, or style of writing. Both questionnaires appeared to work very well. Therefore, final drafts of the questionnaires were prepared. (See Appendix A).

Collection of the Questionnaire Data

One hundred questionnaires were sent by mail to samples of schools selected randomly as described above. A formal official letter from the Undersecretary of the Ministry of Education accompanied the questionnaires.

The latter requested school directors to be responsible for the administration of the questionnaire according to instructions given on the first page. Administration was to take place in the classroom under the supervision of teachers.

The size of the sample required that 20,300 questionnaires be sent to 203 lower secondary schools and 12,500 questionnaires to 125 upper secondary schools. The returns were 180 out of 203 for lower secondary schools and 111 out of 125 for upper secondary schools. A few schools returned their questionnaires after the deadline of April 15, 1971, but these were not included in the data. The rate of return was considered to be satisfactory.

A few questions were included in the questionnaires to check the consistency and reliability of the reporting of the students. The location of the school reported by the student was checked by means of coded information on the locations of the schools which had been developed by the investigator. In the case of middle school students, 11.32 per cent of the students reported villages as the location of their schools, whereas schools actually in the villages constituted 9.17 per cent, according to the prepared code.

At the lycee level, 6 per cent of the students reported the village as the location of their schools, whereas in the sample there is no upper secondary school coded as having its location in a village. These differences arose mainly in the urban areas of Istanbul and Izmir, where the locations probably had village status but in coding were accepted as towns. The data were corrected and the differences reduced to .007 per cent-- i.e., almost to zero.

Two other questions which checked each other were in the location of the primary school from which the student had graduated and the number of teachers in that primary school. Twenty seven and twelve one-hundreds per cent (27.12%) reported that they had finished a village primary school, and 27.28 per cent also reported that their primary school had fewer than five teachers (which meant that they were graduates of a village primary school). This difference was a very minor one. On the basis of these observations therefore it was accepted that very insignificant factual discrepancies might have occurred in the students' reporting, and that any which did occur might have been due to coding or other incidental errors.

The sample averages were also checked against the population averages with respect both to girls' portion in total enrollments and to portions of students at different school locations. The differences were insignificant. They varied from 1 per cent to 1.5 per cent.

Measured Techniques of Analysis

Growth Index

In order to point out the differences in growth in school opportunities, the provinces were put into categories in terms of level of development in school participation in 1960, 1965, and 1970 where the 1960 national average was given an index value of 100. Since all the index values for the provinces for 1960, 1965 and 1970 were based on the index value of 1960 (which is equal to 100) they were comparable to each other.

Multiple Regression Analysis

In order to explain the differences in growth of educational opportunities in the context of demographic changes, of educational attainment levels of population, and of socio-economic level of the provinces, the technique of multiple-regression analysis was employed.¹ The purpose for using multiple-regression analysis was to provide more refined measures for explanation of differences in educational growth among provinces by utilizing more than one variable at the same time, and to see the factors and combination of the factors which best explain the variance. In the analysis the school participation ratios for 1960,

¹The computer program used for multiple-regression analysis was based on the formulation by M. A. Efroymison in Mathematical Methods for Digital Computers, edited by Anthony Relston and Herkest S. Wilf (New York: John Wiley & Sons, 1965), pp. 191-203.

1965 and 1970 in terms of number of students per thousand school age population were taken as dependent variables, and urban population, population with maximum primary education, population with minimum lower secondary education, male population engaged in agriculture per thousand population, and density of population per unit of area were taken as independent variables.

Measures for 67 provinces were included in the analyses. A fixed arbitrary F-Ratio was used for adding and eliminating variables, based on 65 degrees of freedom for the denominator and the number of variables in the regression minus one for the numerator, for stepwise multiple-regression analysis.

Study of Student Characteristics by Region

Finally, a study of student characteristics employed two special measures. First, a classification of father's occupation was developed, based mainly on the classification used in the 1965 Census. Secondly, a classification of regions was developed, based on one developed by the State Planning Organization. The SPO's classification provides 19 sub-regions, but the number of regions in this study was reduced to fifteen by combining four of the SPO's sub-regions with other regions. The reason for this was that the teacher training schools draw their students from surrounding areas and regions. In order to adjust the sub-regions to the surrounding areas of teacher training schools,

the Marmara region, which is constituted of three sub-regions, was treated as a single region; the Sivas region was combined with Kayseri; and Kenya was combined with Ankara. (See Appendix A.)

CHAPTER IV

ANALYSIS

Introduction

The analysis of the data is presented in two parts in this study. In the first part, here in Chapter IV, the findings are reported in line with the three main questions of the study as stated in Chapter I; in the second part in Chapter V below, the findings are discussed and the main conclusions of the study are drawn.

In the following sections of this chapter the findings related to the three main questions of the study are presented.

In Section A the differences in availability of school opportunities and the differences in growth of school opportunities are analyzed. In Section B the explanation of those differences by socio-economic factors are presented. Section C mainly deals with socio-economic background characteristics of the students in the secondary school in 1970.

SECTION A

Differences in Educational Opportunities
in Public Primary and Secondary Schools

This section mainly deals with the analysis of the data related to the first and second main questions of the study. In more specific terms, answers are sought and analyzed for the following questions:

1. Are there differences in school participation ratios among the provinces in 1960, 1965 and 1970?
2. Are there differences in the share of girls' in total enrollments among the provinces in 1960, 1965 and 1970?
3. Are there differences in average number of pupils per primary school teacher and per secondary science teacher among the provinces in 1960, 1965 and 1970?
4. Are there differences in growth of school participation ratios, in girls' share in total enrollments and in student-teacher ratios among the provinces between 1960 and 1970?

The differences in school opportunities are first presented for primary schools and then for secondary schools.

Differences in Primary SchoolsSchool Participation

"School participation ratio" is operationally defined as the percentage of the relevant

age group of children enrolled in schools (age 7-12 for primary schooling).¹ This is an overall index officially used for establishing investment priorities and specifying long term targets in the developmental plans for all levels of schooling. It is a powerful index in practice, with wide policy implications. For that reason the analysis concentrates on this measure.

In order to point out differences in school participation (among the provinces), they were grouped into four school participation categories. Their geographical positions are shown at the same time on the attached charts for 1960, 1965 and 1970 (see Figures 1, 2 and 3). Since there was no province with a ratio as low as 20% or below, the first category constitutes those provinces with participation ratios of 40% or below. The second group included the provinces with ratios between 40% and 60%; the third group includes those with ratios between 60% and 80%; and the provinces with ratios of 80% or more constitute the fourth group.

¹Even though the ages of 7 and of 12 are accepted officially as the lower and upper limits of the relevant age group for primary schools, in practice children over 12 years of age could attend the schools. Today there are over-aged children in primary due to the repetition of grades by pupils and to the fact that in villages some children enter school at late ages. The enrollment figures utilized here are not adjusted for over-aged children because of the lack of accurate information on the distribution of pupils by actual ages. For that reason, the relevant age group is simply herein defined to cover six single ages, even though primary school is of five years duration.

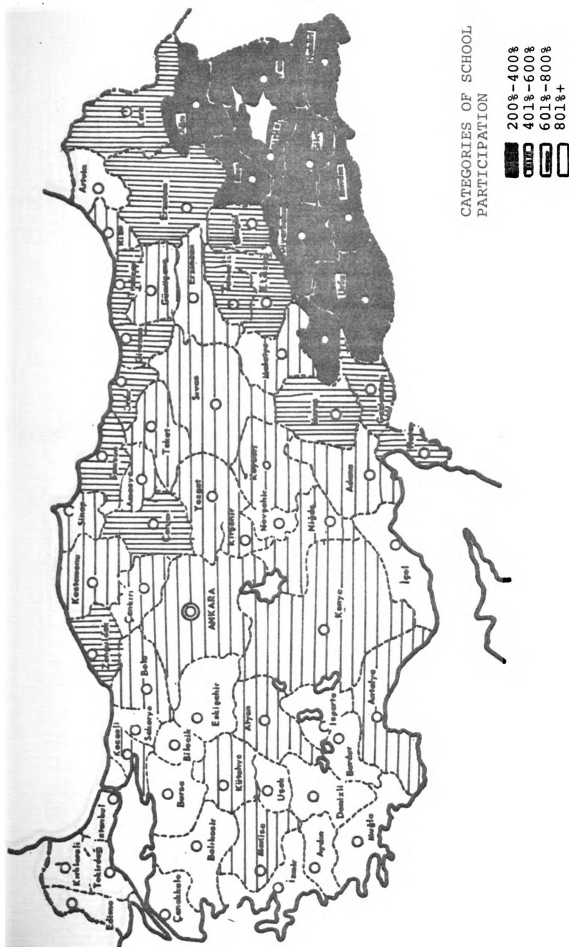


FIGURE 1.--Primary Schools - 1960.

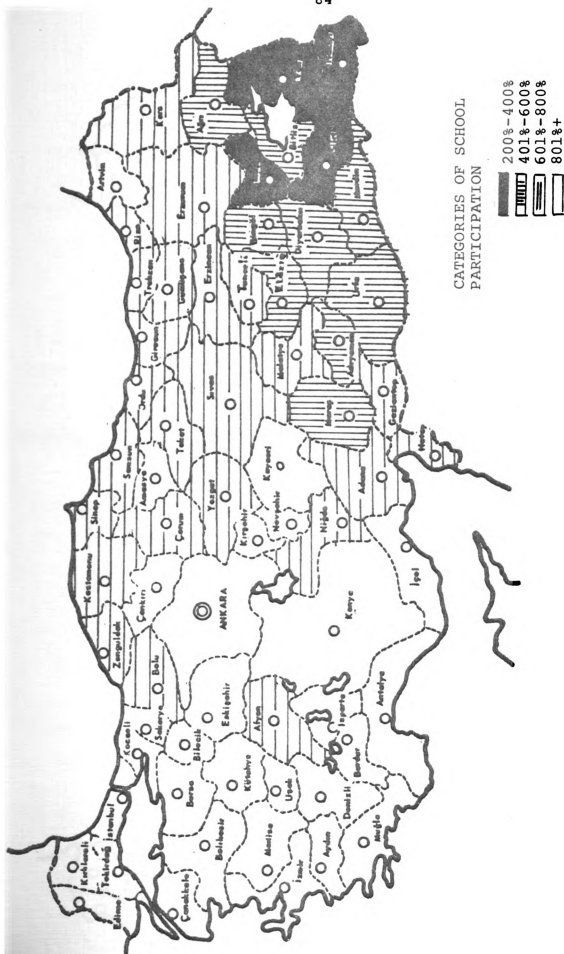


FIGURE 2.--Primary Schools - 1965.

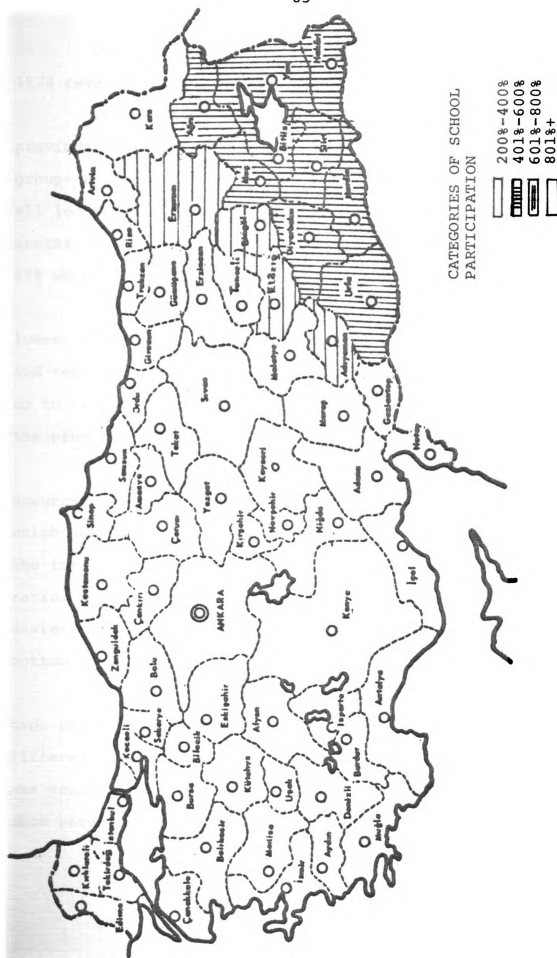


FIGURE 3.--Primary Schools - 1970.

Comparison of the chart maps for 1960, 1965 and 1970 reveals the following results:

In 1960 (see Figure 1), nearly one-third of the provinces had ratios above 80%. The provinces in this group--with exceptions of Artvin, Nevsehir and Icel--were all located in the western part of the country, whereas another one-third of the provinces which had ratios below 60% were all located in the eastern part of the country.

In 1965 (see Figure 2), eight provinces in the lowest category had moved to the next higher group (40%-60%), and ten provinces from the third group (60%-80%) had moved up to the fourth group; but the same differences between the provinces in the west and in the east remained.

By 1970 (see Figure 3), substantial increases occurred in school participation ratios for those provinces which had had ratios 60% or below in 1965. Four-fifths of the total provinces in 1970 had ratios above 80%. However, ratios for the 13 provinces which constituted the southeastern section of the country remained in one of the two bottom categories.

The overall summary for changes in school participation ratios is given in Table 3. In 1960 the range of differences was greater than for either 1965 or 1970. In ten years (1960-1970), differences in ratios of participation were reduced to relatively small proportions in 80%

TABLE 3. --The Distribution of Provinces by Primary School Participation Ratios in 1960, 1965 and 1970.

School Participation Ratio Groups	1960		1965		1970	
	N	%	N	%	N	%
80% or more	20	30	30	45	54	81
Between 60%-80%	24	31	25	37	4	6
Between 40%-60%	13	19	10	15	9	13
40% or less	<u>10</u>	<u>20</u>	<u>2</u>	<u>3</u>	<u>-</u>	<u>-</u>
TOTAL	67	100	67	100	67	100

of the provinces, but the differences between the provinces of the southeastern section of the country and the rest remained great even in 1970.

Categories of Development

In order to throw more light on differences in patterns of growth in school participation ratios, and to reflect better the overall changes in the provinces between 1960 and 1970, another grouping of the provinces was developed. The provinces were put into categories in terms of level of development in school participation for 1960 and 1970, wherein the national average of 1960 was used as the base and given an index value of 100. Four levels of development in school participation were then defined:

1. First Level: school participation equal to or below the 1960 national average.
2. Second Level: between the 1960 and 1965 national averages.
3. Third Level: between the 1965 and 1970 national averages.
4. Fourth Level: equal to or above the 1970 national average.

Since all the index values for provinces in 1960, 1965 and 1970 were based on the index value of 100 for 1960, all categories thus became comparable to each other. Thus, in 1960, though some provinces were below average, some were already high enough above average to surpass the 1970 level. Conversely, in 1970 some provinces were still low enough to continue to fall below the 1960 average.

The distribution of the provinces in developmental categories in the decade 1960-1970 is shown in the following table, which reveals the following results:

1. In 1960 there were 31 provinces (almost half of the 67 provinces) below the 1960 national average. Ten of them were still below the 1960 national average in 1970 and they remained at the first level of development. By 1970 two of the 31 which were below average in 1960 had moved into the second level, ten to the third level and the remaining nine to the fourth level. Each of these

TABLE 4.--The Distribution of the Provinces by Development Categories in Primary School Participation in 1960 and 1970.^a

1960	1970				Total Provinces
	First Level ^b Development	Second Level Develop- ment	Third Level Development	Fourth Level Development	
First Level Development	HKR(12) ^c BTL(14) SIR(37) URF(41) BIN(14)	DIY(36) AGR(29) MRD(38) VAN(22) MUS(33)	EIA(30) TUN(36) KRS(36) MAR(53) GIR(44)	ECN(33) MLT(37) YZG(35) TKT(41) KTM(42)	ZON(40) HTY(50) BOL(44) COR(54) KTH(48)
(Equal or below 67.1%)					32
Second Level Development			ADN(20) AFY(15)	IZM(4) KON(23) CKR(33) NIG(32)	SNP(40) SIV(44) KOC(28)
(Between 67.1%-75%)					11
Third Level Development			MNS(9)	ART(14) BRS(19) KYS(25) ANK(25) BRD(15) AMS(37)	KIR(36) ICL(21) IST(21) AYD(48) BAL(70) NEV(38)
(Between 75% and 86.1%)					13
Fourth Level Development				MUG(0) SAK(9) CNK(7) EDN(11) DEN(23) USK(28)	BIL(3) TEK(6) KRK(37) ESK(18) ISP(3)
(Equal or above 86.1%)					11
TOTAL	10	2	15	40	67

^aThe national average school participation ratio for 1960 was 67.1%; for 1965--75%; 1970--68.1%; index values are 100, 111, 128 respectively.

^bFirst level development 1960 average or below; second level, between 1960 and 1965 averages, third level, between 1965 and 1970 averages, fourth level, 1970 average or above.

^cThe numbers in parenthesis show each province's growth in terms of index values 1960-1970.

latter nine provinces had achieved in ten years an increase in participation greater than the national average increase.

2. There were 11 provinces in the second level in 1960. Four of those had moved to the third level by 1970. The rate of increase in those provinces was less than the national average increase in ten years. The other seven at the second level in 1960 had moved up to fourth level by 1970.

3. Twelve of the 13 provinces in the third category in 1960 had moved up to fourth level by 1970. One province (Manisa) remained in the third category where it had been in 1960, representing little or no growth in school participation.

4. The provinces which were already at the fourth level in 1960 kept the same category in 1970 also (that is, none of them experienced a decrease in school participation).

5. According to these index values, a 28-point increase occurred in the national average (19% increase in per cent terms) from 1960 to 1970. With exceptions of four provinces (Hakkari, Bitlis, Bingol and Van) all the provinces which were in the first level in 1960 achieved an increase in school participation more than the national average.

The highest increases occurred in the first level provinces which moved up to the fourth category in 1970. These increases ranged from 33 to 54 index points. The second largest set of substantial increases occurred in the provinces which moved from the first up to the third level of development. These increases ranged from 30 to 53. In the provinces which were still in the first level of development category in 1970, increases in index values ranged from 12 to 41. The most substantial increases (more than 40 index points) occurred in Adiyaman, Trabzon, Ordu, Giresun, Gaziantep, Samsun, Tokat, Kastamonu, Zonguldak, Hatay, Bolu and Corum. With two exceptions all these provinces moved up to third level at least. Of the large gainers, only Urfa and Adiyaman remained in first and second levels of development respectively.

Differences in Girls' Share in Total Enrollments

The portion of the girls in total enrollments is directly related to the level of school participation ratios. This index provides substantial information for understanding the nature of development in school participation. In Turkey, to attract more girls to schools, where traditional parents may be reluctant to send their daughters, has been one of the more important tasks confronting the educational system.

In 1960, 37.1% of the pupils in public primary schools were girls. This percentage was 39.2% in 1965 and 42% in 1970. In Table 5 the provinces are put into categories according to their respective index values for 1960, 1965 and 1970, all of which are based on an index value of 100 given to the 1960 national average of girls' enrollments. These are the same developmental categories used above in the case of school participation. Results obtained from investigation of the data in Table 5 are as follows:

1. In 1960 there were 40 provinces below the national average and in the first level of development. By 1970, 16 of the 40 still remained in the first category; nine had moved to the second level; another nine had moved to the third level of development; and only six out of the 40 had moved up to above the national average of 1970.
2. There were 14 provinces either in the second or third level of development in 1960. By 1970 all of them had moved up to the fourth level of development.
3. Thirteen out of 67 provinces (approximately one-fifth of the total) were already in the fourth category in 1960, and remained in the same category in 1970.
4. In 1960, 13 provinces were at the fourth level, 23 at the third level and 27 at the second level of development. However, in 1970 the number of provinces in the fourth level and the third level more than doubled

TABLE 5.--Portion of Girls in Total Enrollments in 1960 and 1970 Primary Schools (figures in parentheses show increase 1960-1970 in index value).

Girls Portion in 1970		First Level Development		Second Level Development		Third Level Development		Fourth Level Development		No. of Provinces	
Girls Portion in 1960											
First Level Development	HAK (22) AGR (4) URF (9) ADY (37) SIRT (2) ELA (15)	TRA (36) MND (11) BIN (14) DIY (1) GZN (25)	MUS (12) VAN (4) BIT (-4) MAR (26) ORD (27)	GIR (34) KRS (24) HTY (23) EZC (20) SVS (28)	MLT (24) TUN (27) RIZ (19) EUM (9)	COR (10) ZON (20) TKT (11) GUM (16) SAM (21)	BOL (12) NIG (21) KST (12) YZG (28)	KYS (26) CKR (17) ADFN (19)	AFY (25) NEV (28) KIR (23)	40	
(Equal or Below 37.1%)											
Second Level Development											4
(Between 37.1%- 39.2%)								ANP (15) KON (20)	ANT (28) AMS (30)		
Third Level Development										10	
(Between 39.2%-42%)								KTH (10) USK (17) SAK (12) KOC (14) ISP (9)	ART (10) ICEL (15) ANK (16) DEN (17) MNS (13)		
Fourth Level Development											13
(Equal as above 42%)								BIL (9) BRD (9) MUG (3) BRS (9) EDN (7) ESK (8) CSK (1)	IZM (4) BAL (0) IST (0) AYD (11) KIRK (13) TEK (6)		
Number of Provinces		16		9		9	9	33		67	

reaching 33 in the fourth level and 42 at least in the third level.

5. Changes in index values ranged from 4 to 37 points. The average increase for the nation as a whole was 13 index points. Even though some provinces achieved increases twice as great as the national average increase, they remained in the same developmental levels from 1960 to 1970.

Among the provinces which were in the first level of development, increases ranged from -4 to 37. Ten provinces in that category had increases lower than the national average. Most of the provinces in the second level and in the third level experienced substantial increases in ten years of time and moved upward to higher categories. Bitlis was the only province to suffer a decrease (-4 index points) in portion of girls' enrollments, and it was still in the first level of development in 1970.

Differences in Pupil-Teacher Ratio

Pupil-teacher ratio--the number of pupils per primary school teacher--is taken here as one of the indicators of educational opportunity. The existence of the teacher is a crucial factor in provision of primary school opportunities, since in most of the schools the single method of instruction is by pupil-teacher interaction. Availability of a teacher is seen also as the minimum basic

requirement for providing school opportunities. On the average, the pupil teacher ratio was 50 in 1960 and 42 in 1970. Both averages seem high when compared against international standards. The aim of the State is to lower this ratio to 35 or 30 in the long run. Nevertheless in the ten years 1960-1970 the initially very high ratios were lowered considerably throughout the country.

When the pupil-teacher ratios were analyzed in terms of school participation ratios it was found that in twenty provinces which had school participation ratios above 80% in 1960, pupil-teacher ratios were also high, higher than the national average in most of the cases. On the other hand, in the ten provinces which had school participation ratios lower than 40% in 1960, for all cases (with the exception of one province--Adiyaman) the pupil-teacher ratios were lower than the national average. These facts are given in Tables 6 and 7 below.

Comparison of the two tables shows that in the provinces where school participation ratios were 80% or more in 1960, the pupil-teacher ratios lowered considerably in ten years time; but on the contrary in provinces with low participation in 1960 the pupil-teacher ratios went up between 1960 and 1970. In general it was observed that in provinces where the school participation ratios increased considerably during the 1960s, pupil-teacher

TABLE 6.--Pupil-Teacher Ratios for Provinces with School Participation Ratios Above 80% in 1960.

Provinces	Pupil-Teacher Ratio for 1960	Pupil-Teacher Ratio for 1970
Denizli	79	44
Edirne	63	35
Burdur	60	42
Nevsehir	58	49
Usak	57	42
Tekirdag	57	39
Kirklareli	53	35
Isparta	52	32
Balikesir	52	39
Izmir	50	38
Aydin	50	36
Icel	49	38
Eskisehir	48	34
Sakarya	47	41
Mugla	45	39
Bingol	47	36
Bilecik	44	38
Canakkale	42	34
Artvin	41	33
Istanbul	39	42

TABLE 7.--Pupil-Teacher Ratios for Provinces Which had School Participation Ratios Below 40% in 1960.

Provinces	Pupil-Teacher Ratio for 1960	Pupil-Teacher Ratio for 1970
Agri	48	44
Adiyaman	52	57
Bitlis	33	42
Mus	45	48
Mardrn	46	48
Van	36	48
Urfa	41	53
Siirt	40	44
Hakkari	25	33

ratios also had gone up. On the other hand in provinces where quantitative expansion had already been realized before 1960, the pupil-teacher ratios of the 1960s tended to reduce in the decade.

Differences in School Opportunities Among Secondary Schools

Lower Secondary Schools

Differences in school opportunities among the secondary schools were analyzed in terms of school participation ratios and average number of students per science teacher. Lower secondary schools in this study included the students of middle schools, of girls' middle school and of the first level of theological schools. The students who were at the first level of teachers' training school were not included, since those students are not usually the residents of a particular province.¹ In the analysis the same methodological approaches were used as for primary schools in the pages above.

¹Primary Teachers' Training schools are mostly free boarding schools. The students in those schools are selected on the basis of Entrance Examinations. In most cases they are not residents of the province where the school is located. For that reason the student population for both lower and upper levels of these schools were not included in the student population of the study referred to in this section.

School Participation

In 1960 18.9% of the relevant age group (ages 13 to 15) were reported to be in the public lower secondary schools. This ratio was 20% in 1965 and 31.0% in 1970.

Greater increases occurred on the average between the year of 1965 and 1970 than between 1960-1965. The increase in terms of per cent ratios was 1.1 in the first half of the decade and 10.1 in the second half.

The relative position of the provinces on the ratio scale and geographical locations are shown in the chart-maps for 1960, 1965 and 1970 (see Figures 4, 5 and 6). The following results may be drawn from investigation of the charts:

1. In 1960, in the most populous and developed provinces where the largest cities are located, the school participation ratios were above 30%. Only one-fifth of the provinces had ratios between 20%-30%.

2. The ten provinces of the southeastern section of the country had the lowest ratios. Provinces with high ratios were concentrated mainly in the western part of Turkey. However, in contrast to the development at primary school levels, there were provinces in each of the various sections of the country which had considerably higher school participation ratios, such as Elazig and Artvin of the east, Adana and Hatay of the south, and Bilecik, Ankara and Usak of the central sections of Turkey.

