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of a Grade 8 Cohort of Ontario Students"

Submitted by Maria Barrados, M.A.,
in partial fulfillment of the requirements for
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April 21, 1978

THE PROGRESS THROUGH SECONDARY SCHOOL
OF A GRADE 8 COHORT OF ONTARIO STUDENTS

by

Maria Barrados, M.A.

A thesis submitted to the Faculty of
Graduate Studies in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy

Department of Sociology and Anthropology

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April 21, 1978

Abstract

The dissertation describes and analyzes the progress through secondary school of a cohort of Grade 8 Ontario students. These students were first surveyed in 1971 by B.R. Blishen and John Porter in their study of the educational and occupational plans of Ontario students. Five years later as many of these students were potentially completing secondary school, the cohort was resurveyed with a short questionnaire, completed by mail or telephone. A subset of the sample was personally interviewed in greater detail.

The data analysis showed that wide ranging inequalities as a result of family background still exist in the province of Ontario. A multivariate model describing secondary school attainment is developed in the dissertation. The experiences the child has at home and in elementary school were found to strongly influence his subsequent choice of high school course of studies and decision on the length of time to spend in secondary school.

Students who had attended French or bilingual schools in 1971 were part of the follow-up sample. These students were found to have lower levels of secondary school attainment than students who attended schools with English language instruction. Students taking French language instruction in Ontario schools were at a disadvantage relative to their English counterparts because of their family background, lack of support and encouragement from home and the lack of opportunities for French language secondary school instruction in Ontario, particularly in the rural areas.

ACKNOWLEDGEMENTS

The follow-up portion of the research was supported by a grant from the Ontario Ministry of Education in aid of educational research. I would like to thank Professors Blishen and Porter for allowing me to use portions of their study of educational and occupational aspirations of Ontario young people. I would also like to thank the members of my committee Professors Harp and DeVries. I am particularly appreciative of the guidance and assistance of Professor John Porter, the chairman of my committee. I am also grateful for the assistance of many of the students and other members of the department who helped with different phases of the research, particularly the data collection. I would like to thank Ms. Wanda Faris who typed the manuscripts. Finally, thanks to Angie and John who provided endless support and encouragement.

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Chapter 1

Equality of Opportunity and the Study of Educational Attainment

A common theme found in many studies of educational attainment is the evaluation of the equality of opportunity of all individuals to obtain higher levels of education.¹ These studies of equality of educational opportunity are concerned specifically with first describing the extent of the inequality given individual differences in ability and secondly, analyzing the process through which background factors influence educational attainment. The study of the secondary school attainment of a sample of Ontario young people as described in this dissertation falls within this tradition, particularly since it is an extension of a larger study that had been specifically designed to evaluate student aspirations and plans and how they reflect the presence of equality of educational opportunity in Ontario.²

¹See for example: Raymond Boudon, Educational Opportunity, and Social Inequality, Toronto: Wiley, 1973; James Coleman et.al., Equality of Educational Opportunity, Washington: U.S. Dept. of Health, Education and Welfare, 1966; W.G. Fleming, Educational Opportunity, the Pursuit of Equality, Scarborough: Prentice-Hall, 1974; Christopher Jencks et.al., Inequality: A Reassessment of the Effect of Family and Schooling in America, New York: Harper, 1972; Robert M. Pike, Who Doesn't Get to University and Why, Ottawa: Runge, 1970; Marion Porter, John Porter and Bernard Blishen, Does Money Matter? Downsview: Institute for Behavioural Studies, 1973; John Porter, "Equality and Education," paper read at the Canadian Society for the Study of Education Conference in Toronto, 1974; W.H. Sewell, "Inequality of Opportunity for Higher Education", American Sociological Review, 36 (October), 793-809, 1971; W.H. Sewell and Robert M. Hauser, Education, Occupation and Earnings: Achievement in the Early Career, Dept. of Sociology, University of Wisconsin, 1974.

²Porter, Porter and Blishen, op.cit.

In this introductory chapter, the concept of equality of educational opportunity will first be discussed. This will be followed by an evaluation of the importance of the concept in the study of school attainment in Ontario.