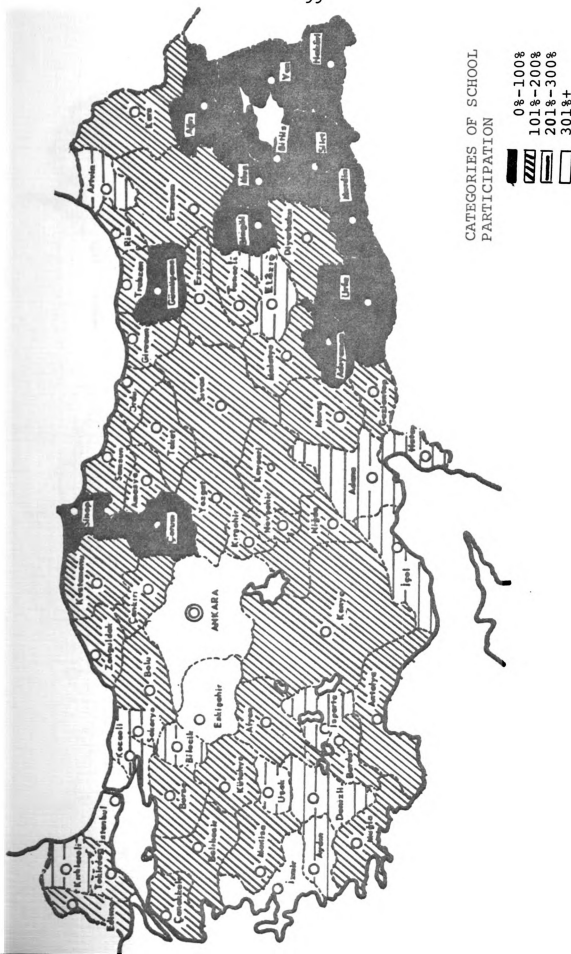


FIGURE 4.--Lower Secondary Schools - 1960.

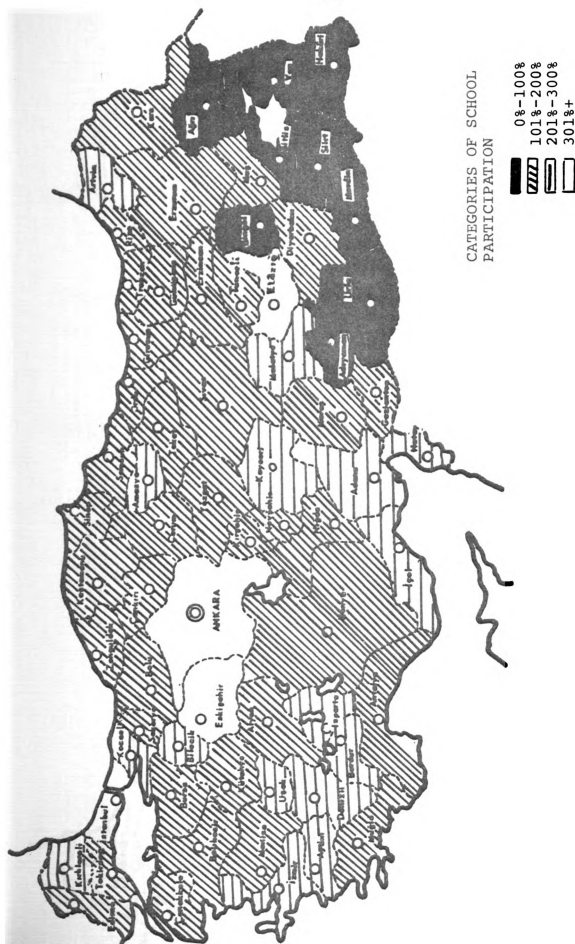


FIGURE 5.--Lower Secondary Schools - 1965.

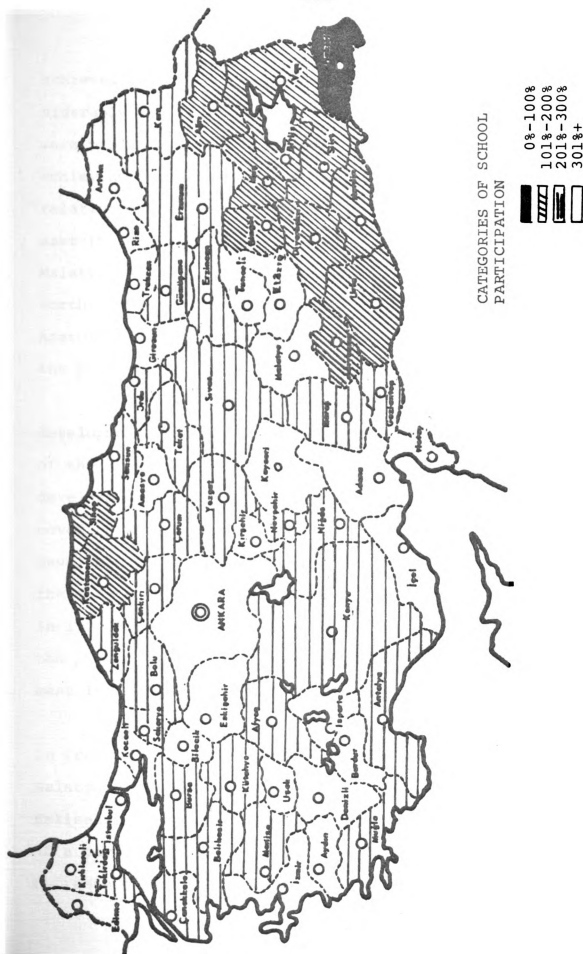


FIGURE 6.--Lower Secondary Schools - 1970.

In 1970 the number of provinces which had achieved ratios equal to or above 30% had increased considerably and in several sections of the country there were provinces which dominated their surrounding areas in achieving increases in school participation ratios. The relative number of high-ratio provinces increased in the eastern section of Turkey: Artvin, Elazig, Tunceli and Malatya in the east; Trabzon, Giresun and Rize in the north; Ankara, Kirehir, Usak and Kayseri in central Anatolia. Each of these provinces had more increase than the provinces in their surrounding areas.

When the provinces were compared in terms of their developmental levels, it was found that in 1960 two-thirds of the provinces (46 in number) were in the first level of development. In ten years of time two-thirds of these had moved up either to the third or the fourth levels of development. The provinces of the southeastern section of the country all remained in the first level of development in 1970. With exceptions of Balikesir and Sakarya, all the provinces which had been at second and third development levels in 1960 had moved up to fourth level by 1970.

During the decade, the highest increases occurred in Trabzon, Tunceli, Giresun, Kutahya, Nevsehir, Amasya, Malatya, Rize, Burdur, Kocaeli, Artvin, Denizli, Usak, Eskisehir, Hatay, Icel and Ankara. There was no dominance of a particular section or sections of the country in the increase of lower secondary school enrollments.

TABLE 8.--The Distribution of the Provinces by Developmental Levels in Lower Secondary School Participation in 1960 and 1970.^a

1960	1970				Total			
	First Level Development	Second Level Development	Third Level Development	Fourth Level Development				
First Level Development	ADY (47) ^c AGK (48) BIN (37) BLT (51) DIY (31) HKK (31)	MUS (30) SIR (52) SNP (25) UKF (38) VAN (28)	KTM (48)	KOW (54) TRB (86) SVS (67) AFY (68) ANT (54) BOL (78) BRS (55) CNK (66) CKR (61) KRS (62)	ZON (41) TUN (93) TEK (61) EDN (75) EZC (67) EUM (58) GZN (47) GIR (89) GUM (70) SAM (50)	YZG (41) TKT (56) KTH (86) MUS (41) MAK (68) MUG (66) NEV (81) NIG (51) ORD (51)	AMS (109) MLT (87) KIZ (86)	
(Equal or below 18.9%)								
Second Level Development (Between 18.9%-20.1%)			BAL (30)	BRD (84) KIR (80)	KYS (73)			46
Third Level (Between 20.1%-31%)			SAK (30)		EIA (77) USK (131) ESK (87) BIL (55) ICL (81)	IZM (41) KRK (55) AYD (68) ISP (63)		15
Fourth Level Development (Equal or above 31%)				ANK (93)	IST (64)			2
TOTAL	12	1	32	22				67

^aThe school participation ratios for 1960 was 18.9; for 1965--20.0; 1970 was 31; index values were 100; 105; 164.

^bFirst level 1960 average or below, second level between 1960 and 1965 national averages; third level between 1965 and 1970 national averages respectively; fourth level, 1970 average or above.

^cThe number in parentheses show index values in growth.

Upper Secondary Schools

For comparison of differences in upper secondary schools, all types of public secondary schools are included in the student population referred to here, with exception of the students at primary teachers' training schools.

In 1960, 6.6% of the relevant age group (between ages 16 and 18) were reported to be enrolled in upper secondary schools. This ratio was 7.5% for 1965 and 13.2% for 1970. The average participation ratio was doubled in ten years and the highest increase occurred between 1965 and 1970. The relative position of the provinces on the ratio scale in geographical location are given in the chart maps for 1960, 1965 and 1970 (see Figures 7, 8 and 9).

As may be seen from comparison of the chart maps, in 1960 only two provinces were above 15%. By 1970 almost one-third of the 67 provinces moved up above 15%. The number above 10% rose from two to 27 provinces between 1960 and 1970. In almost all provinces substantial increases occurred. In Artvin, Denizli, Kirsehir, Kocaeli, Usak, Zonguldak, Hatay, Icel, Adana, Elazig, Eskisehir, and Kayseri, the increases were the highest in the country.

Clearly increases in secondary school participation occurred throughout Turkey. Provinces which were in more central positions and were more developed with respect to their surrounding provinces dominated the increases. These were Elazig and Maltya of the east, Trabzon and

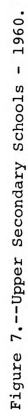


Figure 7.--Upper Secondary Schools - 1960.



Figure 8.--Upper Secondary Schools - 1965.

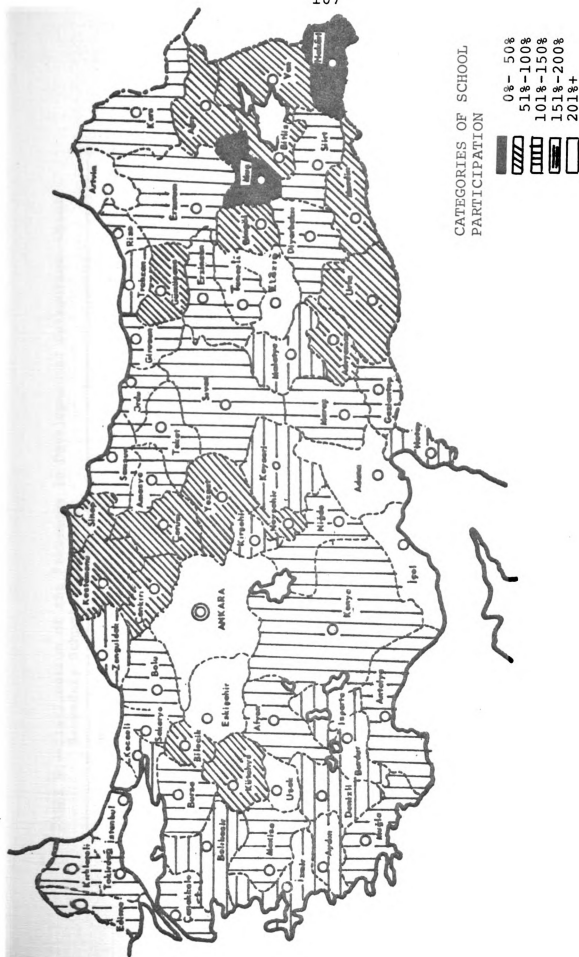


FIGURE 9.--Upper Secondary Schools - 1970.

TABLE 9.--Distribution of the Provinces in Developmental Categories--Upper Secondary Schools, 1970.

1970		First Level Development	Second Level Development	Third Level Development	Fourth Level Development	Total
1960						
First Level Development (Equal or below 6.6%)	ADY BIN HKR MUS SNP	AGRI	KON SAK AFY COR KTH SAM AMS DIY MNS SIR ANT ECZ MAR SVS BAL GIR MRD TEK BIL GUM MUG TKT BIT KRS NEV TUN BOL KTM NIG URF BRD EDN ORD VAN CNK KRK RIZ YZG CKR EUM	ART DEN KIR KOC USK		52
Second Level Development (Between 6.6%-7.5%)			GZN	BRS HTY ICL MLT TRA		6
Third Level Development (7.5%-13.2%)				ADN IZM ELA KYS ESK AYD ISP ANK		8
Fourth Level Development (Equal or above 13.2%)				IST		1
TOTAL	5	1	41	20		67

^aThe school participation ratios for 1960 were 6.6%; for 1965, 7.5%; 1970 was 13.2%. Index values were 100; 114; 200.

^bFirst level development 1960 average or below; second level between 1960 and 1965 national averages; third level 1965 and 1970 national averages; fourth level 1970 average or above.

Artvin of the north, Adana and Icel of the south and Kayseri and Eskisehir of the central part of the country.

When the provinces were compared in terms of developmental levels in school participation it was found that:

1. In 1960 there were 52 provinces in the first level of development. Ninety per cent of those moved up to the third level by 1970, but the provinces of the southeastern section of the country remained at the first level.

2. Provinces which were at the second and third levels of development in 1960 (with the exceptions of one--Gaziantep) all moved up to the fourth level, and the highest increases occurred among these provinces. These provinces occupied central position in their regions or sections of the country. They were the more urban, more commercial and more industrially oriented provinces.

This evidence indicates that upper secondary school development occurred largely in central cities of the provinces of Turkey.

Differences in Student-Science Teacher Ratios in General Secondary Schools

Student-science teacher ratios are taken as quality indicators at lower and upper level general secondary schools. At the present time in Turkey the shortage of qualified science teachers is an acute problem. It has

been very difficult to attract the graduates of science faculties to teaching jobs and to hold on to those who have already been teaching in the profession.

Science teachers vary in their educational qualifications. Some are graduates of the universities. Most of them were trained at secondary teachers' training institutions. Science teachers with university education are usually assigned to posts at upper secondary schools. The others with education from teachers' training institutes (so called institutes of education) are assigned both to lower secondary and upper secondary schools.

Upper Secondary Schools (Lycees)

In Table 10 the student-science teacher ratios for teachers with university education¹ are presented:

TABLE 10.--Distribution of Provinces by Students per Science Teacher with University Training at Upper Secondary Lycee 1970-71.

Student-Science Teacher Ratio	Number of Provinces (N=67)
Equal to or less than 100	9
101-125	24
126-150	23
151 or above	11
AVERAGE for Turkey = 125	

¹The teachers in this category include teachers with subject matters of mathematics, physics, chemistry and biology.

The best student-science teacher ratio was 67 in the 1970-71 school year. Only nine provinces had ratios under 100. In more than 50% of the provinces the ratios were above 125--the national average. In one province (Bitlis) the ratio was 530.

Total Secondary Schools

A second ratio was examined, based upon the number of the science teachers regardless of their educational background and total number of secondary students including both the middle and upper secondary levels. The classification of ratios are shown in Table 11.

TABLE 11.--Distribution of Provinces by Student-Science Teacher Ratios in Total General Secondary Schools (Middle Lycee).

Student-Science Teacher Ratio	Number of Provinces
Equal to or less than 100	1
101-150	19
151-200	20
201-250	12
250 +	15
AVERAGE for Turkey = 171	

The best student-science teacher ratio was 100, and in only one province. In 19 provinces ratios ranged from 101 to 150. In more than two-thirds of the provinces ratios were above 250.

The best ratios relative to the national average were in Hakkari, Cankiri, Sinop, Aydin, Mugla, Izmir, and Canakkale. The worst ones were in Bitlis, Kars, Van, Amasya, Tunceli, Adana, Elazig, Rize, Urga and Hatay.

In upper secondary schools the worst ratios were in Kocaeli, Nevsehir, Van, Trabzon, Bingol, Malatya, Erzurum, Rize and Adana. The best ratios relative to the national average happened to be in Edirne, Hakkari, Manisa, Izmir, Ordu and Cankiri.

In more specific terms, there were no teachers with university training for physics, chemistry and biology in three provinces (Bingol, Bitlis, Bilecik). In 1970 in seven provinces such teachers were lacking for two or three subjects and in 20 provinces one of the three subjects.

Summary

In Section A of the preceeding analysis, the differences in school opportunities and the differences in increase of school opportunities in terms of school participation ratios were analyzed for both primary and secondary schools in 1960, 1965 and 1970. For the comparison of the differences two types of categorization were utilized. First, the differences in school participation ratios were analyzed in categories of actual percentage points. Second, they were analyzed in developmental

categories based on the national averages of 1960, 1965 and 1970, where the 1960 national average was given an index value of 100, and four developmental categories were defined. The first level included provinces which were below the 1960 national average participation ratio; the second level included provinces with ratios between 1960 and 1965 national averages; the third contained those between the 1965 and 1970 national averages; and the fourth level included provinces with participation ratios above the 1970 national average. The comparisons in terms of categorization of the provinces revealed the following results:

1. There were inequalities in school participation ratios and in girls' share in total enrollments among the primary schools. Those inequalities, even though reduced to a great extent between 1960 and 1970, remained substantial throughout the decade.

2. The gap between the provinces in the fourth level of development and the first level of development remained almost the same from 1960 to 1970. The provinces with lowest school participation ratios were found in the southeastern section of the country.

3. The share of the girls in total enrollments was closely associated with the differences in school participation ratios.

4. The western provinces seemed to develop first, and then development moved into the eastern sections of the country.

5. Increase in school participation ratios in less developed provinces were not equal. Some profited more from the expansion of school opportunities.

6. A determined effort for leveling off the differences among the provinces was evident throughout the decade. The highest increase generally occurred in those provinces which were below the 1960 average in 1960.

7. It seemed that low participation ratios in the provinces of the southeastern section of the country was not largely due to a shortage of teachers. Factors other than availability seemed to inhibit growth in that particular area. Almost all the provinces with low ratios in school participation also had low rates of pupil-teacher.

8. At the lower secondary school the difference in school participation ratios between the most populous provinces and the rest of the country was great. This pattern of inequality was even more apparent in the case of upper secondary schools.

9. At the secondary level these provinces which stood in central positions economically with respect to their surrounding areas tended to have higher participation ratios in comparison with other provinces.

10. There was a scarcity of qualified science teachers in almost all provinces of Turkey. There were some provinces which had no qualified teacher of physics, chemistry or mathematics in the upper secondary schools.

The inequalities observed in 1960 for the country as a whole levelled off by 1970 to a considerable extent at primary and secondary levels.

SECTION B

Explanatory Factors of the Differences in School Opportunities

Introduction

This section is devoted to providing answers to the second main question of the study, dealing with socio-economic factors related to differences in school opportunities.

As described in the preceding section, there were substantial differences in school opportunities among the provinces in 1960, 1965 and 1970. The inequalities in school participation ratios were more apparent at secondary school levels. During the 1960s, secondary enrollments doubled and tripled in many cases. The increases in enrollments were not evenly distributed throughout the country. There were provinces which profited greatly from what had been provided. At the primary level, 1960 differences in school participation ratios leveled off to a

considerable extent by 1970. At the secondary level, on the other hand, certain provinces persistently benefited more from participation increases. In short, the patterns of development in terms of school participation ratios had unique forms at both primary and secondary levels.

In order to provide better than "common sense" answers to the question of which factors are most closely related to the observed differences, special attention has been paid in this study to socio-economic factors, by examining them through means of statistical analysis.

Socio-economic factors, as conventionally believed, are the factors which either may inhibit or foster rapid increase in school opportunities. In the case of Turkey, there has been a determined policy of leveling off the differences throughout the country. In the era of planned development "the principle of creation of equal opportunities to all" had considerable weight in establishing the investment priorities.

In this line, the following proposition may be put forward: "If a determined policy of leveling of the differences or creating equal schooling opportunities did exist and was in fact implemented fully in the decade of the 1960s, then the association between socio-economic factors and school participation ratios would be less apparent by 1970, in comparison with 1960."

A second proposition would be that through time socio-economic factors would have decreasing explanatory values for the differences in school opportunities. In other words, if the differences existed among the provinces, these differences could better be explained by factors which are not socio-economical but attitudinal or socio-psychological, such as desire and need of people for education.

In this line of thought it was intended to see whether the socio-economic factors which tended to associate with school participation ratios in 1960 would still tend to associate to the same degree in 1965 and 1970. Also it was intended to see whether the differences in school participation would associate more with urbanization, density, economic activity, and educational attainment level of the population; or whether on the contrary, these factors would have no substantial relation with the differences because of the determined efforts of the government in leveling off the differences among the provinces. In this connection the following hypotheses were formulated:

Hypothesis 1: In the more socio-economically developed provinces of the country, school participation ratios will be higher relative to the school participation ratios of the other provinces in 1960, 1965 and 1970. Conversely, in the relatively less developed provinces of the country, where the population is more rural and scattered and the educational attainment level of the population is low, the school participation ratios would tend to

be low. If this proposition is correct then the most of the variance in school participation ratios would be explained by socio-economic variables.

Hypothesis 2: If the policy of leveling off the differences in school opportunities has been realized in terms of investment and in terms of other measures throughout the country, then the association between the differences in school participation ratios and socio-economic variables will tend to diminish from 1960 to 1970. (This pattern should be especially strong at primary school levels where a more determined policy of leveling off the differences has existed.) If this proposition is correct, then the school participation differences among provinces would be relatively independent of socio-economic factors.

Hypothesis 3: If socio-economic factors do tend to explain considerable amounts of variation in school participation ratios, the ones among those factors which have to do with the desire of the people for education and the need for education would have more explanatory value. In this connection it was hypothesized that the educational attainment level of the population would have more explanatory value than the other socio-economic variables.

In order to test these hypotheses, multiple regression analysis was employed. The results of the analyses are a function of the definition of the variables. The following independent variables were utilized in the analysis.

Independent Variables

- Variable No. 1 Urbaneness: Urbaneness is defined as the number of persons per thousand population living in urban areas.¹
- Variable No. 2 Density: This is a measure of scatterness based on the number of persons per square km.
- Variable No. 3 Educational Attainment, Level I: This variable is defined as the number of educated persons with maximum primary education per thousand population.
- Variable No. 4 Educational Attainment, Level II: This is defined as the number of educated persons per thousand population with minimum lower secondary education.
- Variable No. 5 Volume of Population: This variable is defined as the portion of total population of Turkey in each province.
- Variable No. 6 Economic Activity in Agriculture: This is defined as the number of males over 15 years of age engaged in agriculture per thousand population.

Dependent Variables

- Variable No. 7 School Participation Ratio: This is defined as the number of children enrolled in school per thousand school age children in relevant age groups.

For each school level and for each year, a different school participation ratio as dependent variable was utilized.

In the multiple-regression analysis, as was noted in Chapter III, the step-wise multiple-regression analysis

¹For the criterion of urban area, the definition of the State Statistical Institute was used. The definition includes those living in the capital centers of the provinces and those living in the district centers.

technique was utilized. In this technique, the variable which had the highest correlation with the dependent variable automatically entered first into the regression analysis. In the following steps, the entrance of a variable into the regression was based on the partial multiple regressions among the variables.¹

Explanation of the Differences in
School Participation Ratios at
the Primary Level

In line with the main propositions and hypotheses formulated above, more specifically the following hypotheses were formulated and tested for the differences at primary level.

Hypothesis 1: The association between the school participation ratios and socio-economic variables will tend to decrease from 1960 to 1970.

Hypothesis 2: The educational attainment level of the people in provinces will explain more of the variance in school participation than the other variables, but its effects will tend to decrease from 1960 to 1965 and from 1965 to 1970.

In order to test these hypotheses step-wise regression analyses were executed for 1960, 1965 and 1970, where the school participation ratios for each respective year acted as the dependent variable along with the

¹For more complete information on methodology, see Appendix

independent variables specified above. The analysis produced the following results:

TABLE 12.--Multiple Regression Analysis for 1960 Primary Schools (N=67).

Steps in Analysis	No. of the Variable Entered in Regression	Per cent Additional Variance Accounted for by the Variable Entered	R ²	F Value
I	3	86.1	.86	
II	6	5.1	.91	
III	2	.5	.92	

Minimum F Value: 2.37 at .05 level for 5,65 degrees of freedom.

TABLE 13.--Intercorrelation Among Variables for 1960.

Variable	1	2	3	4	5	6	7
Urbanness	1.00	.61	.53	.68	.72	-.91	.33
Density		1.00	.40	.60	.69	-.65	.20
Educational Att. I			1.00	.55	.37	-.61	.93
Educational Att. II				1.00	.59	-.67	.39
Vol. Population					1.00	-.69	.19
Agriculture						1.00	-.39
School. Part. 1960							1.00

As indicated in Table 12, in 1960 Variable 3 (Educational Attainment, Level I) accounted for more than 85% of variance in primary school participation ratios. In some cases 5% additional variance was accounted for by Variable 6 (Economic Activity in Agriculture). The investigation of the correlation matrix indicates that

educational attainment had a very close association with the dependent variable. The correlation coefficient for that association was .93, which was the highest among all. The differences in school participation ratios neither associated with urbaneness, nor with agriculture as economic activity. Only the level of educational attainment had a large and substantial explanation of the variance in school participation in 1960. In the same analysis executed for 1965, with the 1965 figures, the same variable (Educational Attainment, Level I) entered into regression and accounted for 62% of the variance due in school participation ratios for 1965. None of the remaining independent variables entered into the regression, i.e., the variance remained unexplained, was 38%, and in all the correlation coefficients decreases were observed¹ in comparison with the 1960 coefficients.

In the same sort of regression analyses for 1970, it was also found that educational attainment entered the regression alone, but this time explained only 49% of the variance in school participation ratios for 1970. None of the other variables entered into the regression.

The findings confirmed the hypotheses that only the educational attainment level of the population would

¹For additional statistical information see Appendix C, where additional tables of correlation coefficients are included.

associate with the differences in school participation ratios for 1960, 1965 and 1970, and it explained much of the variance in those ratios. Nevertheless the association between educational attainment and school participation ratios, and the amount of variance explained by that variable reduced considerably between 1960 and 1970.

Explanation of Differences in School
Participation Ratios in Lower
Secondary Schools

In the case of differences in school participation ratios among lower secondary schools, it was hypothesized that even though substantial increases in enrollments occurred throughout the country, the differences in school participation ratios would tend to associate with urbanness, density, and agriculture as economic activity. In this line it was hypothesized that the differences in lower secondary school participation ratios for 1960, 1965 and 1970 would be mainly due to the differences in urbanness, or in those factors related to urbanness, such as density or agriculture as economic activity.

The step-wise regression analysis revealed the following results:

1. For 1960, the correlation coefficients between independent variables and dependent variable ranged from .33 to -.56; for 1965 from .22 to .41; for 1970 from .16 to -.40.

2. In the step-wise multiple regression analysis for 1960, only agriculture as economic activity entered into the regression and accounted for only 31% of variance. For 1965 only population with minimum secondary education entered into the regression and accounted for 17% of variance. In 1970, as shown in Table 14, agriculture as economic activity, urbanness, educational attainment, and volume of population, in combination in that respective order, accounted for 44% of variance in school participation ratios, but the larger part of the variance still remained unexplained.

TABLE 14.--Multiple Regression Analysis for 1970 at Lower Secondary Level (N=67).

Step	No. of the Variable Entered in Regression	Per cent Additional Variance Explained by the Variable Entered	Multiple Regression Coefficient R^2	F^1 Value
I	6	16	.16	12.03
II	1	12	.38	22.3
III	4	4	.42	4.5
IV	5	2	.44	2.6

Minimum F Value 2.37 at .05 level for 5,65 d.f.

This evidence suggests that socio-economic variables in combination had accounted more variance than in 1960 and 1965. But none of the variables accounted for an explanation of variance in very considerable amounts

TABLE 15.--Intercorrelations Among the Variables.

Variable	1	2	3	4	5	6	7
Urbanness	1.00	.59	.43	.85	.73	-.90	.16
Density		1.00	.25	.74	.72	-.65	.19
Educational Att. I			1.00	.50	.26	-.56	.21
Educational Att. II				1.00	.82	-.89	.22
Vol. Population					1.00	-.70	.18
Agriculture						1.00	-.40
School. Part. 1960							1.00

and the hypotheses were not substantiated at the lower secondary level.

Explanation of Differences in School
Participation Ratios at Upper
Secondary Levels

At the upper secondary levels, in line with the main hypotheses, it was specifically hypothesized that the differences in school participation ratios would tend to associate more closely with socio-economic variables, and that among those independent variables, urbanness or agriculture as economic activity would account for most of the variance due to the differences in school participation ratios.

Secondly, it was hypothesized that the explanatory value of the socio-economic variables would tend to decrease from 1960 to 1970.

The summary of the step-wise regression analysis for upper secondary in 1960 is given below:

TABLE 16.--Summary of Multiple Regression Analysis for 1960 School Participation Ratios.

Steps	No. of the Variable Entered in Regression	Per cent Additional Variance Accounted for by the Variable Entered	R ²	F Value
I	6	54	.54	77.08
II	3	3.6	.57	5.07
III	2	3.0	.60	4.91
IV	4	2.1	.62	3.46
V	1	1.8	.64	3.15
VI leaving	6	-.8	.64	1.47
VII	5	1.7	.65	2.97

Minimum F Value: 2.37 at .05 level for 5,65 d.f.

TABLE 17.--Intercorrelations Among Variables.

Variable	1	2	3	4	5	6	7
Urbanness	-	.61	.53	.68	.72	-.90	.71
Density			.40	.61	.69	-.65	.61
Educational Att. I				.55	.37	-.61	.59
Educational Att. II					.59	-.67	.47
Vol. Population						-.69	.48
Agriculture							-.73
School Part. 1960							-

As may be seen from the table of intercorrelations, Variable 6 (agriculture as economic activity 1960) and Variable 1 (urbanness 1960) had a common correlation coefficient of $-.90$. They each correlated with the dependent variable at values above $.70$. (The correlation

coefficient between Variable 6 and the dependent variable was a negative one). In the step-wise regression analysis, Variable 6 entered first and accounted for 54% of the variance. An additional 3.6% of variance was explained by educational attainment, 2% by density, etc. All the variables together accounted for 65% of variance, so 35% remained unexplained. In Step VI, agriculture as economic activity was replaced by urbanness, each of which had accounted for almost the same amount of variance. Any of two were more explanatory of the variance in school participation ratios for 1960, since nearly all the independent variables were well correlated with each other.

For 1965, the same factors as in 1960 analysis (Agriculture as economic activity, Density, and Educational Attainment, Level I) in combination accounted for 66% of the variance of the differences in school participation ratios for 1965.

In 1970, Variable 6 (agriculture as economic activity) and Variable 2 (density) in combination and in that order accounted for 47% of the school participation variance for 1970. The other factors (Educational Attainment, Levels I and II, and Volume of Population) did not enter the regression. A decrease was observed in the amount of variance accounted for by the independent variables.

The hypotheses at upper secondary levels tended to be confirmed. Differences in school participation ratios for 1960, 1965 and 1970 tended to associate with socio-economic variables. Closer association was observed between urbanness or agriculture as economic activity in 1960, 1965 and 1970. The variance accounted for by the socio-economic variables remained relatively constant for 1960 and 1965, and tended to decrease by 1970.

Explanation of Differences in Increases
in Total Enrollments Between
1965 and 1970

Throughout the analysis in Section A, it was found that increases in secondary school participation rates between 1965 and 1970 were greater than those between 1960-1965. The last half of the decade was the era of greater expansions of enrollments. For the present study, it was hypothesized that the great expansion between 1965-1970, in addition to efforts of the government to provide more school opportunities to all, was also related to socio-economic changes in the first half of the decade between 1960-1965. In more specific terms it was proposed that during the first half of the decade of 1960, the educational attainment level of the population increased so that education created its own demand and this contributed to the rapid increases in enrollments in 1965-1970.

In this line, it was hypothesized that the increase in enrollments at upper secondary schools between 1965 and 1970 would be associated with increases in educational attainment levels of the population between 1960 and 1965.

In order to test this hypothesis a step-wise multiple-regression analysis among the following variables was executed:

Independent Variables

Variable No. 1	Increase in urban population 1960-1965
Variable No. 2	Increase in population with primary education 1960-1965
Variable No. 3	Increase in population with lower secondary education 1960-1965

Dependent Variable

Variable No. 4	Increase in total enrollments at upper secondary school 1965-1970
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The analysis revealed the following results:

TABLE 18.--Summary of Regression Analysis of Increase in Enrollments 1965-1970 and Increase in Urbanization and Educational Attainment 1960-1965.

Step	No. of the Variable Entered in Regression	Per cent Additional Variance Accounted for by the Variable Entered	R^2	F Value
I	1	79.4	.79	25.0

Minimum F Value 3.15 at .05 level for 2,65 d.f.

TABLE 19.--Intercorrelations Among Variables.

Variable	1	2	3	4
1. Urban	1.00	.34	.23	.89
2. Primary Education		1.00	-.11	-.40
3. Lower Sec. Educ.			1.00	.26
4. Total Enrollment				1.00

The increase in upper secondary enrollments between 1965-1970 associated with increases in urban population 1960-1965, much more strongly than with the educational attainment variables. Increase in urbanization accounted for four-fifths of the total variance. None of the educational attainment variables entered into the regression because of the small values of the correlation coefficients. It seems clear that urbanization explained more of the variance in increase in enrollments at upper secondary school than educational attainment variables did.

Summary

In Section B of the analysis, the differences in school participation ratios were analyzed in the context of socio-economic changes in the provinces. Urbanness, density, educational attainment levels of the population (portion of the population with maximum primary education, portion of the population with minimum lower secondary education, volume of population, and agriculture as

economic activity by males were taken as indicators of socio-economic development of the provinces). The association and explanation of the variance in school participation ratios and the independent variables were analyzed by the technique of step-wise multiple-regression analysis.

At the primary level only the educational attainment level of the provinces (number of persons with maximum primary education per thousand population) explained 86% of the variance in 1960. The same variable alone explained 65% of variance in 1965 and 47% of variance in 1970. None of the other socio-economic variables had close association with the dependent variable.

At lower secondary levels, in 1960 and 1965, socio-economic variables explained small portions of the variance in school participation ratios, and by 1970 the socio-economic variables in combination could explain only 44% of the variance.

At upper secondary levels, however, two-thirds of the variance was explained by socio-economic variables in both 1960 and 1965.

The variable of agriculture as economic activity was the variable which accounted for most of the explained variance. This variable had a correlation coefficient with urbanness of $-.90$, and both also correlated highly with the dependent variable.

In 1970, the explanatory value of agriculture as economic activity dropped to 47%.

The variables of urbanness, agriculture as economic activity, and number of persons with minimum lower secondary education per thousand population, were the three of the six independent variables which had the better associations with the dependent variables.

Differences in secondary level school participation ratios were accounted for to a substantial extent by socio-economic variables.

SECTION C

Student Characteristics

Introduction

In this section the analyses of the socio-economic background characteristics of the students at upper and lower secondary schools are presented in line with the third main question of the study. The socio-economic background characteristics of the students were studied in terms of the following indicators:

1. Residential Background Characteristics--in terms of birth place of the student, current family residence, and the location of the primary and lower secondary school finished by the students.

All of these three indicators were identified by the type of administrative settlement: capital city of the province, district center, sub-district center, and village.¹

2. The Occupation of the Fathers' of Students--

For this purpose a classification of fathers occupations based on the classification of the Census Bureau was utilized (see Appendix A).

3. The Educational Attainment Level of the Fathers of Students--Here the classification of educational attainment levels developed by the Census Bureau is also utilized (see Questionnaires in Appendix A).

These indicators are treated in the analysis separately. Throughout the analysis it was intended to see whether substantial differences existed in access to further schooling after primary between the children of urban and rural families, of high level occupations and workers and farmers, and how these differences were distributed throughout the country.

¹Turkey is administratively divided into 67 provinces, and each province is divided into districts, districts into sub-districts, and sub-districts into villages. For each unit, administrative offices of the government and sub-branches of these offices are located in one of the cities, towns or villages. The capital city of the province and the district center usually constitute settlements which show the character of a city or large town. The sub-district center and village usually have village character or rural character. Those villages which are situated as suburbs of the big cities of Turkey are given town status in this study.

In the last part of the analysis, the results of a study done by Kazamias eight years ago were compared with the findings of this study in terms of the occupations of fathers of the students at public and private lycee, in order to see whether the occupational background characteristics of the fathers of students had changed in the eight years of time.

Residential Characteristics of Students

Upper Secondary Schools.--Residential characteristics of the students were identified in terms of type of the community where the students were born and where the parents of the students resided at the time when the questionnaires were administered. In the following table, the distribution of the students is given by birth places.

As may be observed from Table 20, 43% of the total public upper secondary students (totaling village and sub-district centers)¹ reported villages as their birth places.

There are differences in the birth places of students at different types of upper secondary schools. The most apparent difference is between public and private lycees. In the former, 37.4% of the students (totaling village and sub-district center) reported village as their birth places whereas 7.5% of the students at private

¹In the analysis village figures are the total of village and sub-district center.

TABLE 20.--The Distribution of Total Students in First and Third Classes of Upper Secondary Schools by Birth Place and Type of School (in percentages).

Birth Place by Type of Community ^a	Type of School					
	Public Lycees	Public Primary Teacher Training	Public Commercial Lycees	Public Boys' Technical Schools	Total Public Upper Secondary	Private Lycees
Village (Koy)	33.9	58.1	38.0	53.9	38.9	6.9
Sub-district center (Bucak)	3.5	4.0	7.5	4.2	4.1	1.6
District Center (small town, town, city)	25.4	22.3	19.3	16.3	23.5	15.2
Capital City of province (town-city)	37.1	15.3	35.2	25.5	33.3	76.1
No answer	.1	.3	-	.1	.4	.2
Per Cent	100.0	100.0	100.0	100.0	100.0	100.0
Number	6,287	1,067	975	835	9,164	1,168

^aType of community is defined in official administrative units. The first two (village and sub-district center) show village character; the other two (district center, capital of the province) have the character of town or city.

lycees did so. In the public upper secondary schools, 62.1% of the students in primary teachers' training, 58.1% in boys' technical schools, 45.5% in commercial lycees, and 37.4% in general lycees reported villages as their birth places. Among the fifteen regions of the country, differences in the percentages of students who reported villages as their birth places ranged from 30% to 72%. In the regions where the largest cities of the country are located, Izmir (Aegean), Ankara, and Istanbul, the percentages of the students with village origin (rural origin) were 39.6%, 32.7% and 30.3% respectively. In Antalya, Gaziantep and Samsun regions, approximately 50% of the students were from village origins. In Trabzon, Erzurum, Van, Zonguldak and Elazig regions, more than 50% of the students (the highest was Trabzon with 72.1%) reported villages as their place of birth.

Current Family Residence

Although birth place is one valid indicator of origin, there also has been throughout the country considerable population migration from villages to towns. Children born in rural areas might have moved to towns or cities along with their parents. For that reason, birth place also was analyzed against the current residence of the parents of students. In the following table (Table 21)

TABLE 21.--The Distribution of Students at Upper Secondary Schools (Total of First and Third Classes) by Birth Place and Current Family Residence by Types of School (in percentages).

Birth Place and Family Residence	Types of Schools					
	Public Lycee	Primary Teachers Training	Commercial Lycee	Boys' Technical School	Total Public Upper Secondary	Private Lycee
Birth Place Village	37.4	62.1	45.5	58.1	43.0	8.5
Family Residence	25.8	52.6	28.5	45.1	31.0	5.3
Birth Place Town	62.5	37.6	54.5	42.8	56.8	92.3
Family Residence	74.0	46.4	71.5	54.9	66.9	94.6
TOTAL Number	6,287	1,067	975	835	9,164	1,168

The per cent of the students who did not report their birth or family residence is not shown in the table. Those figures varied from 0.00 to .003%.

the current family residence and birth places of the student at upper secondary schools are presented together.

Village percentages for students' family residence are lower than the percentages for birth places. In the case of towns, just the reverse is true. The table clearly demonstrates that the families of some of the students who reported villages as their birth places had already moved into the towns and cities. In terms of family residence, the students with village family residence constitute the larger part of the student population in the primary teachers' training schools. In the boys' technical schools 45% and in general lycees one-fourth of the students are from rural family residential backgrounds. Private lycees draw 94.6% of their students from those with urban family residential backgrounds.

In Table 22, percentages of students with village family residence are given along with the per cent of total population who reside in the villages for each region.

According to tentative census figures for 1970,¹ 62% of the total population reside in villages. However, only 31% of the students at upper secondary schools reported villages as the family residence. This percentage goes down to 26 in the first and third classes of public lycees.

¹This ratio is based on the tentative report by the Census Bureau in 1970. The final Census report had not been published yet (in 1972).

TABLE 22.--Distribution of Public Upper Secondary Students with Village Parental Residence and Percentages of Total Village Populations by Regions.

Regions	Village as Parental Residence			
	Percentage of Population Residing in Village	Lycee I Class	Lycee III Class	Total Upper Secondary Schools (Public)
I Adana	53	29	28	32
II Ankara	54	14	13	15
III Antalya	68	28	38	31
IV Diyarbakir	65	21	9	24
V Aegean-Izmir	61	27	17	27
VI Elazig	70	40	59	36
VII Erzurum	73	41	43	42
VIII Eskişehir	66	28	16	36
IX Gaziantep	61	24	31	28
X Istanbul-Marmara	44	17	21	22
XI Kayseri	70	27	22	33
XII Samsun	76	30	40	34
XIII Trabzon	80	65	53	65
XIV Van	74	41	32	46
XV Zonguldak	76	20	29	38
TURKEY	62	26	26	31

There are variations in the regions with regard to the distribution of the population in rural areas. The share of the students from village parental residence is higher in the regions where the rural population ratio is higher than the national average. But in the most urbanized regions (Istanbul, Ankara, and Izmir) the shares of students from village family residential origin are very low. For instance, in the Izmir region 61% of the population reside in rural areas, but only 27% of the students at upper

secondary schools come from rural residential origin. These figures are 54% and 15% in the Ankara region, and 44% and 22% in the Istanbul region. In all three cases, the larger portion of the students reported urban areas as parental residence. The closest ratios of rural population and rural parental residence is found in the Trabzon region, where the rural population is 80%, and rural area reported as the student's parental residence is 65%. Great variation between these two indicators are observed in the regions of Istanbul, Ankara, Izmir, Gaziantep, and Diyarbakir.

Lower Secondary Schools.--One point in this analysis which should be taken into account is the degree of dependency of upper secondary enrollments upon middle (lower secondary) school enrollments. Low ratios for children from rural areas in upper secondary school might be due to non-availability of middle schools. The residential characteristics of the students of lower secondary schools were examined because participation rates in upper secondary may be determined to a great extent by the amount of output of lower secondary schools. In Tables 23 and 24 the residential backgrounds of students at lower secondary schools are presented.

In the 1970-1971 school year, more than 45% of the total students at first and third grades of lower

TABLE 23.--Distribution of Lower Secondary Students by Birth Place by Grades
(1970-1971) in percentages (N=15,937).

Grade	Village	Village District Center (Village)	Total Village	Small Town	Capital City	City Town Total	No Answer
Grade I	41.8	4.8	46.6	23.4	29.4	52.7	.6
Grade III	38.8	4.8	43.6	24.4	31.8	56.2	.2
TOTAL	40.3	4.8	45.1	23.9	30.6	54.5	.4

TOTAL 24.--Comparison of Percentage of Students at Lower and Upper Secondary Schools by Birth Place and by Current Family Residence.

Type of School	Born in Village (%)	Family Resides in Village (%)
Lower Secondary	45.1	33.7
Upper Secondary	43.0	31.0

secondary school reported villages as their birth places, and 34% of them reported villages as their parental residence. When these figures are compared with those of upper secondary schools, the percentages are higher in all cases for students from rural areas in lower secondary schools.

The proportion of lower secondary school students with village origin is higher than for upper secondary students.

In Table 25, distributions are presented for lower level students by parental residence, by birth places and by the location of the primary school completed. The table reveals interesting variations among the regions:

1. In the regions of Adana, Ankara, Antalya, Eskisehir, Istanbul, and Zonguldak, the difference between villages as birth place and as parental residence is 10% or more. Since the population movement basically is from the villages to urban areas, this means that after the birth of children some of the families moved into urban areas. This tendency of movement is present in all regions, Ankara being the highest with a percentage difference of 20%.

2. Though there is a considerable variation in the percentage differences between birth place and parental residence of the students, one-third of the students reported village as the parental residence. This

TABLE 25.--The Distribution of the Students at the Public Lower Secondary by Family Residence and Birth Place and the Location of the Primary School Completed.

Region	Birth Place		Current Family		Primary Finished	
	Village	Town	Village	Town	Village	Town
I Adana	45.9	54.3	34.1	65.8	37.0	62.8
II Ankara	48.2	51.5	28.7	71.0	32.5	67.5
III Antalya	46.5	52.8	34.8	65.0	36.8	53.0
IV Diyarbakir	28.4	71.5	21.3	78.4	22.8	77.0
V Aegean	45.7	53.8	39.3	60.6	40.5	59.4
VI Elazig	57.4	42.3	50.0	50.0	52.4	47.5
VII Erzurum	53.7	45.8	46.6	53.1	48.5	51.2
VIII Eskisehir	45.8	53.7	36.3	63.5	38.3	60.4
IX Gaziantep	38.1	61.8	31.5	68.4	35.0	64.6
X Istanbul	34.7	64.5	22.3	77.4	25.4	74.3
XI Kayseri	49.8	49.7	40.4	59.2	41.8	57.8
XII Samsun	48.7	51.1	35.0	64.8	36.3	63.5
XIII Trabzon	61.3	38.6	54.0	45.9	53.3	46.3
XIV Van	25.0	75.0	15.0	84.6	14.6	85.0
XV Zonguldak	54.0	45.7	37.9	61.9	40.1	59.1
TURKEY	45.1	54.5	33.7	66.0	36.1	63.7

percentage varies up to 50% in Elazig, 54% in Trabzon, 46.6% in Erzurum, and 40.4% in Kayseri.

3. When the distribution of lower secondary students' birth places was cross-tabulated with parental residence, it was found that 31% of the students were born in villages and the family still resides in a village; 14% were born in villages but the family resides in town; 53% were born in town and the family resides in town; and only 2% were born in town but the family resides in a village. In the regions of Ankara, Zonguldak, and Istanbul, the

percentages of those students born in the villages but where family resides in town are 21, 18 and 15%. These are the highest ratios. In the remaining twelve regions these ratios range from 8 to 14%.

4. If the percentage of family residence in village is compared with the percentage of primary school finished in village, in all cases (with the exception of Trabzon region) percentages of primary finished at village are slightly higher than parental residence as village (approximately 2-3%). In terms of the cross-tabulations of birth place and the place of primary school completed, 32% were born in villages and finished primary also in villages; 13% were born in villages but finished in towns; and only 3% were born in towns but finished primary in villages.

In order to throw further light on the residential characteristics of the students, the residence of the student while attending the school is also obtained. In the lower secondary school, 79% of the students reported that they resided with their families and 2% were free boarders.¹ The remaining 19% of the students lived either by renting a house or with their relatives or family friends. In the region of Erzurum 33%, in Trabzon 25% and in Sasum 26% of the lower secondary students reported that they did

¹Free boarder is a student whose total expenses are met by the State in the boarding schools.

not reside with their families while attending school. This percentage is also close to 25% in the regions of Elazig and Antalya.

In the case of the upper secondary students, only 61.3% of the students reported that they resided with their families while attending the schools; 9.7% of the students were free boarders. The remaining 28.7% were away from the place where the family resided; 20.8% out of the 28.7% lived in rented houses or paid their own housing expenses. In the regions of Elazig, Gaziantep, Trabzon, Van, and Erzurum, one-third of the students at the upper secondary schools attended schools away from their family residence and paid their housing expenses. In regions located in the eastern and southeastern parts of the country, the ratios of the students living away from family and paying their own housing expenses were higher than for the students in regions located in the western parts of the country: in the Trabzon region 47%, in the Elazig region 43%, in the Kayseri region 42%, in the Antalya region 40%, in the Gaziantep region 38%, in the Erzurum region 34%, and in the Samsun region 30% of the students at the upper secondary school reported that they went to school away from residences of their families and paid their own housing expenses or lived with relatives or friends.

The Location of Primary and Lower
Secondary Schools Finished by the
Students at Upper Secondary

The distance to school is one of the crucial constraints for further schooling, especially for village primary school leavers. In this regard, information obtained from the students revealed the following results:

1. In total public upper secondary schools, 35.5% of the students hold village primary school diplomas. This percentage is 5.5% in the private lycees. Among the public schools, teacher training schools and technical and vocational schools draw a higher proportion of village primary school diploma holders. The percentage is 56.5% for the former, and 49% for the latter. In the general lycees and commercial lycees this percentage goes down to 29.3% and 31.4%, respectively. This feature of the teacher training schools could be predicted, since it is required by official regulations that 75.8% of the first enrollments in these schools should consist of village primary school leavers. But the high ratio for technical vocational is worth noting.

Cross tabulations of the locations of primary and lower secondary schools completed by students at upper secondary reveal the following results:

2. Only 8.4% of the total upper secondary students reported they finished both their lower secondary and primary schools in villages, 87.2% finished them in

towns or cities, and 4.2% did not report the location of either their primary or lower secondary school.

3. Of those who finished primary in the villages, 18.3% finished lower secondary in the villages also (N=2,730). Of those who finished primary school in towns and cities, 0.9% finished lower secondary schools in villages. Of those who finished primary school in the cities or towns, 99% also finished lower secondary school in towns or cities.

4. A great majority of upper secondary students had their lower secondary schooling in towns and cities; 39.1% of the students who finished lower secondary at district centers (towns), and approximately 24% of those who finished the lower secondary in capital cities of the provinces were village primary school leavers. Only 8% of the total student village primary school leavers finished lower secondary in villages.

5. In terms of the birth places, 30% of all the students had been born in villages and finished primary in villages; 14% were born in villages but finished primary in the district centers; 7% of all upper secondary students who were born in villages finished lower secondary in villages; 33% of all students were born in villages but finished lower secondary in towns and cities.

Of those who finished primary at a town school, 94% also finished lower secondary in towns. More than 99%

of those who finished primary in cities (capital city of the province) finished lower secondary also in towns and cities.

6. In summary, 8% of all upper secondary students finished both lower schools in villages; 24% finished primary in village but secondary in towns; 62.9% finished both schools in town and cities; 0.9% of all students finished primary in town but lower secondary in villages (4.1% of the students did not report one of two school locations).

The regional distribution of the location of primary and secondary schools completed revealed the following results:

1. For the general lycees, the average for those who finished the primary school in villages was 28.7% in the first class, 30.0% in the third class, and 29.3% in the total of first and third classes. This percentage was 34.5% for the total upper secondary schools. In seven out of fifteen regions of the country the portion of village primary school leavers in the third class was greater than in the first class.

2. Another interesting observation is that in the regions which include the most populous cities of Turkey, the share of students with village primary school diplomas is smaller than in other regions of the country. It is smallest in the Ankara region (16.7% in the first class

of lycee, and 18.1% in the third class). The percentages of the Istanbul region were 19.3% and 23.7%. The regions with ratios lower than the national average were: Diyarbakir (20.5%), Zonguldak (23.3%), and Samsun (28.7%). The other regions have ratios greater than the national average. The region of Trabzon is the highest (63.4%), Erzurum is second highest (49.4%), and Van is the third highest (47.2%).

In terms of the location of the lower secondary schools completed, the differences were as follows:

Seven per cent of the students finished lower secondary in villages and their families lived also in villages; 21% finished primary in towns but their families lived in villages; and 65% finished primary in towns or cities and their families lived also in towns or cities. Sizable deviations from the national average are observed in the regions of Erzurum, Eskisehir, Diyarbakir, Samsun, Ankara, Trabzon and Van.

In Erzurum, Eskisehir, Trabzon and Van regions, the ratios for village as the location of both middle school finished and family residence were 13%, 21%, 10% and 20% respectively, considerably higher than the national average. In Ankara, Diyarbakir and Samsun regions, the ratios were far below the national average: 3%, 1% and 2% respectively. The same pattern is observed in the category of village as family residence and lower secondary finished in towns.

TABLE 26.--Distribution of Middle School Students by Family Residence and by Location of Primary School Finished.

Regions	Residence		Residence		Per cent Population in Village	No. of Students
	Both in Village	Village Primary Finished at Town	Both in Town	Town Primary Finished at Village		
Turkey	32	2	62	4	62	15,937
I Adana	32	2	61	5	53	1,242
II Ankara	27	1	65	5	54	2,215
III Antalya	33	1	62	4	68	475
IV Diyarbakir	19	1	77	2	65	376
V Elazig	48	2	46	4	70	752
VI Ege (Izmir)	36	3	57	4	61	1,501
VII Erzurum	42	4	47	6	73	805
VIII Eskisehir	27	1	60	2	66	717
IX Gaziantep	31	1	63	5	61	636
X Istanbul	21	1	73	4	44	3,460
XI Kayseri	39	1	57	2	70	1,044
XII Samsun	31	4	60	5	76	1,045
XIII Trabzon	49	5	41	5	80	868
XIV Van	10	5	80	5	74	260
XV Zonguldak	34	3	57	6	76	541

The Location of Primary Schools Finished
by Students at Lower Secondary Schools

Table 26 gives cross tabulations of the distributions of students at lower secondary schools by parental residence, by location of primary school finished, and by regions.