Equality of Educational Opportunity

The study of inequality of educational opportunity deals with only one aspect of the study of material and social differences that characterize the stratification system of western industrialized societies such as Canada. These institutionalized inequalities influence not only the individual's relative advantage or disadvantage at the beginning of schooling but also more generally, the type of school system that is established and its influence on adult statuses. An empirical study of the equality of educational opportunity in society attempts to measure and evaluate only one facet of a larger interdependent system of inequalities from the perspective of the individual passing through the school system.

The contemporary interest in equality of educational opportunity results from a combination of traditional liberal concerns with equality of opportunity in general, the requirements of a trained labour force and the development of universally available tax-supported schools. Schooling continues to play an important function in the training and allocation of young people to adult social statuses. Studies of intergenerational mobility³ and extended panel

³P.M. Blau and O.D. Duncan, The American Occupational Structure, Wiley: New York, 1967 and Hugh A. McRoberts et.al. "Différences dans La Mobilité Professionnelle des Francophones et des Anglophones" dans Sociologie et Société, Fall 1976.

studies of senior high school students⁴ have shown that the individual's chances for higher status levels of employment are strongly influenced by his level of educational attainment.

In 19th century liberal thinking,⁵ men had a common basis of equality before the law; however, they were each free to strive and compete for economic advantage so that the economically most capable gained the greatest access to society's scarce resources and commodities. Equality of opportunity was based on the classic liberal tenet that the individual fulfilled his own destiny - "by his labour to gain property, by exchange to satisfy his wants, by upward mobility to achieve a place commensurate with his talents."⁶ From another perspective this is a negative conception of social liberty in that the absence of restraints should result in equal chances for men to develop their capacities and a fair distribution of societal advantages even though men differ with respect to background and motivation.

The presence of a small ineffectual aristocracy in 19th century America gave more credence to the possibility of each man having the opportunity to become a success quite apart from the family into which he was born.⁷ All men had the same basic legal and political rights in a more

⁴See for example, W.H. Sewell, op.cit.

⁵See for example, the work of J.S. Mill, Utilitarianism, Liberty, Representative Government, London: Everyman's Library, 1968.

⁶Daniel Bell, "Meritocracy and Equality," Public Interest, 29: 29-68, page 40.

⁷For a description of early 19th century America see the work of A. De Tocqueville, Democracy in America, Vol. 1-2, London: The Fontana Library, 1968.

open social structure than many of the European countries had at that time. Societal inequalities, it was felt, resulted not from want of opportunity but rather from lack of ability, initiative or drive.

With increased industrialization and the growth of publicly supported tax-free schools, the ideal of equality of opportunity was extended to education in the Western democracies.⁸ It was felt that the number of highly talented people is limited and regardless of social background they would take advantage of the opportunities available to them through the educational system. The concept of equality in education was firmly based on the assumption that given an exposure to a common body of knowledge, available without cost within the local community every citizen would have equal opportunity to take advantage of the benefits to be gained from this education. This assumption that availability of a resource would result in individual effort for mastery and achievement differentiated only by ability was firmly based in 19th century classical liberalism. Further, the individual's effort would serve to meet not only his own self-interest but also that of the society.

Coleman⁹ points to two basic assumptions underlying the concept of equality of educational opportunity which have come increasingly under

⁸For a description of early 19th century Ontario schools see: Alison Prentice, The School Promoters, Education and Social Class in Mid-Nineteenth Century Upper Canada, Toronto: McClelland and Stewart Ltd., 1977 and M. Katz and K. Mattingly, eds., Education and Social Change: Themes from Ontario's Past, New York: New York University Press, 1975.

⁹James Coleman, "The Concept of Equality of Educational Opportunity", Harvard Educational Review, 38: 7-22, 1968.

attack. First, as with the general conception of equality of opportunity, equity is assumed to result from the exposure to scarce life chances in the society. The school and community are seen as taking a relatively passive role in comparison to the individual child whose obligation it is to take advantage of the chance to attain schooling presented to him, despite differential background and environmental influences.