An average 32% of all students had the village as the location of both the primary school and the family residence. Two per cent of the students had their families residing in villages but finished primary school in towns, 62% had family and primary school in town, and only 4% of the students from town or city residential origin finished primary school in villages. In the regions of Adana, Ankara, Antalya, Aegean, Gaziantep, Samsun, and Zonguldak, patterns similar to the average for the whole country were observed. The regions of Elazig, Erzurum and Trabzon had larger than average shares of students from village schools and village family residential backgrounds. By contrast, in the regions of Diyarbakir, Van and Istanbul, the ratios were considerably below the national average. In these same three regions, the percentages of those who had family residence in village but finished primary school in towns were still below the national average: 19% for Diyarbakir, 15% for Van and 21% for Istanbul.

The case of Istanbul may be explained in terms of the high proportion of urban population. In Van and Diyarbakir, village primary school leavers appear to have had less chance for further schooling than students in other regions of the country. When the figures are evaluated against the per cent of population who reside in villages, it is seen that none of the percentages in the category of current residence village and primary finished at village equal the percentages of the population who reside in villages.

Summary of Characteristics

A summary of residential characteristics of students at both lower and upper secondary school is given in Table 27.

1. Lower secondary schools include more students with village origins than upper secondary schools. In public lycees the share of village students (in terms of birth place and parental residence) is lower than for total upper secondary and lower secondary schools. Private lycees enroll 9% of their students with village origin.

2. The share of students with village origins does not differ between first and third classes of the lycee, but it differs in the lower secondary schools. The percentages are higher in the first than in the third grade in terms of village birth place, village parental

TABLE 27.--Residential Characteristics of Students in Secondary Schools (in percentages).

Characteristics	Lower Secondary Grades			Total Upper Secondary Grades			Public Lycee Grades			Private Lycee	
	Secondary Grades			Secondary Grades			Lycee Grades			Lycee	
	I	III	Total	I	III	Total	I	III	Total	Total	Total
Born in village	47	44	45	43	43	43	36	38	36	9	
Family resides in village	36	31	34	32	30	31	26	26	26	6	
Hold village primary diploma	38	35	36	34	34	35	29	30	29	5	
Lower Secondary finished in village	-	-	-	11	7	9	7	6	6	2	
Resides with family	81	77	79	62	61	61	72	68	70	70	
Rents a house or pays for boarding	16	18	18	27	30	29	26	30	28	28	
Free boarding	1	2.4	2.1	11	9	10	2.4	2.4	2.4	2.6	
TOTAL Number	8,093	7,844	15,937	5,007	4,157	9,164	3,391	2,896	6,287	1,168	

residence, and village as location of primary school finished.

3. In lower secondary schools the larger percentage of students reside with their families. In total upper secondary schools and lycees, approximately one-third of the students live away from family residence and pay their own residential expenses. On the average, free boarders constitute one per cent of the students in the first class and 3.4% in the third class of lower secondary, 11% in the first class and 9% in the third class of upper secondary, and 2.4% in the lycee classes.

Residential Participation Index

In order to compare what had been achieved in terms of providing opportunity to youngsters of the village population, a residential participation index was proposed. Hypothetically, the share of students from village origin (village as parental resident) should be equal to the portion of the population who live in rural areas. In the table below participation indexes are computed and the provinces are compared to each other with respect to "ruralness" and rural participation in lower and upper secondary schools.

Table 28 provides a measure for comparison of regions in terms of access to schools above primary for village children.

TABLE 28.--"Ruralness" and Rural Participation in Secondary Schools.

	Per cent of Population in Rural Areas	Per cent of Students with Parents in Villages			Residential Participation Index		
		2	3		2/1	3/1	
	1	Upper Secondary Total	Lower Secondary Total		Upper Secondary Total	Lower Secondary Total	
Istanbul	44	22	22		50	50	
Adana	53	32	34		60	64	
Ankara	53	15	29		28	53	
Aegean (Izmir)	61	27	39		44	64	
Gaziantep	61	28	32		39	52	
Turkey	62	31	34		50	52	
Diyarbakir	65	24	21		37	32	
Eskisehir	66	36	36		42	42	
Antalya	68	31	35		47	52	
Kayseri	70	33	40		47	57	
Elazig	70	36	50		51	71	
Erzurum	73	42	47		57	64	
Van	74	36	15		48	20	
Samsun	76	34	35		44	46	
Zonguldak	76	38	38		50	50	
Trabzon	80	65	54		81	67	

In the case of upper secondary, Istanbul and Adana had participation indexes above the average. Trabzon, Erzurum and Zonguldak are regions where the portions of rural population are greater, whereas in Istanbul and Adana the portions of urban population are greater than the national average. It is interesting that for both these more urban and more rural areas, the participation indexes are higher than for ones in between. Ankara, Van and Samsun, however, are not in this pattern. In Ankara, where rural population is only 54%, the participation ratio is the lowest of all fifteen regions. Nevertheless, in Trabzon where 80% live in the villages, the participation ratio is the highest among all.

In both cases of lower and upper secondary schools, Diyarbakir, Elazig, Van, Ankara, Antalya and Gaziantep are regions where the participation indexes are relatively low when compared to the index for the whole country and indexes of the remaining regions.

Girls' Residential Characteristics

In upper secondary schools, 23% of the girls were born in villages whereas only 16% of the girls reported village as the parental residence. At the same time, the girls constituted 14.5% of the total student population born in villages, 31.6% of all those born in district villages, 36.1% of all who were born in towns, and 43.4% of the total born in cities.

Almost 20% of the girls reported villages as the location of primary school they finished, and only 7% of the girls reported that they finished secondary school in villages. Seventy-five per cent of the girls were staying with family and 15% of them were free boarders. In the case of lower secondary schools, 25% of the total girls reported villages as their birth places, while 16% reported villages as parental residence, and 18% reported they finished primary in the villages. Ninety-one per cent were staying with their families. When these figures are compared to total figures, the relations may be tabulated as in Table 29.

Male students constitute the larger part of the students from village origin for both lower and upper secondary schools. More than half of the male students were born in the villages for both schools, and approximately 40% of the male students reported villages as parental residence. Forty-three per cent of the males at lower secondary and 36% of the male students in the upper secondary are village primary school leavers, whereas only 18% of the girls in lower secondary and 13% of them in upper secondary finished primary schools in the villages. Girls constitute only 30% of all the students at lower secondary, 30% of the upper secondary and 29% of lycee students in the samples. The share of girls with village origin is rather low in the lycees especially.

TABLE 29.--Distribution of Students in Secondary Schools by Sex and by Residential Characteristics (in percentage).

Characteristics	Lower Secondary			Upper Secondary			Public Lycee		
	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls
Born in village	45	54	25	43	52	23	34	47	16
Parents reside in village	38	41	16	31	38	16	26	32	10
Primary school finished in village	36	43	18	35	41	20	29	36	13
Staying with family while in school	79	74	91	61	57	75	70	63	88
Free boarder	2.1	2.4	1.3	10	7.6	15	2.4	3	2
TOTAL No. of Students	15,877	11,100	4,777	9,131	6,400	2,731	6,245	4,407	1,838

Fathers' Occupations

In Table 30, the occupations of fathers of the students at the lower and upper secondary schools are presented:

TABLE 30.--Distribution of Students by Fathers' Occupations by Type of School 1970-1971.

Occupations in Categories	Upper Secondary (N=9,164)	Lower Secondary (N=15,937)	Private Lycee (N=1,168)
Professional and high level administrative occupations	10.2	7.6	36.8
Lower administrative and clerical jobs	15.9	14.2	11.4
Technicians	3.6	2.2	2.1
Business	7.3	5.1	26.5
Small Business	9.5	9.9	6.9
Transportation	3.9	5.6	1.5
Skilled craft workers	5.4	6.8	2.0
Farmers, hunters and unskilled workers	24.6	23.9	6.3
Semi-skilled and un-skilled workers	10.3	17.0	2.2
Unknown and non-classified occupations	9.1	7.5	4.2
TOTAL %	99.9	99.8	99.9

The per cent of students in various occupational categories do not differ much between lower and upper secondary students, with the exception of percentages in the professional occupations category, where 10.2% of

students in upper secondary were in this category and 7.6% in lower secondary schools. In broader terms, professionals, administrators and technicians (those occupations which require at least an upper secondary level education) constitute 30% of the fathers' occupations for the students in upper secondary schools. Business constitutes 17%, farmers 24.6% and workers 10%. These percentages for lower secondary schools are, respectively, 24%, 15% and 17%. Proportionately more workers' children are in lower secondary, when compared with upper secondary.

Interesting differences are observed when the figures for public upper secondary school and for private lycees are compared. In private lycees more than 50% of the students are the children of professionals, administrators, clerical workers, and technicians, which is twice as great as the percentages for public lower secondary schools. Business constitutes 33% for private lycees, while it is 17% and 15% at the public upper and lower secondary schools respectively.

In order to evaluate and compare differences between the different types of school, all the percentages are evaluated against the per cent of the male population in respective occupations over the total male population active in the labor force in 1965. These data are given below:

TABLE 31.--Distribution of Fathers' Occupations of Secondary Students in 1971 and the Occupational Distribution of the Male Population in 1965 in Percentages.

Occupations in Categories	Per cent of Male Popula- tion in the Occupational Categories	Upper Secondary	Lower Secondary	Private Lycee
Professional high administrators	2.8	10.2	7.6	36.8
Administrators and clerical	3.6	15.9	14.2	11.4
Business small and large	4.4	16.8	15.0	33.4
Transportation	3.2	3.9	5.6	1.5
Skilled craft workers and technicians	12.2	9.0	9.0	4.2
Farmers	58.1	24.6	24.9	6.3
Semi-skilled and unskilled workers	8.8	10.3	17.0	2.2
Unknown, non-classified occupations	6.7	9.1	7.5	4.2
No answers	-	-	-	-
TOTAL	99.8	99.9	99.8	100.0

Professional personnel constitute 2.8% of the active male population, whereas they are the fathers of 10.2% of the children in upper secondary, 7.6% in lower secondary, and 36.8% in private lycees. A great majority of children of professional occupations benefit from school opportunities. Farmers, who constitute more than half the active labor force, are represented by only 25%

of the students in upper secondary and 24% in lower secondary schools.

In upper secondary, 15% of the girls reported that their fathers had a professional occupation. This percentage was 12% for lower secondary schools. Twenty-nine per cent of the girls had fathers in administrative jobs at upper secondary, 22% in lower secondary schools.

Twenty per cent of the girls reported business as fathers' occupation at upper secondary, 19% at lower secondary. In both cases, more than 50% of the girls reported that their fathers either had a professional or administrative job or a business, whereas close to 11% of the active male population were engaged in those occupations.

Regional Differences in Fathers' Occupations

Regional distributions of fathers' occupations follow national averages, but with some exceptions. These findings are summarized below:

1. Percentages for students whose fathers were professional, administrators and clerks, were 33% in Ankara, 39% in Istanbul, 37% in Zonguldak and 32% in Eskisehir, all above the national average. For the upper secondary school, the portion of the farmers' children was the highest in Van, with a percentage of 47.2%. In

Trabzon, Gaziantep, Erzurum and Adana the shares of farmers' children were 36.1%, 35.4% and 32.8% respectively.

2. In lower secondary schools, the children of professionals have higher percentages than average (5.5%), in the regions of Van (11.5%), Ankara (7.8%), Eskisehir (6.8%), Istanbul (6.2%) and Samsun (6.5%).

Taking professionals, administrators, and administrative occupations all together, three regions have higher percentages than national average (22%); these are Van with 35%, Ankara with 27% and Istanbul with 25%. In the middle schools, the representation of occupations is more evenly distributed when compared with upper secondary schools. The shares of farmers' and workers' children does not deviate much from the national average (24% for farmers, 17% for workers), with exception of the region of Istanbul, Van and Trabzon.

At both school levels, the larger share is covered by the students of professionals, administrators, clerks and businessmen, but in the middle school, the pattern is less favorable to these categories when compared with upper secondary schools.

Fathers' Educational Level

Parallel to the fathers' occupational backgrounds, educational levels of the fathers were studied and evaluated against the educational attainment level of the total male population. In the table below, the educational levels of the fathers of secondary school students are presented:

TABLE 32.--Distribution of Students in Secondary Schools by Fathers' Educational Level.

Fathers' Level of Education	Total Upper Secondary	Lower Secondary	Public Lycee	Teachers Training	Boys Technical Training	Private Lycee	Total Male Population
No schooling	26.9	29	24.7	31.2	33.8	3.8	52.2
Primary ^a	41.6	47.5	38.4	48.5	51.1	15.9	38
Lower Secondary	10.6	9	12	6.8	7.1	13.8	4.6
Lycee and Vocational	11.3	8.9	13.1	9.2	4.7	26.2	3.6
Higher	5.2	3	6.9	.9	1.3	33.3	1.5
Other	3.9	2.4	4.5	2.8	1.5	6.4	1.1
No answer	.5	.2	.4	.6	.5	.6	-
TOTAL (%)	100.0	100.0	100.0	100.0	100.0	100.0	100.0

^a Include those with education below primary (did attend primary but not completed).

The most interesting result from Table 32 is the great differences between the pattern of fathers' education levels in private lycees and in total public upper secondary schools. In the private lycees more than 59% of the fathers of students had an education above lycee level, whereas this percentage was 16.5% in total upper secondary and 20% in the public lycee. The percentage of no schooling is 27% in public upper secondary, but it is 3.8% in private lycee.

Private lycees attract greater proportions of the children of well educated or highly educated persons.

Among the public schools, lycees tend to have students whose fathers had more education on the average than the fathers of students at the teachers' training school and technical and vocational schools. Thirty-six per cent of the lycee students reported that their fathers had at least lower secondary education, whereas 20% of the students in teachers' training schools reported the same educational attainment level. This ratio was 15% for students in the technical schools. A considerable drop in ratios from lycee to technical school is observable. In terms of the fathers with education at least lycee and above, the percentage for lycee is 24.5%, it is 13% for teachers' training schools, and 7.5% for technical and vocational schools. Technical and teachers' training schools attracted only a very small proportion of students

with fathers who had education at lycee level and above. In the lower secondary schools, 14.3% of students had fathers with at least lycee education. A large body of the students had fathers with education at primary and less than primary level (76.5%). This latter figure is 68.5% for total upper secondary, 63% for public lycees, 79.5% for teachers' training schools, and 84.9% for technical schools. The teachers' training and technical and vocational schools are not popular schools for children of families where the father had at least secondary education. When these figures are evaluated in terms of the educational attainment level of the total male population, the following observations may be made (see Table 33).

Although percentages were small for students whose fathers had secondary education or higher, the shares of such students are higher than the national averages. The educational attainment levels of the population are not equally represented in the middle and upper secondary schools of Turkey. The children of educated persons above lower secondary were over-represented in all types of schools in Turkey.

The Comparison of Fathers'
Occupations Between 1963
and 1968

On the basis of information given in the chapter entitled "The Lise and Social Change" (plus tabulated

TABLE 33.--Educational Attainment Level of Population 1965, and Educational Attainment Level of the Fathers of Students at Secondary Schools.

	Educational Attainment Level of Male Population 11 Years and Over	Total Upper Secondary	Total Lower Secondary	Lycee	Private Lycee
Primary	38	41.6	47.5	38.4	15.9
Lower Secondary	4.6	10.6	9	12	13.8
Lycee and Vocational	3.6	11.3	8.9	13.1	26.2
Higher	1.5	5.2	3	6.9	33.3
TOTAL (%)	47.7	68.7	68.4	70.4	89.2

data in his Appendices) in Kazamias' study of Education and the Quest for Modernity in Turkey, his data which were related to fathers' occupations of lycee students were found to be comparable to the data obtained in this study.

As is shown in Table 34, in the 1962-1963 school year in Kazamias' study, 11.6% of the students in public lycees had fathers in high professional and technical occupations, whereas in the present study this ratio was 8.8%. Higher managerial occupations constituted 5% of the fathers of students in public lycees in 1963, whereas this percentage was 3.4% in public lycees in 1971. When higher professional technical and high level administrative occupations were taken together into one broad category, 6.6% of the students and 12.4% of the fathers of students belonged in this category in 1963 and 1971 respectively. Between 1963 and 1968 a decrease near to 4% was observable. Minor administrative and clerical occupations constituted 22.3% of the fathers of students at public lycees in 1963. This percentage for 1971 was 16.9%. It seems that the occupational categories which require at least an upper secondary education are higher professional, professional and higher technical, managerial and high administrative, minor administrative and clerical--38.9% of the students' fathers were in these categories in 1963, 29.2% in 1971. The difference between 1963 and 1971 was 9.7%.

TABLE 34.--Parental Occupation of Lycee Students.

Occupation	Kazamias' Study		Present Study	
	Public Lycee N = 1,369	Private Lycee N = 1,442	Public Lycee N = 6,287	Private Lycee N = 1,168
Higher professional (doctors, engineers, scientists)	5.0	16.0	8.8	29.2
Professional and higher technical	6.6	16.6	12.3	36.8
Managerial and higher administrative	5.0	8.0	3.5	7.6
Minor administrative	2.1	1.6		
Clerical	20.2	22.3	16.6	18.2
Private traders, small business	13.5	23.7	16.9	11.4
Small farmer, fisherman, hunter	22.9	8.8	21.2	33.4
Skilled workers and craftsmen	13.4	8.4	13.4	6.3
Semi-skilled workers	.6	.6	-	6.7
Unskilled	4.9	5.5	9.0	-
Unidentified	5.5	2.8	-	2.2
		4.0	8.7	-
			100.0	4.2
				100.0

In private lycees 25.4% of the students in 1963 had fathers in high professional and technical occupations whereas this percentage was 29.2% in 1971. The children of the high level administrators and managers constituted 8% of the students in 1963, and 7.6% in 1971 in private lycees.

The share of the children whose fathers were in minor administrative and clerical jobs dropped from 18.2% to 11.4% in 1971. In the category of private traders and small businessman there was a 10% increase from 23.7% in 1963 to 33.4% in 1971. In 1971, private lycees drew most of their students from higher level professional-administrative occupations. More than 80% of the students belonged to the broader category which includes high professional, administrative, and business occupations.

In public lycees between 1963 and 1971, the share of the students with fathers in professional and high administrative jobs dropped 4.3% in 1971 (from 16.6% to 12.3%). In minor administrative and clerical jobs the share of the students with fathers in those occupations had a decrease of 5.4% in 1970 (from 22.3% in 1963 to 16.9% in 1971).

The portion of the students in the category of private traders and business increased from 13.5% in 1963 to 18.5% in 1971 (with a net increase of 5%). Another 3.5% increase was observed in the category of semi-skilled

and unskilled workers where the ratios in percentages raised from 5.5% in 1963 to 9.0% in 1971.

In summary, both in the years of 1963 and 1971 the children of the persons in the high level professional and administrative positions constituted more than half of the students in the public lycees. The children of farmers had almost the same portion in both years. Between 1963 and 1971, 3.5% increase in the portion of the workers' children was observed in public lycee.

In Table 35, the distribution of students according to their fathers' occupations in 1963 and 1971 and occupational distribution of the male population 15 years and over in 1960 and 1965 are given. In both years (1963 and 1971) the students with fathers in professional-administrative occupations were over-represented in public and private lycees of Turkey. However, considerable decrease was observed in the category of "Professional, Technical and related occupations." Percentage of males in that category had 1.2% net increase whereas the portion of students with fathers in that category decreased from 11.6% in 1963 to 8.8% in 1971. Just the reverse trend was observed in the case of the private lycee.

The farmers' share decreased from 62.3% in 1960 to 58.1% in 1965. The portion of the farmers' children in public lycee dropped to 21.2% in 1971 from 22.9% in 1963. A considerable increase was observed in the share of

TABLE 35.--Parental Occupation of the Students and Occupations of Turkish Male Population.

	Kazamias' Study (1962-1967)			Present Study (1970-1971)		
	Male pop. 15 years and over in 1960	Public Lycee N= 1,369	Private Lycee N= 1,442	Male pop. 15 years and over in 1968	Public Lycee N= 6,287	Private Lycee N= 1,168
Professional technical and related	1.6	11.6	25.4	2.8	8.8	29.2
Administrative, clerical and related	3.9	27.3	26.2	3.6	20.4	19.0
a (sales workers and related)	4.0	13.5	23.7	4.4	18.5	33.4
b (private traders and related)						
Farmers, fishermen, hunters, forestry and related	62.3	22.9	8.8	58.1	21.2	6.2
Workers in quarry and related	.6			.7		
Workers in transport and communications	2.7			3.2	3.9	1.5
Craftsmen--production process	8.5	13.4	8.4	12.2	9.5	4.2
Unskilled workers	4.1)	4.9	2.8	3.7)		
Workers' association with services	)			)		
eg. entertainment, sport, recreations	)	7.9		)	8.9	
Unidentified and without occupation	3.8)			5.2)	9.0	2.2
TOTAL (%)	100.0	99.1	99.3	99.8	100.0	100.0

children of small businessmen and private traders. The percentage of 13.5% in 1963 had gone up to 18.5% in 1971 although the national share of those occupations did not change between 1960 and 1965.

The portion of children of farmers, who constituted more than half of the active population, remained almost the same in the eight years of time. The children of well educated fathers and of well-to-do families remained over-represented in the public and private lycees of Turkey over eight years of time.

Summary

In the analysis in Section C above, socio-economic background characteristics of first and third classes of both the upper and lower secondary schools were analyzed in terms of residential characteristics of students' families, the location of the primary and lower secondary schools finished, occupations of the fathers, and educational attainment levels of the fathers of the students. In the analysis it was found that 31% of the students at lower secondary reported the villages as their parental residence. There were differences in terms of current family residence of the students in different types of upper secondary schools. The largest differences were between public and private schools. The latter constituted students with overwhelmingly predominantly urban parental residence.

In the public schools, teachers' training schools and boys' trade schools had the larger shares of students with villages as parental residence.

In all regions of the country urban children were over-represented in all types of secondary schools.

Ten per cent of students attending lower secondary schools and 29% of students in upper secondary schools were living apart from their families. Most of them lived in rented houses and paid their own living expenses.

When the girls' share from village origin was compared with the boys', it was found that the share of girls with village residential origin was low in both upper and lower secondary schools.

In terms of fathers' occupations, professionals, administrators, and technicians constituted 30% of the fathers' occupations for the students in upper secondary schools, business 17%, farmers 24.6% and workers 10%. These percentages for lower secondary schools were, respectively, 21.8%, 24%, 15% and 17%.

In private lycees more than 50% of the students were the children of professionals, administrators, clerical workers and technicians--twice as great as the percentages for public upper secondary schools. Business constituted 33% for private lycees, compared with 17% and 15% at the public upper and lower secondary schools respectively.

When all these percentages were evaluated against the percentage of the male population in respective personnel over the total male population active in the labor force in 1965, it was found that professional occupations constituted 2.8% of the active male population whereas they were the fathers of 10.2% of the children in upper secondary, 7.6% in lower secondary and 36.8% in private lycees. Farmers, who constituted more than half of the active labor force, were represented by only 25% of the students at upper secondary and 24% in lower secondary schools.

In terms of educational attainment level of students' fathers, it was found that in private lycees more than 59% of the fathers of students had an education above lycee level, whereas this percentage was 16.5% in total public upper secondary schools and 20% in public lycees.

When the findings regarding occupational background of fathers were compared with the findings of a study of eight years ago, a decrease in the share of students with fathers in professional and administrative occupations was observed in the public lycees, whereas the share of businessmen fathers had tended to increase.

CHAPTER V

DISCUSSION, CONCLUSIONS AND IMPLICATIONS OF THE FINDINGS

Introduction

In this chapter, a discussion of the findings of the study and some conclusions which might reasonably be drawn from the analysis of the data are presented, along with implications of the conclusions which might be useful in the process of establishing policies for providing equal educational opportunities to all throughout the country.

The investigator is aware of the risks involved in drawing conclusions from official data, which data might not accurately reflect what had happened in the last decade in reality . The investigator also realizes that the statistical results produced here are limited to the definitions of the variables employed and he also realizes the difficulty of drawing generalizations from combinations of a limited number of socio-economic variables.

For that reason the following discussions, conclusions, and implications drawn here should be taken with appropriate caution.

DiscussionDifferences in Primary Education

The existing differences among the provinces were analyzed in terms of average school participation ratios . The statistical test of significance was not employed in the comparisons . The reason for this was that the school participation ratios will tend to increase until full realization of the school participation is reached. In this process, each increment of increase in the ratios would contribute to the realization of 100% school participation, therefore employment of test of significance was not necessary.

In the 1960s, considerable increase in school participation ratios (more than 25% of 1960) were attained in most of the provinces of Turkey. More provinces tended to cluster around the 1970 average than around the 1960 average. The differences in school participation ratios among the provinces were reduced during the decade. Almost two-thirds of the provinces had ratios equal to or above the 1970 national average and most of the greatest increases occurred in provinces which had had rather low ratios in 1960. Generally speaking, an effort toward leveling off the differences was apparent throughout the decade .

But the effort was not altogether successful. As the analysis indicated, wide differences from the national average still existed for some provinces and the gap between the top ten provinces and the bottom ten provinces of 1960 still were the same in 1970. The primary school participation ratios had not yet been fully equalized. The inequalities were most acute in the 13 provinces of the southeastern region of the country, where in ten years of time none of the provinces had reached in 1970 the level of the 1960 national average. Fewer than six children in ten in the southeast were going to school, whereas in the other provinces this ratio was at least eight for every ten children of school age.

When findings from this study are evaluated against the commitment of the government to achieve full participation in primary education in 1972, it appears that if the growth in the 1970s follows the same pattern of the 1960s, it would likely take more than ten years to achieve full realization of universal primary education. This means that at least over the next ten years some inequalities for children in the southeastern region of the country are likely to remain.

The pattern of growth in primary school participation had not changed essentially during the decade of the 1960s. The western provinces achieved almost full participation and development moved rapidly into the

eastern provinces. However, increases in school participation rates in ten years did not produce substantial changes in the relative position of the provinces with respect to their developmental levels and the range between the top and bottom provinces remained almost the same. The lagging position of the southeastern provinces was very dramatic, even though high investment priorities had been given to those provinces. It appeared that maintaining a province's rate of increase so that it would come up to or surpass the 1970 national average--which is one possible meaning for "achieving equality in school opportunities"--was largely dependent upon the province's past achievement in school participation.

When school participation ratios were evaluated in the context of girls' share in total enrollments, the inequalities among the provinces became more meaningful and the factors which might inhibit or foster the growth were apparent. The evidence in this line suggests that full realization of universal primary education is a matter of getting more girls to the school each year. The findings in Chapter IV support this notion very firmly. Almost half of the provinces remained below the 1970 average in girls' portion in total enrollments. One-fourth of the total provinces could not surpass the level of 1960 in 1970. These provinces all were located in southeastern

and eastern sections of the country and increases in girls' share in enrollments were lower than that of the national average increase for the decade.

The girls' share in total enrollments in the provinces were divided into two parts: West and East. In almost half of the provinces, drawing more girls into the primary school seemed very difficult even though schools and teachers might be available. In conclusion, in the light of the evidence in Chapter IV, rapid increases in school participation ratios at primary levels, and full realization of universal primary education, is greatly dependent upon rapid increases in the share of the girls in total enrollments.

If the present growth pattern continues in the next ten years, the idea of realizing full participation and of leveling all the inequalities at primary levels by 1980 would appear to be illusory. Unless special measures are taken for the southeastern provinces, they will remain some years behind the rest of the country.

When the differences were compared in terms of pupil-teacher ratios, it was generally found that in provinces where school participation ratios were lower, pupil/teacher ratios tended also to be low and in provinces where the highest participation increases occurred, pupil/teacher ratios remained high. These findings indicate

that availability of schools and teachers are necessary conditions for development in school participation but in Turkey are not always sufficient to the needs of the 1960s.

A further interesting finding was that in provinces with high participation ratios in 1960, in ten years of time pupil/teacher ratios lowered considerably. This might lead one to conclude that qualitative improvement tends to follow quantitative development. It did so in the 1960s. Increases in school participation ratios were not highly dependent upon increases in the teaching force.

In some of the southeastern provinces where pupil/teacher ratios were considerably lower than the national average in 1960, schools and teachers were available but the school participation ratios did not increase much. By contrast, in some provinces where teacher/pupil ratios were low--i.e., fewer teachers were available--school participation ratios rose substantially. In the latter provinces there was greater demand for entering school than in the former provinces. This might indicate that the demand for education--or the need for education--is one of the factors which influences the rapid increase in school participation ratios.

Differences at Secondary Schools

Even wider differences and inequalities in school participation ratios among the provinces existed at both lower and upper secondary schools. The most significant feature of the decade, in the context of equality of educational opportunity, was that substantial increases in total enrollments as measured by school participation ratios occurred in the second half of the decade (1965-1970). However, not all provinces benefited the same from these expansions. Those provinces profited most which had high primary school participation ratios in 1960 and which were more urban and more centrally located in their region's economic activity. The ratios for both lower and upper secondary schools remained low in most of the provinces of eastern and southeastern regions of the country.

The most populous provinces had high ratios continuously. But the second level provinces which had central positions in economic activity in commerce and in transportation of their surrounding areas profited more from the expansion of secondary school opportunities. In these provinces the school participation ratios increased persistently throughout the decade. This pattern of growth was more apparent at the upper secondary level than the lower secondary. In every section of the country, including the sections of Central Anatolia, there was at least one

province which dominated its area's increases. This pattern of growth may have been manipulated to a great extent by policies of the government, in which the first priorities were given to the most populous provinces and to the capital cities of the provinces, and secondly to the district centers. Having been born in a big city, in a capital city, or in a district center still makes an important difference for a primary school or a lower secondary school leaver, in terms of access to further school.

In conclusion, the analysis in Chapter IV indicates that the inequalities in school participation ratios at secondary levels were still persistent in 1970. In the provinces which had central positions socially and economically, the opportunities at secondary levels for children in those provinces were much greater than the opportunities available to the children in the other provinces.

This pattern of development as evidenced in this study confirms the tentative findings of Bohnhorst, which were reviewed in Chapter II. A number of secondary school development centers appear to have emerged. These centers tend to be associated with localized areas of population concentration, and may also function increasingly as service-centers for a surrounding service area.

The large gap between the top and the bottom provinces, on the scale of school participation in 1960, remained almost the same throughout the decade of the 1960s.

The lack of qualified science teachers was evident in almost all provinces of the country. The nation as a whole suffered from extremely high student/science teacher ratios.

Socio-Economic Factors Related to
Differences in School
Participation

Primary Schools

In Chapter IV the differences in school participation ratios were analyzed by regression analyses using socio-economic variables which tend to associate with development in schooling. The evidence indicated that in 1960, 1965 and 1970, the differences in primary school participation ratios did not associate with differences in urbanness, density, or agriculture as economic activity by male population, but did associate to a considerable extent with the number of persons with maximum primary education per thousand population (educational attainment, level I). The most interesting feature of this finding was that educational attainment did associate to some extent with urbanness, density, and agriculture as economic activity ($r = +.53, +.40, \text{ and } -.65$, respectively), which variables

in turn were not associated with the dependent variable closely.

This indicates that the differences in school participation were to a considerable extent independent of urbanness, density, and agriculture as economic activity, but were dependent upon the degree to which the population went through some sort of schooling. In most of the provinces, in statistical terms, most of the variance in school participation ratios was explainable by the differences in educational attainment. In provinces where there was a high proportion of the population who had had at least some experience with schooling, whether or not they had completed primary school, school participation ratios tended to be high in 1960. The same pattern was observed in 1965 and in 1970, but with a decreasing association.

This finding confirms the hypothesis that since the primary schools are compulsory, and since a determined effort has existed since 1960 aimed at leveling inequalities at primary school levels, then school participation differences would not be expected to be explained in terms of urbanness or density of population. Instead the differences would be related more to the desire of the people to send their children to school and to positive attitudes of the people toward schooling. The evidence

supports this notion that the observed differences could only be largely explained by differences in educational attainment level of the population.

In this line of thought, the suggestion is that a person who enters and stays in school for some years becomes a different person, in that his attitudes toward schooling become more positive and he becomes more willing to send his children to school. Communities where the population had had relatively more experience in school carried relatively stronger desires for education for their children. For that reason educational attainment had more explanatory value for analyzing the differences in school participation.

Secondly, the explanatory power of educational attainment tended to decrease from 1960 to 1965, and again from 1965 to 1970 (R^2 for 1960 was .86, R^2 for 1965 was .66, and R^2 for 1970 was .47). This finding confirms the hypothesis that differences in school participation ratios should become progressively less apparent and the dependency of the differences on educational attainment should gradually disappear. Between 1965 and 1970 the extent to which differences in primary school participation among the provinces leveled off was considerable; but the gap between the ten top and ten bottom provinces remained large throughout the decade. The explanatory value of educational attainment decreased accordingly.

It is a fact therefore that a leveling off of the differences was statistically verified. One important implication of this finding is that in order to level off the remaining differences in the southeastern provinces of Turkey, special attention should be given to the creation of proper attitudes and desire for education on the part of the people residing in those provinces.

Another interesting point which tends to confirm the evidence of a leveling of inequalities is that all the intercorrelations observed between independent variables and dependent variables tended to decrease gradually from 1960 to 1970.

Secondary Schools

At the lower secondary level, the socio-economic variables did not associate closely with the differences in school participation ratios, contrary to what was hypothesized. In 1970, only 31% of variance in school participation was explained by agriculture as economic activity. In 1965, 17% was explained by educational attainment (level II--population with minimum lower secondary education). However, in 1970, a combination of four variables (agriculture as economic activity, urbanness, educational attainment at level II, and volume of population) explained 44% of the variance in lower secondary school participation. This evidence indicates that the differences tended to become by 1970 more closely

related to socio-economic variables. At lower secondary levels in 1960 and 1965, differences in school participation ratios were greater between the most populous provinces and the rest of the country. For most of the provinces, participation in 1960 and 1965 ranged from two to four per cent, with the exception of four of the more urbanized provinces in 1960 and ten of the more urbanized in 1965, where higher rates of participation occurred. Generally, lower secondary school participation ratios in the country as a whole were low in 1960 and 1965. But differences became more evident between urban and rural provinces in 1970, due to the great increases in enrollments between 1965 and 1970.

These patterns of growth were reflected also in the results of the multiple-regression analyses. At lower secondary levels the differences among the provinces in 1960 and 1965 were largely independent of the socio-economic variables used in this study. In 1970, the differences could be at least partly explained by urbanness, agriculture as economic activity, and educational attainment taken in combination. The hypothesis that more urban areas would have higher school participation ratios was, however, not substantiated.

In upper secondary levels, school participation ratios did associate more strongly with socio-economic variables than lower secondary school participation ratios

did. However, among the coefficients of correlation between dependent and independent variables, a gradual decrease from 1960 to 1970 also was observed. The variables of urbanness, agriculture as economic activity, and educational attainment (level II), tended to associate better with the dependent variable than the other independent variables in 1960, 1965, and 1970. In all years, agriculture as economic activity was the best explanatory variable. It correlated with urbanness with coefficients of $-.90$ in 1960, 1965 and 1970, and with educational attainment with coefficients in $-.67$, $-.89$, and $-.89$. The correlations between urbanness and educational attainment had coefficients of $.68$, $.85$ and $.85$ for 1960, 1965 and 1970 respectively. In other words, the three variables which correlated with the dependent variable also correlated among themselves. Agriculture and urbanness had the highest correlations in the matrix. In one sense they did measure the same thing. In the light of discussions above, it might be concluded that upper secondary school participation ratios were higher in those provinces which were more urban, less agricultural and populated with more educated people. This tendency, however, seems gradually to be decreasing in the face of strong increases in secondary enrollments occurring throughout the country since 1965.

The results here to a great extent were determined by which variable entered the regression first. In this case both agriculture and urbanness correlated with the dependent variable with correlation coefficients of $-.73$ and $.71$, respectively. At the same time they were very closely correlated with each other ($-.90$). In this analysis the automatic step-wise regression analysis procedure was utilized and the variable which had the highest correlation coefficient with the dependent variable entered first, which in this case was agriculture as economic activity. If urbanness had been allowed to enter first, then it would certainly have explained almost the same amount of variance explained by agriculture. They could be used interchangeably in this analysis, since both tend strongly to measure the same characteristic.

The evidence in the analysis supports the hypothesis that differences in school opportunities at upper secondary level tend to associate positively with urbanness and negatively with agriculture as economic activity. In the more socio-economically developed provinces children had greater chances for upper secondary schooling. Differences and inequalities in terms of school participation ratios continued to be apparent among the provinces throughout the decade, even though a trend of decreasing strength of association might be observed between school participation ratios and socio-economic variables. Still the differences

remained explainable to a large extent by variations in urbanness, in agriculture as economic activity, and populations with a minimum of lower secondary education.

At the secondary level, the educational attainment level of the population had some explanatory value for school participation, but not so much as was hypothesized. This might be explained by the migration movement from villages to big towns and cities. There has been a significant population movement to urban areas in Turkey for more than one decade. Rural families with no education have settled down in cities, where their children might have more chances of going to school. As is also evident in Section C of the analysis, the share of students with uneducated parents and families of workers increased in the 1960s.

Socio-Economic Background Characteristics of Secondary Level Students

Residential Characteristics

In Section C of the analysis, it was found that 43% of the students at upper secondary level and 45% of the students at lower secondary level reported villages as their birth places. Percentages of villages as current family residence, however, were considerably lower than the percentages for birth place: 31% for upper secondary and 34% for lower secondary schools. This means that the families of many of the students who reported villages as

their birth places had already moved into towns or cities. Differences in terms of current family residences were also observed among students of different types of upper secondary schools, with the largest differences between public and private lycee students.

In the private lycees only five out of every 100 children listed villages as their current family residence, while among public lycees the percentage was 25%, in teacher training schools it was more than 50%, and in boys' technical schools 45% of the students were from families which resided in villages. The portion of children with urban parental residence were higher than those with village parental residence. Village children had fewer chances of going to the public and private lycees which lead to university education. In lower secondary schools the percentage of children with village residential origin was greater than for upper secondary schools. This might be taken as an indication that increases may be expected in the proportions of village children in the upper secondary schools in the years to come.

There are great variations among the regions of Turkey in terms of the students' parental residence. In regions where the rural population exceeds 70%, the children from villages had more chances to attend lower secondary schools than in other regions. When the percentages of students from village residential backgrounds were

compared to percentages of rural population, it was found that in all fifteen regions of the country urban children were over-represented in lower and upper secondary schools. The closest ratio of rural population and rural parental residence was found in the Trabzon region. The widest differences were observed in the regions where the most populous cities of the country are located.

In lower secondary schools 19% (nearly two out of every ten students), and in upper secondary schools 29% (nearly three out of every ten students) were living apart from their families. Most lived in rented houses and paid their own living expenses. In the eastern and southeastern regions of the country, the ratios of the students living away from family and paying their own housing expenses were higher than for students in regions located in the western part of the country. These data indicate that in some regions of the country, to attend upper secondary school is contingent upon not only whether an upper secondary school exists in the surrounding area but also whether the families are financially able to send their children away from home. This has one important policy implication in providing school opportunities to all: in the regions where there are not enough upper secondary schools, local boarding facilities should be provided for those children who cannot otherwise afford to leave home for schooling.

A great majority of upper secondary students had their lower secondary schooling in towns or cities. Only eight out of every 100 students finished both primary and lower secondary schools in villages. Twenty-four out of 100 finished primary school in a village but lower secondary in a town or city. It seems that provision of reserved places for children from village origins in Primary Teachers' Training Schools did help increase the overall proportion of village children in the total upper public secondary school population. Throughout the analysis it was observed that village children had more chances of going to teachers' training schools and boys' technical schools than to the lycees. To be born in an urban residential area still represents a great advantage in terms of having more chances of going to a public lycee.

When the proportions of girls from village origins were compared to those of boys, it was found that the share of girls was rather low, in the lycees especially.

It is a fact that urban children have more chances of access to schools above primary levels. This was observed in the analysis of Turkish data. However, in 1970 approximately one-third of the children taking the opportunity for further schooling beyond primary level were from village origins. The ratio of children with village residential origins seemed to be higher in the

lower secondary schools. The existing policy of accepting 80% of first enrollments to teachers' training schools from students with village origins contributes to leveling off the differences between representation in secondary schools of urban and rural areas. Ways to provide more such opportunities to village children in the public lycee should be sought and realized in the years to come.

Occupational and Educational Backgrounds of Fathers

In the analysis of Chapter IV, Section C, it was found that the percentages of students with fathers in various occupational categories did not differ much between lower and upper secondary schools. Exceptions to this generalization were that (a) ten out of every 100 upper secondary students had fathers in professional occupations while only eight out of every 100 middle school students did so; and (b) more students at lower secondary schools had fathers in the "workers" category than students of upper secondary schools had. Sharp differences were observed when percentages between public and private lycees were compared. More than 50 out of every 100 private lycee students had fathers in professional and administrative occupations, almost twice as many as the percentage of students in public lycees. A similar difference was observed in the "business" category.

When the occupational distributions of students' fathers were compared with the nation-wide occupational distribution of the male population in 1965, it was found that the occupational categories of professionals, high administrators, minor administrative occupations, and business, all were over-represented among secondary students. The over-representation was greater in private lycees than in other schools. Whereas farmers constituted more than half of the male population, the share of their children attending secondary schools was low relative to other occupations. This evidence confirms that children of well-to-do families and professional men had more access to lower and upper secondary schools.

When these findings were compared with the findings of Kazamias' study made eight years ago, a decrease in the share of students with fathers in professional and administrative occupations was found in the public lycees, whereas the share of professional and businessman fathers tended to increase.

This evidence might lead one to conclude that public lycees had become somewhat more open to other groups in the society, whereas private schools had tended to become more exclusively the schools of the intelligentsia and well-to-do families. Some of the private schools, especially those in which some of the instruction is given in a foreign language, are very popular with these latter

groups. These schools are growing at a faster rate than ever before, and becoming even more restricted to children of well-to-do families and professional men. The children of farmers still have less chance to attend upper secondary school than do the children of other occupational categories.

It seems, therefore, that the public lycees may be becoming more accessible to children of all strata in the population, while the higher socio-economic classes of the society establish their own private schools for their children. It seems that the public lycee is leaving its role as an elite school to the private lycees.

In the middle and upper private secondary schools, the children of well-educated fathers also are over-represented in all categories. This coincides with the findings of occupational distribution of the fathers. The public schools necessarily do not restrict children of less educated parents--they are open to all. On the other hand, it may be that the private lycees gradually will restrict themselves to more and more the children of well-educated families.

Conclusions

In the light of the findings discussed above, the main propositions and conclusions which may reasonably be drawn from this study may be summarized as follows:

1. Analysis of differences in primary and secondary school developments indicate that:

- In the 1960s, the greater increases in enrollments in primary education occurred in educationally less developed provinces of the country.
- The gap between the top ten and the bottom ten provinces in school participation and the girls' portion in total enrollments persisted over the ten years of time.
- If growth in primary education continues at the rate of the 1960s, full realization of universal primary education is not likely to be accomplished during the 1970s.
- Increases in school participation rates did not produce substantial improvement in the relative positions of provinces during the decade.
- The provinces which were located in the southeastern section of the country remained at the bottom of development scales, relative to the national averages between 1960 and 1970.
- Accelerating progress toward full participation at primary school levels will be dependent upon increasing the portion of girls in total enrollments.
- There is a functional relationship at primary levels between the ratio of school participation and of girls' portion in total enrollment. Where the girls' portion in total enrollments were low, there the school participation ratios also were low.
- Present school participation figures could be better qualified when judged against figures on the portion of the girls in enrollments, since participation ratios are presently distorted by inclusion of over-aged pupils over twelve years of age.
- Increases in school participation ratios at lower secondary school levels also did not substantially change the positions of provinces relative to the national averages over the ten years 1960-1970.

- Provinces which had low rates of growth at primary levels tended also to have low rates of growth at lower secondary level.
- Inequalities in school participation ratios were more acute in southeastern sections of the country at all levels of schools throughout the 1960s.
- The inequalities of 1960 at upper secondary school levels persisted through 1970.

2. Analysis of socio-economic factors related to differences in school participation ratios indicated that:

- Differences in primary participation ratios were best explained by differences in educational attainment levels (population with maximum primary education).
- In provinces where relatively more persons had been exposed to schooling, primary school participation ratios tended to be high.
- Primary school participation ratios varied independently from measures of urbanness, population density, agriculture as economic activity, and volume of population.
- When the differences become less apparent among the provinces, the association between socio-economic variables with school participation ratios tend to decrease.
- Differences in school participation appeared not to be a function of the existence of schools and teachers but more a function of whether the population had had experience of schooling.
- At lower secondary levels, school participation rates did not associate substantially with differences in socio-economic factors.
- At upper secondary levels, where males in the population were more engaged in agriculture, the school participation ratios tended to be low.
- Urban and socio-economically developed provinces benefited more between 1960-1970 from the expansion of educational opportunities at upper secondary levels.

- Provision of equal opportunities was less fully realized at upper secondary levels than at lower secondary levels or primary school levels.
- The children of urban areas and economic centers of the regions have better chances for further schooling than the children of the areas where agriculture is the main economic activity and the population is widely distributed.
- The lack of qualified science teachers was evident in almost all provinces of the country in 1970.
- In addition to the few most populous and developed provinces of Turkey, those provinces where there was a relative population concentration and which served as economic service-centers to surrounding areas benefited most from and dominated the increases in school participation at both lower and upper secondary schools.

3. The responses of secondary students to questionnaires indicate the following:

- In lower secondary and upper secondary schools one-third of the students were those with parents residing in villages.
- Relatively more students from rural residential origin were enrolled in primary teachers' training schools.
- In lower secondary schools there are more students with rural origin than in upper secondary schools.
- Children with urban residential origin are over-represented in all types of secondary schools in all regions of the country.
- In the regions where rural population exceeds the national average, children of rural families have relatively greater access to lower secondary schools.
- In the regions of the eastern part of the country, relatively more secondary students tend to live apart from their families than in the western part of the country.

- The share of girl students with village origin is low when compared to boys with rural origin.
- The children of fathers who are administrators or professional men are over-represented in the secondary schools.
- Private lycees attract the children of persons who are in professional occupations, in business, or in administrative occupations.
- In eight years of time, a decrease was observed in the concentrations in public lycees of children of fathers in professional and administrative occupations.
- Public lycees had become somewhat more open to children of all occupational categories, whereas in private lycees the children of well-to-do families dominated increasingly. Children of farmers had less access to upper secondary schools than children whose fathers were in other occupational categories. The share of children of workers in the secondary school enrollments was improved considerably in the decade of 1960s.

Implications and Suggestions

In the light of the findings and the conclusions of the study the following implications were developed. Some of them deal with research issues and others with policy.

Research Issues

As was demonstrated in the analysis of the study, the results of the statistical techniques employed were limited by the variables utilized. More effort should be devoted to the refinement of growth variables in education. School participation ratios need to be developed so that they reflect the actual attendance patterns in enrollments.

The refinement of the indicators of educational growth and socio-economic development and of the research methodologies seems an important research issue at the present time. This will provide a basis for the development of more systematic and scientific approaches to the issues of the allocation of resources, provision of equal opportunities to all, and to the preparation of short- and long-term educational plans.

Another implication which can be derived from this study is a by-product. It deals with the problems faced in the utilization of official statistical data. The reliability and accuracy of official data is a matter of great concern to administrators as well as to researchers. The development of a better system for collecting statistical data seems an imperative issue at the present time. Unless a systematic way for recording and reporting educational data is established, it would be illusory to prepare realistic plans and evaluate practices in the educational system objectively.

This study dealt mainly with the basic differences between the provinces. The investigation of the differences in the provinces (district center vs village; urban vs rural) is an important one. More research should be directed toward specifying the differences and inequalities among the provinces. It is quite probable that even more striking differences exist in the provinces. These types

of investigations could provide substantial information for planning at regional and provincial levels and for the policy-decision of providing equal educational opportunities to all.

Here, the equality of educational opportunity has been studied in quantitative terms and analyzed in the context of a limited segment of the criteria (school participation and pupil-teacher ratios) which tends to restrict the operational definition of the concept of equality of educational opportunity. However, in recent years the definition of the concept and criteria for evaluating actual practice in terms of equality have dealt more with the quality characteristics of the teaching-learning environment, the interaction of sociological and psychological factors in school settings, and the effects of schooling on students. More weight is given to the quality of the school output and the differences in it. For that reason more research should be devoted to this dimension of equality of schooling opportunities.

Policy Issues

In Turkey, the concept of equality of education opportunity has been defined and interpreted in broad terms. There has been no clear-cut operational policy in this line with the exception of primary education which is compulsory by law. In order to implement and realize equality of educational opportunity throughout the country,

more concrete operational policy of the State needs to be specified.

Present policy deals with the provision of school buildings, teachers, facilities, and scholarships. These are necessary, but not sufficient, conditions. Other conveniences should be provided in order that every child have a chance for further schooling. In this line it is suggested that the following elements be a part of present day policies related to equality of educational opportunity:

1. The location of the secondary school should be selected so that children in the vicinity of the school should have easy access to the school.

2. It is evident that a substantial number of students live apart from their families and pay their own living expenses while attending school. For those who cannot afford to leave their family to attend school, boarding and school expenses should be met by the state or by the local community. Local initiative on this matter should be encouraged and supported by the government.

3. In small settlements where possible, years of primary schooling should be extended one or two years for those who want to continue their education, at which time they can transfer to schools in the towns.

4. Criteria for distributing scholarships and boarding places in the schools need to be reevaluated. Children in less developed areas who cannot afford

schooling and children in provinces where schools are scarce should have high priorities in the distribution of scholarships and boarding places.

5. It seems that village children have more chance of entering the teaching profession. Opportunities for entering other professions need to be enlarged for them.

6. Special attention should be given to literacy campaigns in areas where development in primary education is low.

7. A special incentive system for attracting girls to school should be developed.

8. It seems that private lycees tend to become selected schools. This development trend should be evaluated very carefully. More provision should be secured in the private lycees for children of other segments of the population.

9. A special effort should be made to expand science teaching and better distribute science teachers throughout the country.

Summary

The purpose of this study was to evaluate the practices of providing equal educational opportunities to the children at primary and secondary levels during the decade of 1960. The study focused on quantitative expansion of the educational opportunities. More

specifically the answers were sought for the following questions:

1. What are the differences or inequalities in the availability of school opportunities at primary and secondary levels among the provinces of Turkey?

2. What are the differences in the growth of school opportunities between the years of 1960 and 1970 among the provinces, and what factors seem to account for these differences?

3. Among the regions of the country what are the differences in the socio-economic backgrounds of students who had access to schools above primary level?

By seeking answers to those questions it was aimed to provide more accurate and systematic data on the differences in school opportunities so that better criteria for allocations of resources and more realistic policy designs for provision of equal opportunities to all could be developed.

In Chapter II the theoretical and practical issues underlying the definition of the concept of equality of educational opportunity and research in this area were reviewed. As fully presented in the related chapter, discussions of equality of educational opportunity are largely loaded with moral considerations. Both equality, being one of the ideals of democracy, and the great emphasis which democracy places on the individual's rights

and the need for the realization of these rights, urge nations to take necessary actions. Education has been conceived as the most important sphere for the realization of these rights and of the individual's self development.

Education also plays an important role in democratization and in economic and social developmental processes. Preparation of manpower required for the economy, and development of basic skills, knowledge, and attitudes of a nation are considered to comprise the important responsibilities of an educational system. Some see that an approach to education as a means for manpower requirements contradicts the ideals of equality of educational opportunity. Some, on the contrary, claim that investment in education as a means to satisfy manpower requirements is not a one-way process; instead, this economic necessity makes it possible to mobilize new reserves of talent. The importance of fully developing the talents of young people, which is important in its own right, quite apart from economic needs, is reinforced by the imperatives of economic development. However the discussions of equality versus efficiency in a system may proceed, there is clear evidence that education is one of the determinants of social mobility and of social justice.

Recent studies of the relationship between education, social stratification and the economy urge policy makers to create environments in which everybody should

have a chance to develop his capacities in full. The new concept of ability as a variable, determined largely by environmental factors, has had strong implications for the definition and provision of equality of educational opportunities.

The meaning of the concept of equality of educational opportunity has changed from (a) opportunity to attend the same school, to (b) provision of schools with same quality characteristics for all, to (c) assuring that people of equal ability should have an equal opportunity to attend school, to (d) the provision of opportunity to acquire academic skills and enrichment for children of all social classes, to (e) providing equality in effects of schooling.

In the Turkish society, education has been the basic social distinction. To be educated is established in Turkey as a legal right as well as a social right. In the national development plans, realization of social justice is stated as the real aim. The plans have given special directions and provisions for education in terms of equality of educational opportunity. Assessments of the realization of equal opportunities throughout the country have revealed great differences between western and eastern regions of the country. The secondary schools are dominated by children of urban areas and children of professional families.

Increasing demand for education in developed and developing countries makes the realization of equality of educational opportunity an important issue. Another important point in this line is that some of the obstacles to providing educational opportunity to all are deeply rooted in the society. Realization of equal educational opportunity should be achieved in cooperation with equalization efforts in other social sectors of the society. Educational reforms for achieving equality have to be accompanied by social reforms.

In Chapter III, the design of the study was presented. The data for the analysis of differences of school opportunities at primary and secondary levels among the provinces and for the explanation of the differences in terms of socio-economic variables were taken from the publications of the State Statistical Institute. Educational statistics for the year 1970 were obtained from the files of several general directorates of the Ministry of Education. The data related to population characteristics were obtained from the Census Reports for the years 1960 and 1965.

The data on student background characteristics were obtained from questionnaires distributed to nationwide samples of students in the lower and upper secondary schools of Turkey. Data obtained from the publications of the State Statistical Institute were checked against the data

and files of the Ministry of Education. There were no major discrepancies between these two sources. 1970 data from files of the Ministry of Education similarly were checked against the latest publication of the State Statistical Institute on 1970-1971 school statistics and were found to be comparable.

The samples contained 203 lower secondary and 125 upper secondary schools. Data were collected successfully in March 1971. The return rate for questionnaires was 88.8% for both upper and lower secondary schools. The data were processed in an IBM 1620 computer in the Planning, Research and Coordination Department of the Ministry of Education.

In the analysis the differences among the provinces were presented in terms of school participation ratios and development categories based on the average values in school participation in 1960, 1965 and 1970.

In order to explain the differences in growth of educational opportunities in the context of demographic changes, of educational attainment levels of population, and of socio-economic level of the provinces, the technique of multiple-regression analysis was employed. In the analyses the school participation ratios for 1960, 1965 and 1970 in terms of number of students per thousand school age population were taken as dependent variables, and urban population, population with maximum primary education, population with minimum lower secondary education, male

population engaged in agriculture per thousand population, and density of population per unit of area in respective years were taken as independent variables. For 1970, 1965 Census figures were utilized.

In the analyses in Chapter IV it was found that:

- In the 1960s, the greater increases in enrollments in primary education occurred in educationally less developed provinces of the country.
- Accelerating progress toward full participation at primary school levels will be dependent upon increasing the portion of girls in total enrollments.
- Increases in school participation ratios at lower secondary school levels also did not substantially change the positions of provinces relative to the national averages over the ten years 1960-1970.
- Provinces which had low rates of growth at primary levels tended also to have low rates of growth at lower secondary level.
- Inequalities in school participation ratios were more acute in southeastern sections of the country at all levels of schools throughout the 1960s.
- Differences in primary participation ratios were best explained by differences in educational attainment levels (population with maximum primary education).
- Primary school participation ratios varied independently from measures of urbanness, population density, agriculture as economic activity, and volume of population.
- At lower secondary levels, school participation rates did not associate substantially with differences in socio-economic factors.
- Urban and socio-economically developed provinces benefited more between 1960-1970 from the expansion of educational opportunities at upper secondary levels.

- The children of urban areas and economic centers of the regions have better chances for further schooling than the children of the areas where agriculture is the main economic activity and the population is widely distributed.
- In addition to the few most populous and developed provinces of Turkey, those provinces where there was a relative population concentration and which served as economic service-centers to surrounding areas benefited most from and dominated the increases in school participation at both lower and upper secondary schools.
- In lower secondary and upper secondary schools one-third of the students were those with parents residing in villages.
- Relatively more students from rural residential origin were enrolled in primary teachers' training schools.
- In the regions where rural population exceeds the national average children of rural families have relatively greater access to lower secondary schools.
- In the regions of the eastern part of the country, relatively more secondary students tend to live apart from their families than in the western part of the country.
- The share of girl students with village origin is low when compared to boys with rural origin.
- The children of fathers who are administrators or professional men are over-represented in the secondary schools.
- Private lycees attract the children of persons who are in professional occupations, in business, or in administrative occupations.

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APPENDICES

APPENDIX A
SAMPLING PROCEDURE AND INSTRUMENTS
FOR DATA

1. Sampling Procedures--Upper and Lower Secondary Schools
2. Questionnaire for Lower Secondary Students
3. Questionnaire for Upper Secondary Students
4. Letter from Undersecretary to Directors of Schools
5. Regions of Turkey
6. Classification of Occupations

SAMPLING PROCEDURES

STEP 1.--The number of students by regions and proportions.

Region	Lower Secondary	%	Upper Secondary Lycee	%
ADANA	54,388	7.7	19,188	9.5
ANKARA	112,788	16.0	35,588	17.6
ANTALYA	19,809	2.8	5,926	2.9
DİYARBAKIR	19,445	2.7	5,738	2.6
İZMİR	85,527	12.1	24,847	12.3
ELAZIG	27,611	3.9	7,188	3.5
ERZURUM	26,266	3.7	7,454	3.7
ESKİŞEHİR	29,900	4.2	7,032	3.4
GAZİANTEP	21,203	3.0	6,020	2.9
İSTANBUL	152,569	21.6	45,391	22.5
KAYSERİ	39,458	5.4	8,525	4.2
SAMSUN	52,733	7.4	11,985	5.9
TRABZON	30,479	4.3	8,235	4.1
VAN	6,337	0.9	1,550	0.7
ZONGULDAK	26,130	3.7	6,358	3.1
TOTAL	703,643	99.4	201,025	98.0

Source: Secondary Education, 1969-70, General Directorate for Secondary Education, Ministry of Education of Turkey, Ankara, 1970, pp. 1-113.

STEP II.--Upper secondary schools.

Region	Number of upper secondary schools to be included in each region		
	Portion of students	No. of schools selected from each region ¹	No. of schools returning the questionnaires
ADANA	9.5	10	10
ANKARA	17.6	20	16
ANTALYA	2.9	4	4
DİYARBAKIR	2.6	4	4
İZMİR	12.3	14	12
ELAZIG	3.5	5	5
ERZURUM	3.7	6	6
ESKİŞEHİR	3.4	5	5
GAZİANTEP	2.9	4	4
İSTANBUL	22.5	25	20
KAYSERİ	4.2	6	5
SAMSUN	5.9	7	7
TRABZON	4.1	6	5
VAN	7	4	3
ZONGULDAK	3.1	5	5
		<u>125</u>	<u>111</u>

¹100 students constituted 1 upper secondary school.

STEP III.--Distribution of students in the general upper
secondary school (lycees) by type of school location.

Regions	The number of students at schools located in the Capital city of Province	%	Number of stu- dents at the schools in District Centers	%	Total
ADANA	8,410	43	10,778	56	19,188
ANKARA	27,648	77	7,940	22	35,588
ANTALYA	3,543	59	2,383	40	5,926
DİYARBAKIR	3,476	60	2,262	39	5,738
İZMİR	15,682	63	9,165	36	24,847
ELAZIG	6,674	92	514	8	7,188
ERZURUM	5,022	66	2,432	33	7,454
ESKİŞEHİR	5,014	71	2,018	28	7,032
GAZİANTEP	3,976	66	2,044	33	6,020
İSTANBUL	37,111	81	8,280	18	45,391
KAYSERİ	6,079	70	2,446	28	8,525
SAMSUN	5,923	49	6,062	50	11,985
TRABZON	4,919	59	3,316	40	8,235
VAN	1,277	82	273	17	1,550
ZONGULDAK	2,457	38	3,901	61	6,358
	<u>137,211</u>	<u>—</u>	<u>63,814</u>	<u>—</u>	<u>201,025</u>

STEP IV.--Number of schools included from each type of school location and number of returns.

Regions	Portion of students at each school location		No. of schools selected from		No. of schools returned the questionnaires	
	Capital City of Province	District Center	Capital City	District Center	Capital City	District Center
ADANA	43	56	5	5	5	5
ANKARA	77	22	15	5	13	3
NATALYA	59	40	3	1	3	1
DİYARBAKIR	60	39	3	1	3	1
İZMİR	63	36	8	6	8	4
ELAZIG	90	9	4	1	4	1
ERZURUM	66	33	4	2	4	2
ESKİŞEHİR	71	28	3	2	3	2
GAZİANTEP	66	33	3	1	3	1
İSTANBUL	81	18	20	5	16	4
KAYSERİ	70	28	4	2	4	1
SAMSUN	50	50	4	3	4	3
TRABZON	59	40	4	2	4	1
VAN	82	17	3	1	2	1
ZONGULDAK	38	61	2	3	2	3
			85	40	78	33
			125		111	

The Name of Schools in the Sample
of Upper Secondary Schools

I. ADANA BÖLGESİ (ADANA REGION)

1. İcel Erkek Sanat Enstitüsü
2. Adana Karsiyaka Lisesi
3. Adana Kız Lisesi
4. Adana Ticaret Lisesi
5. Hatay Kız Öğretmen Okulu
6. İcel Anamur Lisesi
7. İcel Tarsus Lisesi
8. İskenderun Ticaret Lisesi
9. Hatay Kirikhan Lisesi ..
10. Adana Kakkaniye Düzici Erkek Öğretmen Ok.

II. ANKARA BÖLGESİ (ANKARA REGION)

1. Ankara Anafartalar Lisesi
2. Ankara Cumhuriyet Lisesi
3. Ankara Fen Lisesi
4. Ankara Gazi Lisesi
5. Ankara Kecioren Lisesi
6. Ankara Kurtulus Lisesi
7. Ankara Yenimahalle Mustafa Kemal Lisesi
8. Ankara Ticaret Lisesi
9. Ankara Yıldırım Beyazıt Erkek Sanat Enstitüsü
10. Cankiri Ticaret Lisesi
11. Kirsehir Lisesi
12. Yozgat Lisesi
13. Konya Atatürk Kız Lisesi
14. Konya Cumra Lisesi
15. Konya Eregli Lisesi
16. Konya Aksehir Lisesi

III. ANTALYA BÖLGESİ (ANTALYA REGION)

1. Antalya Erkek Sanat Enstitüsü
2. Burdur Lisesi
3. Isparta Kız Öğretmen Okulu
4. Isparta Yalvac Lisesi

IV. DİYARBAKIR BÖLGESİ (DIYARBAKIR REGION)

1. Urfa Lisesi
2. Diyarbakir Ziya Gökalp Lisesi
3. Urfa Siverek Lisesi
4. Siirt Batman Lisesi

V. EGE BÖLGESİ (EGE REGION)

1. Uşak Lisesi
2. Uşak Erkek Sanat Enstitüsü
3. Manisa Lisesi
4. Muğla Turgut Reis Lisesi
5. İzmir Atatürk Lisesi
6. İzmir Ticaret Lisesi
7. Denizli Ticaret Lisesi
8. Aydın-Aydın Lisesi
9. Bergama Bergama Lisesi
10. Urla-Urla Lisesi
11. Ödemiş-Ödemiş Erkek Sanat Enstitüsü
12. Denizli-Tavas Lisesi

VI. ELÂZİG BÖLGESİ (ELAZIG REGION)

1. Mus Erkek Sanat Enstitüsü
2. Elâzig Elâzig Lisesi
3. Malatya Malatya Ticaret Lisesi
4. Elâzig Kız Öğretmen Okulu
5. Malatya Hekimhan Lisesi

VII. ERZURUM BÖLGESİ (ERZURUM REGION)

1. Erzincan Ticaret Lisesi
2. Erzurum Erzurum Lisesi
3. Kars Alpaslan Lisesi ..
4. Erzurum Nene Hatun Kız Öğretmen Okulu
5. Kars Iğdır Lisesi ..
6. Erzurum Yavuz Selim Öğretmen Okulu

VIII. ESKİŞEHİR BÖLGESİ (ESKİŞEHİR REGION)

1. Eskişehir Atatürk Lisesi
2. Eskişehir Eskişehir Koleji
3. Afyon Afyonkarahisar Lisesi
4. Kütahya Tavşanlı Lisesi ..
5. Eskişehir Yunus Emre Erkek Öğretmen Okulu

IX. GAZİANTEP BÖLGESİ (GAZİANTEP REGION)

1. Gaziantep Gaziantep Lisesi
2. Maras Maras Lisesi
3. Adıyaman Adıyaman Lisesi
4. Maras Elbistan Lisesi

X. İSTANBUL BOLGESİ (İSTANBUL REGION)

1. Tekirdag Namik Kemal Lisesi
2. Kirklareli Erkek Sanat Enstitüsü
3. Edirne Ticaret Lisesi
4. Canakkale Ticaret Lisesi
5. İstanbul Bakırköy Lisesi
6. İstanbul Erenköy Kız Lisesi
7. İstanbul Fenerbahçe Lisesi
8. İstanbul Kabatas Erkek Erkek Lisesi
9. İstanbul Kandilli Kız Lisesi
10. İstanbul Kasimpasa Lisesi
11. İstanbul Küçükçekmece Lisesi
12. İstanbul Sarıyer Lisesi
13. İstanbul Sagmalcılar Lisesi
14. Bilecik Erkek Sanat Enstitüsü
15. Tekirdag Corlu Lisesi
16. Canakkale Gelibolu Lisesi
17. Balıkesir Edremit Lisesi
18. Bursa Mudanya Lisesi
19. Bursa Kız Lisesi, Sakarya Adapazari Lisesi
20. Sakarya Ticaret Lisesi

XI. KAYSERİ BÖLGESİ (KAYSERİ REGION)

1. Sivas Sivas Lisesi
2. Kayseri Kayseri Lisesi
3. Kayseri Kayseri Ticaret Lisesi
4. Nevşehir Nevşehir Erkek Sanat Enstitüsü
5. Kayseri Pınarbaşı Lisesi

XII. SAMSUN BOLGESİ (SAMSUN REGION)

1. Giresun Giresun Lisesi
2. Samsun Erkek Sanat Enstitüsü
3. Ordu Ordu Lisesi
4. Giresun Kız Öğretmen Okulu
5. Amasya Merzifon Ticaret Lisesi
6. Samsun Bafra Lisesi
7. Ordu Ünye Lisesi

XIII. TRABZON BÖLGESİ (TRABZON REGION)

1. Trabzon Erkek Sanat Enstitüsü
2. Artvin Artvin Kâzım Karabekir Lisesi
3. Trabzon Besikdüzü Kız Öğretmen Okulu
4. Trabzon Of S.A. Kürkkün Lisesi
5. Gümüşhane Erkek Sanat Enstitüsü

XIV. VAN BOLGESİ (VAN REGION)

1. Agri Naci Gökce Lisesi
2. Van Atatürk Lisesi
3. Van Alpaslan İlköğretmen okulu

XV. ZONGULDAK BÖLGESİ (ZONGULDAK REGION)

1. Kastamonu Abdurrahman Pasa Lisesi
2. Zonguldak M. Celikel Lisesi
3. Bolu Kiz Öğretmen Okulu
4. Bolu Erkek Öğretmen Okulu
5. Bolu Gerede Lisesi

The name of schools did not return questionnaires on time:

ANKARA REGION

Sorgun Lisesi
Mucur Lisesi
Kirsehir Sanat Enstitüsü
Konya Erkek Lisesi

İZMİR REGION

Alazehir Lisesi
Milas Lisesi

İSTANBUL REGION

Eyüp Lisesi
Catalca Lisesi
Tekirdag Sanat Enstitüsü Davut Pasa Lisesi
Kesan Lisesi

KAYSERİ REGION

Gemerek Lisesi

TRABZON REGION

Rize Lisesi

VAN REGION

Van Kiz Öğretmen Okulu

The Name of the Private Lycees
Included in the Sample

Questionnaires returned:

1. Seyhan Koleji-Adana
2. Türk Egtim Dernegi Koleji-Ankara
3. Yükselis Koleji-Ankara
4. Bursa Koleji-Bursa
5. Çamlık Koleji-Denizli
6. Özel Iskisehir Koleji-Eskisehir
7. Özel Gaziantep Koleji-Gaziantep
8. Amerikan Koleji-İçel
9. Özel Isik Koleji-İstanbul
10. Özel Sisli Koleji-İstanbul
11. Özel Alman Lisesi-İstanbul
12. Özel Karsiyaka Koleji-İzmir
13. Özel Buca Erkek Lisesi-İzmir
14. Türk Egitim Dernegi Koleji-Kayseri
15. Özel Selcuk Koleji-Konya
16. Özel Türk Egitim Dernegi Koleji-Zonguldak

Questionnaire not returned on time:

1. Özel Antalya Koleji-Antalya
2. Özel Atatürk Koleji-Hatay
3. Özel İstiklal Lisesi-İstanbul
4. Özel Moda Koleji-İstanbul
5. Özel Amerikan Kiz Koleji-İzmir

STEP II/A.--Lower secondary schools.

Regions	No. of lower secondary schools to be included in the sample for lower secondary schools	
	Portion of students %	No. of school included in the sample
ADANA	7.7	16
ANKARA	16.0	30
ANTALYA	3.2	6
DİYARBAKIR	2.7	6
İZMİR	12.1	24
ELAZIG	3.9	8
ERZURUM	3.7	8
ESKİŞEHİR	4.2	8
GAZİANTEP	3.0	6
İSTANBUL	21.6	44
KAYSERİ	5.4	12
SAMSUN	7.4	15
TRABZON	4.3	9
VAN	0.9	4
ZONGULDAK	3.7	7
	99.4	203

STEP III.--Distribution of the students at general lower
secondary school by school location and regions.

Regions BÖLGELER	Cap. City İL MERKEZİ	%	District		Village		TOPLAM
			Center İLCE MER.	%	BUCAK-KÖY	%	
ADANA	21,831	40	27,782	51	4,784	9	54,397
ANKARA	67,085	59	37,837	33	7,866	8	112,788
ANTALYA	7,117	35	9,821	49	2,871	16	19,809
DİYARBAKIR	8,158	41	10,847	55	450	4	19,445
İZMİR	35,564	41	34,039	39	16,390	20	85,993
ELAZIG	14,155	51	10,868	39	2,588	10	27,611
ERZURUM	10,816	41	13,770	52	1,680	7	26,266
ESKİŞEHİR	15,078	50	9,768	32	5,054	18	29,900
GAZİANTEP	10,097	47	9,578	45	1,528	8	21,203
İSTANBUL	106,125	76	37,339	24	9,105	6	152,569
KAYSERİ	15,070	38	15,370	39	6,531	23	36,971
SAMSUN	17,236	32	30,542	57	4,955	11	52,733
TRABZON	8,533	27	15,331	50	6,615	22	30,479
VAN	3,129	49	3,132	49	76	2	6,337
ZONGULDAK	5,595	21	16,849	64	3,686	15	26,133
	345,589		282,873		74,178		702,640

STEP IV.--Distribution of lower secondary schools by type of school location,
number of schools selected for the sample and number of returns.

Regions	Portion of the students by type of school location			No. of lower secondary schools in the sample			No. of schools returned the ques- tionnaire on time			Tot.	No. of schools returned the ques- tionnaire on time			Tot.
	Cap. City	Dist. Cent.	Vill.	Cap. City	Dist. Cent.	Vill.	Cap. City	Dist. Cent.	Vill.		Cap. City	Dist. Cent.	Vill.	
ADANA	40	51	9	6	8	2	16	5	6	1	12			
ANKARA	59	33	8	14	12	4	30	14	12	2	28			
ANTALYA	35	49	16	2	3	1	6	2	3	1	6			
DIYARBAKIR	41	55	4	3	3	0	6	3	3	0	6			
İZMİR	41	39	20	10	9	5	24	9	7	4	20			
ELAZIG	51	39	10	4	2	2	8	4	1	2	7			
ERZURUM	41	52	7	3	4	1	8	2	4	1	7			
ESKİŞEHİR	50	32	18	3	3	2	8	3	3	2	8			
GAZİANTEP	47	45	8	3	3	1	6	3	2	1	6			
İSTANBUL	70	24	6	31	12	1	44	27	10	1	38			
KAYSERİ	38	39	23	4	5	3	12	5	4	3	12			
SAMSUN	32	57	11	6	7	2	15	6	6	0	12			
TRABZON	27	50	33	3	4	2	9	3	4	2	9			
VAN	49	49	2	2	2	0	4	2	1	0	3			
ZONGULDAK	21	64	15	2	4	1	7	2	3	1	6			
							203				180			

Names of the Lower Secondary School
Included in Sample

I. ADANA BOLGESİ (ADANA REGION)

1. İcel İcel Lisesi Orta kısmı
2. İcel Atatürk Ortaokulu
3. Hatay Merkez Ortaokulu
4. Adana Karsiyaka Cumhuriyet Ortaokulu
5. Adana İmam-Hatip Okulu Orta kısmı
6. Adana Yesilevler Ortaokulu
7. Tarsus Cengiz Topel Lisesi Orta kısmı
8. İcel Erdemli Ortaokulu
9. İcel Gulnar Ortaokulu
10. İcel Silifke Ortaokulu
11. Hatay İskenderun Ortaokulu
12. Adana Bahce Ortaokulu
13. Adana Karatas Ortaokulu
14. Adana Kozan Gazi Ortaokulu

II. ANKARA BOLGESİ (ANKARA REGION)

1. Ankara Anafartalar Lisesi Orta Kısmı
2. Ankara Atatürk Erkek Lisesi Orta Kısmı
3. Ankara Mehmet Akif Ortaokulu
4. Ankara Bahcelievler Deneme Lisesi Orta Kısmı
5. Ankara Abidinpaşa Ortaokulu
6. Ankara Akdere Ortaokulu
7. Ankara Caliskanlar Ortaokulu
8. Ankara Demetevler Ortaokulu
9. Ankara Ayas Ortaokulu
10. Ankara Cubuk Ortaokulu
11. Ankara Kizilcahamam Ortaokulu
12. Ankara Polatlı Kız Sanat Ortaokulu
13. Cankiri Ilgaz Ortaokulu
14. Cankiri Cerkes Ortaokulu
15. Corum Ortaköy Ortaokulu
16. Yozgat Sarıkaya Ortaokulu
17. Konya Eregli Ortaokulu
18. Konya Akşehir Kız Sanat Ortaokulu
19. Ankara Serefli Kochisar Kacarlı Ortaokulu
20. Kirsehir Boztepe Ortaokulu
21. Konya Cumra Akören Ortaokulu
22. Konya Akşehir Reis Ortaokulu
23. Ankara Safaktepe Ortaokulu
24. Ankara Mimar Kemal Ortaokulu
25. Ankara Ulubey Ortaokulu
26. Kirsehir Kale Ortaokulu
27. Konya Nefise Sultan Kız Sanat Ortaokulu
28. Ankara İmam-Hatip Okulu Orta kısmı

III. ANTALYA BÖLGESİ (ANTALYA REGION)

1. Antalya Merkez Ortaokulu
2. Burdur Lisesi Orta kısmı
3. Antalya Finike Ortaokulu
4. Antalya Elmali Lisesi Orta Kısmı
5. Isparta Yalvac Ortaokulu
6. Antalya Akseki Aydıncık Ortaokulu

IV. DİYARBAKIR BÖLGESİ (DİYARBAKIR REGION)

1. Siirt-Siirt Ortaokulu
2. Mardin-Mardin Lisesi Orta kısmı
3. Ali Emiri Ortaokulu-Diyarbakir
4. Birecik Lisesi Orta Kısmı-Urfa
5. Sirvan Ortaokulu-Siirt
6. Gercüş Ortaokulu-Mardin

V. EGE BÖLGESİ (EGE REGION)

1. Atatürk Ortaokulu-Manisa
2. İzmir Esrefpaşa Ortaokulu
3. İzmir Göltepe Ortaokulu
4. İzmir Hürriyet Erkek Ortaokulu
5. İzmir Biddika Rodopzorta Okulu
6. İzmir Kız Lisesi Ortakısmı
7. Denizli Lisesi Ortakısmı
8. Kız Sanat Ortaokulu, Aydın
9. İzmir İmam-Hatip Okulu Orta kısmı
10. Uşak Sivaslı Ortaokulu
11. Manisa Soma Ortaokulu
12. Muğla Marmaris Ortaokulu
13. Bornova Ortaokulu
14. İzmir Buca Lisesi Orta Kısmı
15. Denizli Güney Ortaokulu
16. Aydın Çine Lisesi Orta Kısmı
17. Uşak Esme Yeleğen Ortaokulu
18. Ahmetli ortaokulu Turgutlu Manisa
19. Aydın Çine Karpuzlu Ortaokulu
20. İzmir Bergama Kozak Ortaokulu

VI. ELAZIG BÖLGESİ (ELAZIG REGION)

1. Atatürk Ortaokulu Malatya
2. Malatya Kubilay Ortaokulu
3. Elâzığ Atatürk Ortaokulu
4. Bingöl-Bingöl Lisesi Orta Kısmı
5. Elâzığ İmam-Hatip Okulu Orta Kısım
6. Tunceli Cemiskezek Orta Okulu
7. Sürücü Ortaokulu, Doğanşehir Malatya
8. Malatya Hekimhan Güzeyurt Orta Okulu

VII. ERZURUM BÖLGESİ (ERZURUM REGION)

1. Kars-Kars Lisesi Orta Kisim
2. Kars 30 Ekim Ortaokulu
3. Erzurum Cat Ortaokulu
4. Erzurum Oltu Lisesi Orta Kisim
5. Erzurum Senkaya Lisesi Orta Kisim
6. Kars Tuzluca Ortaokulu
7. Erzurum İliea Orta okulu

VIII. ESKİŞEHİR BÖLGESİ (ESKİŞEHİR REGION)

1. Eskişehir 19 Mayıs Ortaokulu
2. Eskişehir Kiz Sanat Ortaokulu
3. Afyon Imam-Hatip Okulu Orta Kisim
4. Kütühya Tavsanlı Lisesi Orta Kisim
5. Afyon Sultandag Ortaokulu
6. Afyon Emirdag Lisesi Orta Kismi
7. Eskişehir Beylikahir Ortaokulu Mihaliccik
8. Eskişehir Kayman Ortaokulu

IX. GAZİANTEP BÖLGESİ (GAZİANTEP REGION)

1. Gaziantep Kiz Lisesi Orta Kismi
2. Gaziantep Devrim Ortaokulu
3. Adiyaman Adiyaman Ortaokulu
4. Gaziantep Nizip Ortaokulu
5. Nizip Kiz Sanat Okulu
6. Gaziantep Burc-Burc Ortaokulu

X. İSTANBUL BÖLGESİ (İSTANBUL REGION)

1. Tekirdag Namik Kemal Lisesi Orta Kismi
2. Karklareli-Merkez Ortaokulu
3. Edirne Atatürk Ortaokulu
4. Canakkale-Merkex Ortaokulu
5. Karesi Ortaokulu
6. İstanbul Plevne Ortaokulu
7. İstanbul Sagmalcilar Ortaokulu
8. İstanbul Alibeyköy Ortaokulu
9. İstanbul Arnavutkoy Ortaokulu
10. İstanbul Bakirköy Ortaokulu
11. İstanbul Besiktas Ortaokulu
12. İstanbul Beykoz Ortaokulu
13. İstanbul Fekiköy Ortaokulu
14. Tekirdag Cerkezköy Ortaokulu
15. Edirne Enez Ortaokulu
16. Edirne Hysa Ortaokulu
17. Balıkesir, Şehit Mehmet Osman Lisesi
18. Balıkesir Susurluk Lisesi Orta kismi
19. Balıkesir Bigadic Ortaokulu

20. Bilecik Sögüt Ortaokulu
21. Bursa Orhaneli Ortaokulu
22. Sakarya Sapanca Ortaokulu
23. Kocaeli Gölcük Ortaokulu
24. Çanakkale Ezine Geyikli Ortaokulu
25. İstanbul Gelenbevi Erkek Ortaokulu
26. İstanbul Göztepe Ortaokulu
27. İstanbul Nisantasi Nilüfer Hatun Ortaokulu
28. İstanbul Piri Reis Ortaokulu
29. İstanbul Sultanselim Kiz Sanat Ortaokulu
30. İstanbul Sariyer Ortaokulu
31. Bursa Kiz Lisesi Orta Kismi
32. Bursa Osmangazi Ortaokulu
33. Kocaeli İzmit Ortaokulu
34. Kocaeli Mimar Sinan Ortaokulu
35. Sakarya Merkez Ortaokulu
36. Sakarya Kiz Sanat Ortaokulu
37. Bursa İmam-Hatip Okulu orta kismi

XI. KAYSERİ BÖLGESİ (KAYSERİ REGION)

1. Sivas Atatürk Ortaokulu
2. Sivas 4 Eylül Ortaokulu
3. Kayseri Aydinlikevler Ortaokulu
4. Kayseri Sümer Ortaokulu
5. Nevşehir İmam-Hatip Ortaokulu, orta kismi
6. Sivas Gemerek Lisesi Orta kismi
7. Sivas Zara Ortaokulu
8. Kayseri Sarioglan Ortaokulu
9. Nevşehir Avanos Ortaokulu
10. Sivas Cepni Ortaokulu
11. Kayseri Agirnos Mimar Sinan Ortaokulu
12. Niğde Helvadere Ortaokulu

XII. SAMSUN BÖLGESİ (SAMSUN REGION)

1. Amasya-Amasya Lisesi Orta Kismi
2. Giresun-Giresun Ortaokulu
3. Samsun Atatürk Ortaokulu
4. Tokat-Tokat Ortaokulu
5. Tokat Kiz Sanat Ortaokulu
6. Samsun İmam-Hatip Okulu Orta Kismi
7. Amasya Gümüşhacıköy Ortaokulu
8. Giresun Dereli Ortaokulu
9. Sinop Gerze Ortaokulu
10. Samsun Havsa Ortaokulu
11. Tokat Niksar Ortaokulu
12. Tokat Zile Ortaokulu

XIII. TRABZON BOLGESİ (TRABZON REGION)

1. Trabzon Cumhureyet Ortaokulu
2. Trabzon Kiz Ortaokulu
3. Trabzon İmam-Hatip Okulu Orta kısmı
4. Trabzon Araklı Ortaokulu
5. Trabzon Akcakoca Lisesi Orta Kısmı
6. Trabzon Sürmeme Lisesi Orta kısmı
7. Rize Ardesen Ortaokulu
8. Trabzon Akcaabat Düzköy Ortaokulu
9. Artvin Borcka Muratlı Ortaokulu

XIV. VAN BÖLGESİ (VAN REGION)

1. Hakkâri-Hakkâri Lisesi Orta kısmı
2. Van Atatürk Lisesi Orta kısmı
3. Agri Dogu Beyazit Lisesi Orta kısmı

XV. ZONGULDAK BÖLGESİ (ZONGULDAK REGION)

1. Kastamonu-Kastamonu Merkez Ortaokulu
2. Zonguldak Fener Ortaokulu
3. Kastamonu Daday Ortaokulu
4. Zonguldak Safranbolu Lisesi Orta kısım
5. Zonguldak Karabük Lisesi Orta Kısım
6. Bolu Düzce Gümüşova Ortaokulu

The name of schools did not return questionnaires on time:

ADANA

Millî Mensucat Ortaokulu
Hassa Ortaokulu
Sözme Ortaokulu, Atatürk Orta Okulu

ANKARA

Gazi Lisesi (No first level school)
Boztepe Ortaokulu

İZMİR

Mehmet Seyfi Ortaokulu (İzmir)
Esrefpasa Lisesi Orta Kısmı (İzmir)
Ortaklar Ortaokulu (Aydın)
Cözmeli Ortaokulu (Denizli)

ELAZIG

Bulanik Ortaokulu (Mus)

ERZURUM

Kiz Sanat Ortaokulu (Erzurum)

İSTANBUL

Orhangazi Ortaokulu (Bursa)
Yenisehir Lisesi Orta Kismi
Kadiköy Ortaokulu
Kocasinan Ortaokulu
Bakirköy Kiz Orta Sanat Okulu
Celebi Mehmet Ortaokulu (Bursa)

SAMSUN

Alacam Ortaokulu
Gümüs Ortaokulu
Yesildere Ortaokulu

VAN

Eleshit Ortaokulu

ZONGULDAK

Kiz Sanat Ortaokulu (Bolu)

QUESTIONNAIRE I

For Lower Secondary Students

E X P L A N A T I O N

1. This questionnaire is being prepared with the aim of determining some of the characteristics of the pupils who attend higher schools after primary school.
2. There are questions that you will be able to answer in this questionnaire. Please read carefully before answering each question.
3. Do not write your name or your surname in any place in the questionnaire. It will not be known by whom the answers are given and answers will be kept secret and they will not influence your school studies.
4. Please ask any questions that you do not understand to the instructor and then answer.
5. Please put the X sign in the squares for the right answers

Example: if your family lives in town now, answer this question as following.

6. Where does your family live?

- (18-1)
- 1) in village
 - 2) in subdistrict center of villages (village)
 - X 3) in district center (town)
 - 4) in the capital city of the province (town or city)

6. In some of the questions it is necessary to give your answers in numbers in the squares.

Example: If you are 12 years old, answer the question as follows:

3. How old are you? (write in number in the square.)
- 1 2 (14-15)

7. If you are asked to give you answer in writing, write your answer over the dotted line.

Example: If your father is a primary school teacher answer the questions follows.

9. What's your father's occupation. (please write) (21-22)
primary.school.teacher.....

8. The numbers in parenthesis have no relation with your answers.

Do not consider them in your answers.

QUESTIONS

(6-7) Name of the province where your school is located ...

(8-10) Name of your school

(11) Your grade.....

1. Your sex

- (21-1) male
 (2) female

2. Where were you born?

- (13-1) I was born in village
 (2) I was born in subdistrict center
 (3) I was born in district center
 (4) I was born in capital city of the province

3. How old are you (write in numbers in the squares)

4. Is your father living?

- (16-1) Yes
 (2) No

5. Is your mother living?

- (17-1) Yes
 (2) No

6. Where does your family live?
- (18-1) Live in village
 - (2) Live in subdistrict center
 - (3) Live in district center
 - (4) Live in capital city of province
7. Which school has your father graduated from?
- (19-1) hasn't attended school
 - (2) graduated from primary school
 - (3) graduated from secondary school
 - (4) graduated from lycee
 - (5) graduated from teacher training school
 - (6) graduated from boys' trade institute
 - (7) graduated from commercial lycee
 - (8) graduated from higher education
 - (9) graduated from another school (please write name of school).....
8. Which school has your mother last graduate from?
- (20-1) hasn't attended school
 - (2) graduated from primary school
 - (3) graduated from secondary school
 - (4) graduated from lycee
 - (5) graduated from teacher training school
 - (6) graduated from girls' trade institute
 - (7) graduated from higher education institute or university
 - (8) graduated from another school (please write name of school).....
9. What's your father's occupation?
- (21-22) (please write).....
10. If your mother is working, what's her job?
- (23-24) (please write).....
11. How many brothers or sisters do you have?
- (write in number in the square) (25)
- (If you don't have brothers or sisters; put a zero in the square)
12. How many of your brothers and sisters attend school?
(Write in number in square).

13. Which of the following is the most suitable to the income of your family?
- (27-1) a. my family is poor
 - (2) b. my family income is average
 - (3) c. my family is well to do
 - (4) d. my family is very rich
14. Have you ever worked to earn money? Are you still working?
- (28-1) a. I worked in summer vacations
 - (2) b. I worked on week-ends
 - (3) c. I work every day after school
 - (4) d. I work some times
 - (5) e. I have never worked to earn money
15. Which of the following is appropriate to the savings of your family or your own savings for school?
- (29-1) a. I have all the money I need for my school expenses.
 - (2) b. This money can only provide my school expenses.
 - (3) c. If I were not a boarder student, this money won't be sufficient.
 - (4) d. This money isn't sufficient for my school expenses; I have financial difficulties in while I am in the school.
16. Do you have a separate study room in your home?
- (30-1) Yes
 - (2) No
17. Where did you finish the primary school?
- (31-1) in village
 - (2) in subdistrict center
 - (3) in district center
 - (4) in capital city of province
18. At what age did you start primary school? (Write in numbers in the square).
- (32-33)
19. Have you ever flunked in primary school?
- (34-1) Yes
 - (2) No

20. Were there five or more teachers at the primary school you attended?
- (35-1) There were five or more teachers
 - (2) There were less than five teachers
21. After primary school, have you attended any other school before you registered to the school you are attending now?
- (36-1) Yes
 - (2) No
22. After primary school, have you quit education for sometime?
- (37-1) Yes
 - (2) No
23. Where is the school you're attending located? now
- (38-1) in village
 - (2) in subdistrict center
 - (3) in district center
 - (4) in capital city of province
24. Have you flunked at the school you have attended after primary school?
- (39-1) Yes
 - (2) No
25. Who has influenced you the most to enter the school you are attending now?
- (40-1) a. I wanted to attend the school mostly
 - (2) b. My father wanted me to attend this school
 - (3) c. My mother wanted me to attend this school
 - (4) d. My primary school teacher wanted me to enter this school
 - (5) e. Please write any other person who has influenced you other than any above.....
26. Which of the following statements is the most important reason for your entrance to the school you're attending now.
- (40-1) a. I have this school because it's located in the place I live.
 - (2) b. I have entered this school so that I can start earning my life in short time.
 - (3) c. I entered this school because of low expenses.
 - (4) d. I entered this school because its teaching quality is better than the others

- (5) e. I entered this school because it is a pass school.
- (6) f. I entered this school because it leads to higher education.
- (7) g. I entered this school without thinking, just by coincidence.

27. Where do you stay at while you're attending your school?

- (42-1) a. with my family
- (2) b. I am a free boarder at school
- (3) c. I stay as a boarder at school dormitory on my own expenses
- (4) d. I stay at private student dormitory
- (5) e. I stay at a rented apartment alone or with my friends.
- (6) f. I stay at a house of a relative or at a house of a family that I know.
- (7) g. at somewhere else. (please write).....

28. At where did you live the most? (the place you lived most of your life).

- (43-1) in village
- (2) in subdistrict center
- (3) in district center
- (4) in capital city of province

29. Which of the following is appropriate to your future plans?

- (44-1) a. I am planning on higher education
- (2) b. I am planning on having a job after I finish school
- (3) c. I am planning on staying home after I finish school
- (4) d. I am planning on continuing on my family's business after I finish this school
- (5) e. I am planning on finishing a vocational school and start earning my life
- (6) f. Others (please write).....
.....

QUESTIONNAIRE II

For Upper Secondary Schools

E X P L A N A T I O N

1. This questionnaire is being prepared with the aim of determining some of the characteristics of the pupils who attend higher schools after primary school.
2. There are questions that you will be able to answer in this questionnaire. Please read carefully before answering each question.
3. Do not write your name or your surname in any place in the questionnaire. It will not be known by whom the answers are given and answers will be kept secret and they will not influence your school studies.
4. Please ask any questions that you do not understand to the instructor and then answer.
5. Please put the X sign in the squares for the right answers

Example: if your family lives in district center now,
answer this question as following.

6. Where does your family live?

(18-1) (1) in village
 (2) in subdistrict center
 X(3) in district center
 (4) in the capital city of the province

6. In some of the questions it is necessary to give your answers in numbers in the squares.

Example: if you are 12 years old, answer the question as follows:

3. How old are you? (write in number in the square).

1 2 (14-15)

7. If you are asked to give your answer in writing, write your answer over the dotted line.

Example: If your father is a primary school teacher answer the question as follows.

9. What's your father's occupation. (Please write) (21-22)

.....primary school teacher.....

8. The numbers in parenthesis have no relation with your answers. Do not consider them in your answers.

QUESTIONS

(6-7) Name of the province where your school is located.....

(8-10) Name of your school.....

(11) Your grade.....

1. Your sex

- (12-1) male
- (2) female

2. Where were you born?

- (13-1) I was born in village
- (2) I was born in subdistrict center
- (3) I was born in district center
- (4) I was born in capital city of the province

3. How old are you (write in numbers in the squares) (14-15)

4. Is your father living?

- (16-1) yes
- (2) no

5. Is your mother living?

- (17-1) yes
- (2) no

6. Where does your family live?

- (18-1) (1) Live in village
- (2) Live in subdistrict center
- (3) Live in district center
- (4) Live in capital city of province

7. Which school has your father graduated from?

- (19-1) hasn't attended school
- (2) graduated from primary school
- (3) graduated from secondary school
- (4) graduated from lycee
- (5) graduated from teacher training school
- (6) graduated from boys' trade institute
- (7) graduated from commercial lycee
- (8) graduated from higher education institute or university
- (9) graduated from school (please write name of school).....

8. Which school has your mother last graduated from?

- (20-1) hasn't attended school
- (2) graduated from primary school
- (3) graduated from secondary school
- (4) graduated from lycee
- (5) graduated from teacher training school.
- (6) graduated from girls' trade institute
- (7) graduated from higher education institute or university
- (8) graduated from another school (please write name of school).....

9. What's your father's occupation?

(21-22) please write.....

10. If your mother is working, what's her job?

(23-24) please write.....

11. How many brothers or sisters do you have?

(Write in number in the square) (25)

(If you don't have brothers or sisters; put a zero in the square)

12. How many of brothers and sisters attend school? (Write in number in square) (26)

13. Which of the following is the most suitable to the income of your family?

- (27-1) a. my family is poor
- (2) b. my family is of average income
- (3) c. my family is well to do
- (4) d. my family is very rich

14. Have you ever worked to earn money? Are you still working?
- (28-1) a. I worked in summer vocations
 - (2) b. I worked on week-ends
 - (3) c. I work every day after school
 - (4) d. I worked some times
 - (5) e. I have never worked to earn money
15. Which of the following is appropriate to the savings of your family or your own savings for school?
- (29-1) a. I have all the money I need for my school expenses.
 - (2) b. This money can only provide my school expenses
 - (3) c. If I were not a boarder student, this money won't be sufficient.
 - (4) d. This money isn't sufficient for my school expenses; I have financial difficulties in while I am in the school.
16. Do you have a separate study room in your home?
- (30-1) Yes
 - (2) No
17. Can your family support you financially if you go for higher education?
- (31-1) Yes
 - (2) No
18. Where did you finish the primary school?
- (32-1) in village
 - (2) in subdistrict center
 - (3) in district center
 - (4) in capital city of province
19. At what age did you start primary school. (Write in numbers in the square).
- (33-34)
20. Have you ever flunked in primary school?
- (35-1) Yes
 - (2) No

21. Were there five or more teachers at the primary school you attended?

- (36-1) There were five or more teachers
- (2) There were less than five teachers

22. After primary school, have you attended any other school before you registered to the school you are attending now?

- (37-1) Yes
- (2) No

23. After primary school, have you quit education for sometime?

- (38-1) Yes
- (2) No

24. Which of the schools did you finish after primary?

- (39-1) Middle school
- (2) Private Middle School
- (3) Teachers' training (first level)
- (4) Theological (first level)
- (5) Other than above.....

25. Where was the school you finished after primary?

- (40-1) In village
- (2) in subdistrict center
- (3) in district center
- (4) in capital city of province

26. Have you flunked at the school you have attended after primary school?

- (41-1) Yes
- (2) No

27. Where is the school you're attending located now?

- (42-1) in village
- (2) in subdistrict center
- (3) in district center
- (4) in capital city of province

28. Have you flunked at the school you're attending now?

- (43-1) Yes
- (2) No

29. Who has influenced you the most to enter the school you are attending now?

- (44-1) a. I wanted to attend the school mostly
- (2) b. My father wanted me to attend this school
- (3) c. My mother wanted me to attend this school
- (4) d. My primary school teacher wanted me to enter this school
- (5) e. Please write any other person who has influenced you other than any above.....

30. Which of the following statements is the most important reason for your entrance to the school you're attending now.

- (45-1) a. I have this school because it's located in the place I live
- (2) b. I have entered this school so that I can start earning my life short time
- (3) c. I entered this school because of low expenses
- (4) d. I entered this school because its teaching quality is better than the others
- (5) e. I entered this school because it is a pass school.
- (6) f. I entered this school because it leads to higher education.
- (7) g. I entered this school without thinking, just by coincidence.

31. Where do you stay at while you're attending your school?

- (46-1) a. with my family
- (2) b. I am a free boarder at school
- (3) c. I stay as a boarder at school domitory on my own expenses
- (4) d. I stay at private student dormitory
- (5) e. I stay at a rented apartment alone or with my friends.
- (6) f. I stay at a house of a relative or at a house of a family that I know.
- (7) g. at somewhere else (please write).....

32. At where did you live the most? (the place you lived most of your life).

- (47-1) in village
- (2) in subdistrict center
- (3) in district center
- (4) in capital city of province

33. Which of the following is appropriate to your future plans?

- (48-1) a. I am planning on higher education
- (2) b. I am planning on having a job after I finish school
- (3) c. I am planning on staying home after I finish school
- (4) d. I am planning on continuing on my family's business after I finish this school
- (5) e. I am planning on finishing a vocational school and start earning my life
- (6) f. Others (please write).....
.....

REPUBLIC OF TURKEY
MINISTRY OF EDUCATION
PLANNING, RESEARCH AND COORDINATION OFFICE

ANKARA

Number:

Subject:

Lycee Directorate
(Middle school Directorate)

A research is being carried out by our Ministry's Planning, Research and Coordination Office in order to evaluate the nationwide distribution of educational opportunities, and to bring to light characteristics of pupils at the general secondary education level. Your school has been included in the sample for this research. I strongly request your sending back the attached questionnaires to the Planning, Research and Coordination Office after the filling of the questionnaires by the pupils according to the explanations below, so that at the latest they should be in the office on the first of April 1971.

Signature
For Minister of Education
Undersecretary
Akif Tuncel

Explanations

1. 100 questionnaires have been sent for administering to the first and third grade pupils of your school.
2. These questionnaires should be administered only to one section of the first and third grades. In schools which have more than one section, the section to which the questionnaires will be administered will be selected by lot.
3. The questionnaires will be filled out in the school under the supervision of the teacher.

The completed questionnaires will be sent to the following address:

Ministry of Education
Planning, Research and Coordination Office,
Technical Schools District,
ANKARA.

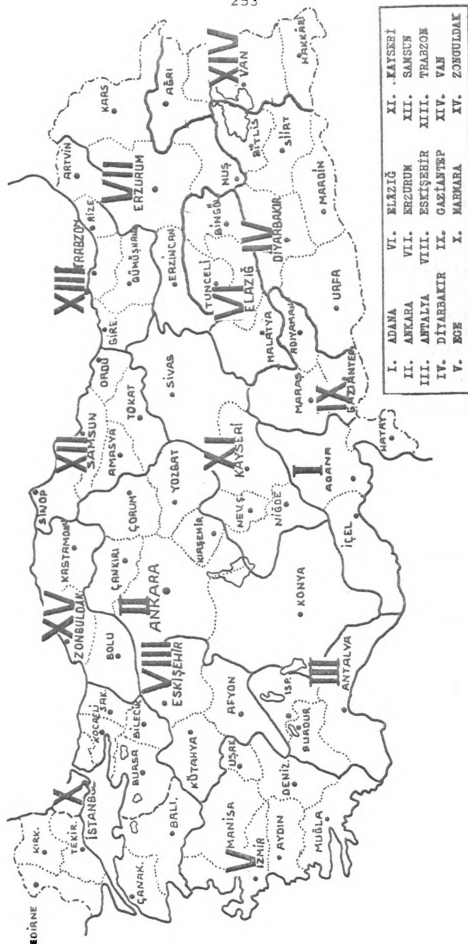
B Ö L G E L E R

The Regions of Turkey

ADANA	I. Region:	İcel, Adana, Hatay
ANKARA	II. "	Konya, Ankara, Kirsehir, Yozgat, Cankiri Corum
ANTALYA	III. "	Antalya, Burdur, Isparta
DİYARBAKIR	IV. "	Urfa, Mardin, Diyarbakir, Siirt, Bitlis
AGEAN (	V. "	İzmir, Manisa, Usak, Aydin, Denizli, Mugla
ELAZIG	VI. "	Malatya, Elazig, Tunceli, Bingöl
ERZURUM	VII. "	Kars, Erzurum, Erzincan, Agri, Mus
ESKİŞEHİR	VIII. "	Afyon, Eskisehir, Kütahya
GAZİANTEP	IX. "	Gaziantep, Maras, Adiyaman
MARMARA (Ist.)	X. "	İstanbul, Tekirdag, Kirklareli, Edirne, Canakkale, Balikesir, Bursa, Bilecik, Sakarya, Kocaeli
KAYSERİ	XI. "	Sivas, Kayseri, Nevsehir, Nigde
SAMSUN	XII. "	Sinop, Samsun, Amasya, Tokat, Ordu
TRABZON	XIII. "	Giresun, Trabzon, Gümüşhane, Rize, Artvin
VAN	XIV. "	Agri, Van, Hakkari
ZONGULDAK	XV. "	Zonguldak, Kastamonu, Bolu

REGIONS OF TURKEY

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I. ADANA	VI. ELAZIĞ	XI. KAYSERİ
II. ANKARA	VII. ERZURUM	XII. KONYA
III. ANTALYA	VIII. ESKİŞEHİR	XIII. TRABZON
IV. DIYARBAKIR	IX. GAZİANTEP	XIV. VAN
V. EGE	X. İZMİR	XV. ZONGULDAK

CLASSIFICATION OF OCCUPATIONS

CODE
No

- 01 Professional Occupations:
Engineers, Architects, Professors, Chemists,
Mathematicians, Lawyers, Attorneys, Judges, Public
Prosecutors, Dentists, Officers, Teachers (secondary),
Specialists in various areas, Artists.
- 02 High Level Administrative Occupations:
Director General, President, Chief, Director, Section
Directors in Ministries.
- 03 Minor Administrative and Clerical Occupations:
Functionnairies in public and semi-public enterprises,
Stenographers, typists (qualified) cashiers,
Accountants, Clerks.
- 04 Technicians:
Technicians in electricity, mechanics, chemistry,
machine operators, laborants, Nurses.
- 05 Businessman:
Businessmen, wholesalers.
- 06 Small Traders:
Grocer, Baker, Cook, Salesman, etc.
- 07 Occupations related to Transportation, Communications
Drivers, Engine Drivers, Operators.
- 08 Handcraft Workers:
Skilled workers in weaving, tailoring, leathering,
Printing, Bakery.
- 09 Farm Workers:
Farmers, hunters, workers related to farming.
- 10 Workers:
Semi skilled, Unskilled workers.
- 11 House-wives.
- 12 Workers in unclassified occupations,
Occupations unknown, and unemployed.

APPENDIX B
EDUCATION DATA

1. Total pupils and 7-12 school age population 1960, 1965 and 1970
2. The portion of girls in the total enrollments-primary schools
3. Pupil-teacher ratios-primary schools
4. Number of teacher at primary schools
5. Number of students at lower secondary schools 1960, 1965, 1970
6. Number of students at upper secondary schools
7. 13-15 age group population
8. 16-18 age group population

Code Number and Abbreviations for
Provinces in Turkey

Code No.	Abbr	Province	Code No.	Abbr	Province
01	ADN	ADANA	35	IZM	İZMİR
02	ADY	ADİYAMAN	36	KRS	KARS
03	AFY	A.KARAHİSAR	37	KTM	KASTAMONU
04	AGR	AGRI	38	KYS	KAYSERİ
05	AMS	AMASYA	39	KRK	KIRKLARELİ
06	ANK	ANKARA	40	KIR	KIRSEHİR
07	ANT	ANTALYA	41	KOC	KOCAELİ
08	ART	ARTVİN	42	KON	KONYA
09	AYD	AYDIN	43	KTY	KUTAHYA
10	BAL	BALIKESİR	44	MLT	MALATYA
11	BİL	BİLEÇİK	45	MNS	MANİSA
12	BİN	BİNGÖL	46	MAR	MARAS
13	BTL	BİTLİS	47	MDN	MARDİN
14	BOL	BOLU	48	MUG	MUGLA
15	BRD	BURDUR	49	MUS	MUS
16	BRS	BURSA	50	NEV	NEVSEHİR
17	CNK	CANAKKALE	51	NIG	NİĞDE
18	CKR	CANKIRI	52	ORD	ORDU
19	COR	CORUM	53	RIZ	RİZE
20	DEN	DENİZLİ	54	SAK	SAKARYA
21	DIY	DİYARBAKIR	55	SAM	SAMSUN
22	EDN	EDİRNE	56	SIR	SİİRT
23	ELA	ELAZIG	57	SNP	SİNOP
24	ECN	ERZİNCAN	58	SVS	SİVAS
25	EUM	ERZURUM	59	TEK	TEKİRDAĞ
26	ESK	ESKİSEHİR	60	TKT	TOKAT
27	GZN	GAZİANTEP	61	TRA	TRABZON
28	GIR	GİRESUN	62	TUN	TUNCELİ
29	GUM	GÜMÜSHANE	63	URF	URFA
30	HKR	HAKKARİ	64	USK	USAK
31	HTY	HATAY	65	VAN	VAN
32	ISP	ISPARTA	66	YZG	YOZGAT
33	ICL	İCEL	67	ZON	ZONGULDAK
34	IST	İSTANBUL	68	TUR	TÜRKİYE

Total Pupils at Primary School and
7-12 Age Group Population 1960¹

İl kodu	Total pupils	7-12 age group	İl kodu	Total pupils	7-12 age group
01	92,206	133,031	35	122,780	143,272
02	15,905	41,755	36	55,443	96,615
03	52,350	70,308	37	38,610	61,567
04	14,593	38,616	38	61,132	79,635
05	30,067	37,728	39	35,394	36,282
06	145,177	187,078	40	23,506	30,071
07	50,011	65,492	41	29,905	41,244
08	24,878	30,321	42	119,896	160,607
09	56,082	66,285	43	33,222	51,897
10	77,027	91,637	44	41,984	68,120
11	19,331	20,182	45	73,667	94,935
12	10,032	23,539	46	32,848	71,651
13	8,055	22,737	47	19,580	60,804
14	34,880	52,899	48	40,865	44,058
15	23,271	27,114	49	9,991	30,073
16	78,008	96,488	50	24,421	30,489
17	42,462	47,433	51	40,103	55,452
18	25,535	37,061	52	42,997	79,870
19	41,558	69,247	53	26,254	38,436
20	56,686	65,175	54	49,538	56,502
21	21,639	69,314	55	54,979	107,089
22	36,449	41,885	56	10,633	38,298
23	26,962	47,095	57	26,640	38,407
24	25,688	40,053	58	67,639	112,102
25	43,341	89,795	59	39,243	41,637
26	48,163	54,281	60	42,904	70,046
27	37,077	73,053	61	44,732	88,936
28	32,282	60,714	62	13,932	24,278
29	25,109	40,822	63	21,982	69,748
30	2,892	10,711	64	25,134	28,565
31	42,028	71,803	65	11,846	38,112
32	30,351	35,111	66	43,540	68,236
33	56,481	70,115	67	50,303	85,802
34	168,583	203,636	68	2,870,802	4,275,350

¹Source: Milli Egitius Istatistikleri, İlkogretim 1960-61, Devlet Istatistik Eustitusu Matbaase Yayin No. 465, ANKAKA, 1965, pp. 113-390.
Unpublished tables of age distribution of population by provinces State Statistical Institute.

Total Pupils at Primary School and
7-12 Age Group Population 1965

Code No.	Total Pupils	7-12 Age group	Code No.	Total Pupils	7-12 age group
01	126,546	165,153	35	151,116	173,973
02	22,829	47,113	36	74,483	114,682
03	64,402	80,646	37	50,147	66,742
04	22,512	47,890	38	75,676	91,492
05	36,568	42,680	39	40,516	40,770
06	206,511	245,622	40	30,677	36,462
07	64,157	79,992	41	41,607	49,704
08	30,787	35,980	42	155,069	186,126
09	72,418	79,762	43	47,125	56,697
10	93,676	100,940	44	56,778	81,064
11	19,475	19,950	45	91,608	111,747
12	14,152	28,575	46	47,510	81,345
13	12,773	30,757	47	29,468	69,504
14	47,516	60,515	48	46,916	51,430
15	27,450	30,725	49	15,167	38,766
16	97,365	110,744	50	29,876	34,121
17	46,085	49,619	51	48,983	61,586
18	32,386	39,904	52	59,652	95,432
19	58,561	76,392	53	36,409	49,572
20	67,454	72,490	54	58,114	67,146
21	32,083	79,725	55	81,025	127,752
22	45,324	48,352	56	17,783	46,273
23	34,120	57,051	57	31,889	41,199
24	32,879	45,144	58	94,247	123,869
25	62,356	103,744	59	44,401	45,233
26	55,836	62,185	60	58,198	79,964
27	61,000	82,256	61	72,725	113,299
28	49,879	79,328	62	19,616	30,134
29	32,625	48,492	63	31,812	78,596
30	4,504	15,185	64	29,510	30,882
31	65,032	89,561	65	19,176	51,333
32	34,496	40,105	66	57,204	75,854
33	71,618	84,051	67	74,582	95,473
34	227,376	276,715	68	3,791,816	5,055,565

Source: Millifgitius Istatistiklen 1961-1965, Devlet
Istatistik Enstitusu Matbaasi, Ankara, 1968,
pp. 83-372.

Total Pupils at Primary School and
7-12 Age Group Population 1970

Code No.	Total pupils	7-12 age group	Code No.	Total pupils	7-12 age group
01	163,174	196,020	35	178,641	202,148
02	37,829	53,814	36	103,971	127,868
03	74,835	88,480	37	61,588	67,927
04	31,559	54,996	38	95,762	102,360
05	49,243	47,287	39	39,536	43,745
06	287,837	304,977	40	38,793	40,792
07	77,521	93,431	41	51,289	56,012
08	35,572	38,425	42	192,415	212,982
09	80,407	89,647	43	58,410	61,201
10	104,555	106,974	44	78,162	90,948
11	18,954	20,341	45	106,280	127,088
12	19,938	32,596	46	74,769	91,707
13	16,538	36,817	47	44,925	78,305
14	62,860	65,981	48	53,576	57,667
15	32,004	33,449	49	25,313	45,927
16	112,841	120,908	50	39,146	37,058
17	48,449	57,260	51	63,492	67,591
18	37,520	41,387	52	90,678	110,313
19	83,344	82,918	53	47,637	55,869
20	80,596	78,732	54	70,307	74,881
21	52,493	94,676	55	125,545	147,519
22	47,767	51,686	56	27,764	52,858
23	49,858	64,238	57	42,286	43,947
24	41,654	48,144	58	117,427	130,687
25	83,133	114,405	59	43,962	47,191
26	66,640	65,758	60	80,354	90,290
27	77,301	92,485	61	103,631	126,544
28	71,891	86,822	62	26,935	33,094
29	43,923	52,527	63	51,511	87,990
30	7,837	18,816	64	34,056	31,841
31	94,784	102,791	65	29,730	64,812
32	40,507	44,162	66	72,310	82,434
33	91,475	96,449	67	100,319	109,234
34	328,760	343,926	68	4,924,119	5,722,155

Source: Fillerde Ogrenci, Ogretmen ne Olcul Sayilare,
mimeographed, Ministry of Education, Planning
Research and Coordination Department, 1971.

The Portion of Girls in Total Enrollments
Primary Schools

Cod Num	Prov	1960	1965	1970	Cod Num	Prov	1960	1965	1970
01	ADN	358	395	430	35	IZM	454	460	469
02	ADY	190	231	329	36	KRS	285	319	374
03	AFY	360	387	453	37	KTM	369	381	414
04	AGR	262	263	275	38	KYS	323	360	421
05	AMS	377	402	488	39	KRK	468	482	489
06	ANK	409	436	468	40	KIR	357	400	443
07	ANT	378	403	482	41	KOC	399	408	450
08	ART	417	436	453	42	KON	372	408	447
09	AYD	428	456	470	43	KTH	402	404	441
10	BAL	450	457	451	43	MLT	286	341	376
11	BIL	458	471	486	45	MNS	419	436	467
12	BIN	273	321	326	46	MAR	235	275	333
13	BTL	271	271	259	47	MDN	216	269	257
14	BOL	363	377	405	48	MUG	450	457	462
15	BRD	425	437	458	49	MUS	231	267	278
16	BRS	434	447	467	50	NEV	368	387	472
17	CNK	466	470	470	51	NIG	332	370	409
18	CKR	363	392	426	52	ORD	256	284	359
19	COR	353	377	391	53	RIZ	302	337	374
20	DEN	407	442	470	54	SAK	403	430	447
21	DIY	272	279	276	55	SAM	324	346	403
22	EDN	448	464	474	56	SIR	252	252	259
23	ELA	307	319	363	57	SNP	389	392	443
24	ECN	336	369	409	58	SVS	285	347	388
25	EUM	341	348	371	59	TEK	459	477	479
26	ESK	451	467	479	60	TKT	357	363	399
27	GZN	256	342	351	61	TRA	237	296	368
28	GIR	247	291	374	62	TUN	280	314	382
29	GUM	341	362	400	63	URF	223	254	258
30	HKR	167	215	249	64	USK	398	432	462
31	HTY	289	322	371	65	VAN	276	268	290
32	ISP	417	439	450	66	YZG	300	343	401
33	ICL	404	431	458	67	ZON	325	352	399
34	IST	468	469	471	68	TUR	371	392	420

The Number of Teachers at Primary Schools
1960-1965-1970¹

Cod Num	Prov	1960	1965	1970	Cod Num	Prov	1960	1965	1970
01	ADN	1766	2572	4211	35	IZM	2581	3403	4730
02	ADY	377	506	782	36	KRS	1250	1675	2645
03	AFY	785	1285	2101	37	KTM	914	1161	1619
04	AGR	333	548	795	38	KYS	1475	1651	2447
05	AMS	640	872	1176	39	KRK	797	909	1160
06	ANK	3118	4779	7317	40	KIR	485	610	981
07	ANT	822	1260	2134	41	KOC	612	893	1326
08	ART	655	792	1215	42	KON	2251	2928	4492
09	AYD	1159	1618	2277	43	KTH	685	935	1515
10	BAL	1553	1858	2727	44	MLT	885	1144	1818
11	BIL	513	522	601	45	MNS	1455	1832	3078
12	BIN	263	326	541	46	MAR	689	959	1675
13	BTL	239	322	412	47	MDN	439	734	1117
14	BOL	772	1079	1670	48	MUG	952	982	1462
15	BRD	430	567	820	49	MUS	234	330	582
16	BRS	1766	2380	3220	50	NEV	489	602	924
17	CNK	1089	1177	1627	51	NIG	776	1002	1601
18	CKR	577	686	997	52	ORD	842	1143	1883
19	COR	876	1197	1937	53	RIZ	728	847	1019
20	DEN	936	1379	1922	54	SAK	1128	1395	1816
21	DIY	550	742	1252	55	SAM	1037	1517	2960
22	EDN	665	932	1432	56	SIR	319	397	726
23	ELA	613	747	1447	57	SNP	650	734	1118
24	ECN	583	731	1011	58	SVS	1336	1764	2624
25	EUM	1001	1460	2017	59	TEK	732	952	1174
26	ESK	1026	1377	2016	60	TKT	917	1248	1977
27	GZN	769	1209	1837	61	TRA	830	1457	2681
28	GIR	659	943	1699	62	TUN	391	419	660
29	GUM	543	674	1068	63	URF	569	702	1159
30	HKR	110	124	227	64	USK	503	577	844
31	HTY	883	1379	2380	65	VAN	326	440	791
32	ISP	633	753	1357	66	YZG	817	1187	1860
33	ICL	1166	1512	2481	67	ZON	931	1313	2314
34	IST	4333	5186	8032	68	TUR	61,228	81,336	125,516

¹Source: Milli Egitus Istatistiklend, Ilkogietum 1960-61, 1961-65, State Istatistical Institute, Publications 465, 530, Ankara, 1965.

The Number of Students at Lower Secondary Schools
1960-1965-1970

Cod Num	Prov	1960	1965	1970	Cod Num	Prov	1960	1965	1970
01	ADN	13,066	19,712	30,062	35	IZM	18,521	22,250	36,513
02	ADY	810	1,179	3,162	36	KRS	5,143	7,273	12,648
03	AFY	4,393	5,070	11,001	37	KTM	2,535	3,498	5,582
04	AGR	890	1,536	3,179	38	KYS	6,258	9,255	14,722
05	AMS	3,062	4,558	8,563	39	KRK	3,309	3,905	6,332
06	ANK	26,446	39,163	69,392	40	KIR	2,120	2,459	5,568
07	ANT	3,527	5,878	9,586	41	KOC	3,547	4,358	9,022
08	ART	2,468	4,314	6,778	42	KON	10,833	14,575	26,009
09	AYD	6,396	8,301	14,602	43	KTH	2,444	3,614	7,724
10	BAL	7,283	8,691	15,848	44	MLT	4,280	9,599	12,241
11	BIL	1,717	1,878	2,849	45	MNS	6,421	7,859	14,611
12	BIN	534	761	1,654	46	MAR	3,223	4,570	9,272
13	BTL	640	1,088	2,360	47	MDN	1,530	2,230	4,255
14	BOL	3,084	4,528	8,639	48	MUG	3,068	3,733	7,351
15	BRD	2,128	2,965	5,094	49	MUS	709	1,369	2,056
16	BRS	7,045	9,714	15,191	50	NEV	1,613	2,405	4,755
17	CNK	3,177	4,004	7,461	51	NIG	3,683	5,001	8,113
18	CKR	1,795	2,607	4,264	52	ORD	4,464	5,129	11,071
19	COR	2,829	4,392	8,513	53	RIZ	2,184	3,084	6,349
20	DEN	5,686	6,956	13,822	54	SAK	4,538	5,610	8,532
21	DIY	2,792	4,430	6,930	55	SAM	6,345	8,747	15,736
22	EDN	2,718	3,946	6,846	56	SIR	855	1,552	3,235
23	ELA	3,795	7,154	9,944	57	SNP	1,477	2,054	2,910
24	ECN	2,121	3,214	5,196	58	SVS	5,880	8,800	14,334
25	EUM	4,115	6,099	9,866	59	TEK	2,789	3,756	5,898
26	ESK	6,869	8,937	14,138	60	TKT	4,142	5,701	10,061
27	GZN	5,140	6,288	11,354	61	TRA	5,032	8,217	15,276
28	GIR	3,071	4,519	9,805	62	TUN	1,326	1,931	3,796
29	GUM	1,477	2,668	4,583	63	URF	2,287	2,990	5,700
30	HKR	81	93	499	64	USK	2,574	3,320	6,623
31	HTY	5,208	7,255	14,800	65	VAN	1,026	1,343	3,149
32	ISP	3,700	4,503	7,852	66	YZG	3,477	4,252	7,746
33	ICL	6,737	9,543	16,001	67	ZON	5,682	9,186	14,759
34	IST	35,954	48,724	81,406	68	TUR	314,575	418,268	762,965

The Numer of Students at Upper Secondary Schools
1960-1965-1970

Cod Num	Prov	1960	1965	1970	Cod Num	Prov	1960	1965	1970
01	ADN	3,411	6,338	14,380	35	IZM	6,615	7,925	16,345
02	ADY	195	310	804	36	KRS	799	1,954	4,602
03	AFY	893	1,299	3,319	37	KTM	660	997	1,801
04	AGR	233	297	930	38	KYS	2,003	3,551	6,257
05	AMS	469	726	2,339	39	KRK	706	902	1,927
06	ANK	11,169	16,322	34,510	40	KIR	420	506	2,043
07	ANT	1,313	1,947	4,549	41	KOC	1,021	1,153	3,621
08	ART	535	733	2,446	42	KON	3,007	4,631	10,152
09	AYD	1,922	2,310	5,424	43	KTH	508	686	2,253
10	BAL	1,812	2,486	5,948	44	MLT	1,249	2,083	4,668
11	BIL	303	513	618	45	MNS	1,929	2,295	5,207
12	BIN	127	158	510	46	MAR	651	1,308	3,203
13	BTL	131	239	751	47	MDN	470	746	1,693
14	BOL	706	882	3,108	48	MUG	447	752	2,302
15	BRD	477	801	1,673	49	MUS	201	343	462
16	BRS	2,455	2,792	6,712	50	NEV	409	660	1,098
17	CNK	690	895	2,329	51	NIG	889	1,312	2,602
18	CKR	387	501	1,006	52	ORD	1,019	1,469	3,644
19	COR	546	745	2,361	53	RIZ	758	880	1,653
20	DEN	1,356	2,435	5,271	54	SAK	1,001	1,477	3,270
21	DIY	930	1,420	3,091	55	SAM	1,513	2,102	5,785
22	EDN	887	1,068	2,387	56	SIR	236	429	1,346
23	ELA	1,070	1,887	4,813	57	SNP	245	342	820
24	ECN	527	856	1,759	58	SVS	1,273	1,629	4,619
25	EUM	1,255	1,754	3,914	59	TEK	540	668	1,954
26	ESK	2,640	3,213	6,054	60	TKT	741	1,067	3,694
27	GZN	1,642	1,866	4,162	61	TRA	1,695	2,168	5,973
28	GIR	647	788	3,197	62	TUN	222	351	776
29	GUM	267	357	1,185	63	URF	542	715	2,509
30	HKR	47	42	98	64	USK	626	695	2,547
31	HTY	1,404	2,443	5,731	65	VAN	346	428	1,424
32	ISP	1,040	1,931	2,946	66	YZG	551	657	2,274
33	ICL	1,925	2,658	7,018	67	ZON	1,898	2,638	6,567
34	IST	17,361	20,605	39,054	68	TUR	94,416	133,665	303,488

13-15 Age Group Population

il Kodu	il Kodu				
	1960	1965	1970	1960	1970
01	48,695	70,749	83,550	60,870	83,194
02	13,848	18,878	21,709	34,061	42,406
03	27,870	35,260	38,470	23,466	27,343
04	13,837	18,080	20,694	33,012	40,384
05	16,583	19,751	21,898	14,619	17,706
06	74,219	108,777	135,090	11,217	14,491
07	25,880	34,396	40,449	16,921	21,459
08	11,579	14,520	15,505	64,665	83,755
09	28,950	37,316	41,875	20,014	25,005
10	38,617	44,132	64,381	23,834	31,672
11	8,218	8,893	9,104	40,728	54,856
12	7,864	10,578	12,072	24,859	31,882
13	7,972	11,288	13,438	20,273	26,564
14	20,319	26,458	28,815	17,938	22,812
15	10,843	13,246	14,396	10,417	14,084
16	40,889	50,162	54,298	12,089	15,303
17	19,360	22,371	25,807	21,409	27,704
18	14,367	17,063	17,700	29,607	28,356
19	28,215	34,487	37,498	14,535	17,916
20	25,964	31,618	34,319	22,408	29,674
21	24,383	33,795	40,012	40,809	54,062
22	17,011	21,356	22,755	12,549	17,186
23	16,162	23,435	26,196	14,963	17,878
24	14,385	17,876	18,983	40,649	49,838
25	33,849	42,356	46,455	16,433	19,740
26	22,685	28,735	30,248	28,159	35,348
27	28,863	37,700	42,508	30,543	41,614
28	21,270	28,641	31,444	7,657	9,813
29	14,779	18,330	19,875	24,912	31,205
30	3,689	5,040	6,231	11,174	12,467
31	25,238	33,826	38,910	13,375	19,135
32	14,452	18,838	20,765	27,434	34,589
33	29,999	37,060	42,343	33,063	51,301
34	97,028	135,222	164,973	1,666,744	2,169,988
				TOPLAM	2,456,347

16-18 Age Group Population

i1 kodu	1960	1965	1970	i1 Kodu	1960	1965	1970
01	43,779	58,177	68,553	35	58,608	76,718	88,888
02	10,474	12,872	14,676	36	26,544	30,280	33,827
03	22,921	26,821	29,127	37	21,688	22,903	23,392
04	9,630	11,473	13,040	38	25,468	30,320	33,521
05	12,741	15,698	17,455	39	11,691	14,256	15,228
06	73,852	100,732	124,856	40	7,752	10,180	11,466
07	23,689	28,048	32,473	41	16,170	19,615	21,951
08	10,327	11,353	12,134	42	51,195	68,131	78,264
09	25,764	32,454	36,566	43	18,886	21,409	23,274
10	35,497	38,362	40,396	44	18,189	23,463	26,421
11	7,650	7,688	7,823	45	34,623	45,367	52,029
12	5,876	7,286	8,278	46	19,465	23,955	27,118
13	6,293	7,559	9,020	47	15,203	17,357	19,711
14	19,141	22,070	23,803	48	15,570	18,419	20,595
15	8,735	10,519	11,432	49	7,747	9,318	10,834
16	38,485	45,295	49,350	50	8,669	11,701	12,573
17	16,838	19,572	22,581	51	16,388	20,629	22,663
18	11,742	12,390	12,754	52	22,764	28,110	32,779
19	21,780	23,680	25,879	53	12,260	14,256	16,189
20	21,181	26,074	28,263	54	19,789	25,635	28,419
21	19,562	23,864	28,177	55	37,434	45,857	53,250
22	13,865	19,156	20,479	56	10,426	12,132	13,592
23	12,740	17,115	19,834	57	12,622	14,439	15,310
24	11,533	13,525	14,306	58	31,342	34,326	36,383
25	29,082	33,333	36,748	59	13,331	16,462	17,133
26	21,716	26,142	27,618	60	22,188	27,240	30,844
27	23,791	30,456	34,466	61	24,657	31,339	35,399
28	17,086	20,621	22,527	62	5,167	6,796	7,467
29	11,394	13,312	14,480	63	19,336	24,008	26,801
30	3,106	3,482	4,262	64	9,705	9,832	10,221
31	19,818	27,654	31,941	65	9,695	12,882	16,203
32	11,702	14,909	16,378	66	18,534	22,772	24,778
33	25,995	31,563	35,874	67	29,514	36,120	40,870
34	112,156	154,037	187,342	TOPLAM	1,432,543	1,773,519	2,010,284

APPENDIX C

DATA FOR MULTIPLE-REGRESSION ANALYSIS

1. Procedure for Step-Wise
Multiple-Regression Analysis
2. Tables for Multiple-Regression
Analyses

Explanation of the Basic Steps in Step-Wise Multiple-Regression Analysis

- I. The step-wise procedure starts with the simple correlation matrix and enters in the regression the X variable most highly correlated with the response (dependent variable). Let's name it X_1 .
- II. Using the partial correlation coefficients it now selects, as the next variable to enter the regression, the X variable whose partial correlation with response (dependent variable) is highest (name it X_2).
- III. Given regression equation $Y = f(X_1, X_2)$ the method now examines the contribution X_2 would have made if X_2 had been entered first and X_1 entered second.
- IV. The step-wise method now selects as the next variable to enter, the one most highly partially correlated with response. Let say this is seen to be variable X_3 .
- V. A regression equation of form $Y = f(X_1, X_2, X_3)$ is now determined by least squares. If the variable X_3 enters with a significant sequential F value (which must exceed the arbitrary F value previously chosen for adding or elimination of the variable), at this point partial F tests for the variables X_1 and X_2 are made to determine if they should remain in the regression equation.
- VI. If there are more than three variables the same procedures are employed automatically. The regression terminates with the best combinations of variables.

The Summary of the Step-Wise Multiple Regression Analysis for 1965 at Primary Level (n: 67)

Steps	No. of the Variable Entered in regression	Percent Variance Explained by The Variable Entered	Multiple Regression Coefficient R ²	F Value
I	3	62	.62	107.65

Minimum F Value 2.37 at 05 Level

TABLE Cl.--Intercorrelation Among the Variables

	1	2	3	4	5	6	7
1	100	59	43	85	73	-90	.26
2		100	25	74	72	-.65	.17
3			100	.50	.26	-.56	.79
4				1.00	.82	-.89	.32
5					100	-70	.18
6						100	.36
7							100

The Summary of Step-Wise Multiple Regression Analysis for 1970 at Primary Level

Steps	No. of the Variable Entered in regression	Percent Add'l Variance Explained by The Variable Entered	Multiple Regression Coefficient R ²	F Value
I	3	49	.49	62.20

1 Minimum F Value 2.37 at 05 Level for 5;65 d.f.

TABLE C2.--Intercorrelation Among the Variables.

	1	2	3	4	5	6	7
1	1.00	59	43	85	.73	-.90	.21
2		100	.25	.76	.72	-.65	.21
3			100	.50	.26	-.56	.70
4				100	.82	-.89	.31
5						-.70	.20
6							.31
7							

The Summary of Step-Wise Multiple-Regression Analysis for 1960-Lower Secondary Schools

Step	No. of the Variable Entered in regression	Percent Add'l Variance Explained by The Variable Entered	Multiple Regression Coefficient R ²	F Value
I	6	31	.31	29.2

Minimum F Value 2.37 at .05 Level for 5;65 d.f.

TABLE C3.--Intercorrelation Among the Variables.

	1	2	3	4	5	6	7
1	-	.61	.53	.68	.72	-.91	.51
2		-	.40	.61	.69	-.65	.33
3			-	.55	.37	-.61	.46
4				-	.59	-.67	.45
5					-	-.69	.38
6						-	-.56
7							-

The Summary of Step-Wise Multiple-Regression Analysis for 1965 Lower Secondary Schools

Steps	No. of the Variable Entered in regression	Percent Add'l Variance Explained by The Variable Entered	Multiple Regression Coefficient R ²	F Value
I	4	16.5	.17	12.91

Minimum F Value 2.37 at 05 Level for 5;65 d.f.

TABLE C4.--Intercorrelations among variables.

	1	2	3	4	5	6	7
1	100	.59	.43	.85	.73	-.90	.36
2		100	.25	.74	.72	-.65	.22
3			100	.50	.26	-.56	.25
4				100	.82	-.89	.41
5					100	-.70	.25
6						100	-.40
7							100

The Summary of the Step-Wise Multiple-Regression Analysis for 1965 at Upper
Secondary Level (N=67)

Steps	No. of the Variable Entered in regression	Percent Add'l Variance Explained by The Variable Entered	Multiple Regression Coefficient R ²	F Value
I	6	59.5	.60	95.75
II	2	2.4	.62	4.06
III	4	4.1	.66	7.58

Minimum F Value 2.37 at 05 level for 5;65 d.f.

TABLE C5.--Intercorrelation among variables.

	1	2	3	4	5	6	7
1		59	43	85	73	-.90	74
2			25	74	72	-.65	38
3				50	26	-.56	48
4					82	-.89	74
5						-.70	57
6							-.77

The Summary of Multiple-Regression Analysis for 1970 at Upper Secondary Schools
(N=67)

Steps	No. of the Variable Entered in Regression	Percent Add'l Variance Explained by The Variable Entered	Multiple Regression Coefficient R ²	F Value
1	6	44	.44	5.49
11	2	3	.47	3.49

Minimum F Value 2.37 at .05 level for 5;65 d.f.

TABLE C6. - Intercorrelations among variables.

	1	2	3	4	5	6	7
1	-	.59	.43	.85	.73	-.90	.62
2		-	.25	.74	.72	-.65	.30
3			-	.50	.26	-.56	.42
4				-	.82	-.89	.61
5					-	-.70	.46
6						-	.66
7							-

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