With the emphasis on equality of educational opportunity Coleman sees a further implicit assumption that the advantage of free and readily accessible schooling is equally beneficial at equal psychological and economic costs to all participants. "The idea of common educational experience implies that this experience has only the effect of widening the range of opportunity, never the effect of excluding opportunities."¹⁰ Coleman points to foregone family benefits in lost wages or labour from children attending elementary school in the 19th century or secondary and post-secondary school in the 20th century, which would not be equally felt by all families.

As Jordan¹¹ points out, the arguments showing the limitations of equality of opportunity as a social norm have resulted in the addition of constraints to the concept by contemporary proponents. Equality of opportunity now adds "the requirement that the distribution of advantages and disadvantages at the starting point of a career be fair, which may, and probably must, involve remedial actions, aid and support in training

¹⁰ ibid., p. 12.

¹¹ Zbigniew A. Jordan, "The Concept of Inequality in the Social Sciences", paper read at the Social Science Research Council Conference, March 1976.

human capacities."¹² Rules would be set to govern competition among individuals to ensure fairness.

The redefinition of equality of opportunity, Jordan points out presumes as an outcome a highly-advanced degree of distributive justice that is seldom made explicit. In fact, he argues, many of the contemporary proponents of equality of opportunity rely on a vague realization of attempting to increase fairness in competition and a feeling that "distributive justice" is only imperfectly realizable.

The measurement of the degree of inequality of educational opportunity is the underlying question addressed in the present study. No attempt is made here to evaluate the moral implications of the concept. Rather the concept is discussed as the originating question of this study and many other empirical studies of educational attainment. Educators have also used the concept, imperfect as it may be,¹³ to legislate changes to reduce some of the inequalities found in the school system.

In fact, the ideal of equality of educational opportunity still forms the basis for most educational policy.¹⁴ Many educational reports

¹² ibid., p. 26.

¹³ Arguments have been made for the rejection of the ideal altogether. These arguments are not developed here but can be seen in the works of John Rawls, A Theory of Justice, Harvard University Press, 1971 who argues that the ideal of equality of opportunity alone results in an unjust society and the Marxist critiques of Herbert Gintis, "Towards a Political Economy of Education: A Radical Critique of Ivan Illich's Deschooling Society", Harvard Educational Review, 42, 70-96 and Douglas Holly, "Education and the Social Relations of a Capitalist Society" paper read at the British Sociological Association, 1975.

¹⁴ See for example, W.G. Fleming, op.cit., 1974, who argues that equality of educational opportunity is "an axiom of modern civilization" and it "is taken for granted that the population generally agrees that the objective is valid," (page 1).

and changes in educational legislation are aimed at increasing equality of educational opportunity. Their authors tend to stress the importance of providing to all young people, despite their background, equal chances to gain knowledge to broaden their experience, information and horizons and to provide them the chance for entrance into better jobs and higher social statuses. Examples can be seen in the Quebec Parent Commission¹⁵ and the Ontario Report of the Commission on Post-Secondary Education in Ontario, The Learning Society.¹⁶ In these reports the goal of equality of educational opportunity is set out as an ideal against which to justify changes to improve the system and to evaluate the success of the changes. As the present research demonstrates in the case of Ontario and other studies have shown elsewhere, equality of educational opportunity as a goal towards which the system is working has not been attained. Nor is it at all clear that the goal can be attained under our present system of social organization which places primacy on the family in socialization, definition of status and inheritance.

Educators commonly interpret the concept of equality of educational opportunity to mean the assistance of an individual in attaining the limits of his potential and ability¹⁷ so that individuals of equal ability but of different cultural or social backgrounds should have equal chances for higher educational attainment. This working definition has removed any

¹⁵ Report of the Royal Commission of Inquiry on Education in the Province of Quebec, Alphonse Marie Parent, chairman, Printer for the Government of the Province of Quebec, 1966.

¹⁶ Ontario, Provincial Committee on Aims and Objectives of Education in the Schools of Ontario, Living and Learning, Toronto: Newton Publishing Company, 1968,

¹⁷ Fleming, op.cit., page 5.

direct component of fairness. The school is expected to insure that students of equal ability have an equally high level of skills to enable them to meet the academic requirements of specific levels of educational certification. On an individual basis considerable variation in attainment can still result from individual differences in personality, motivation, encouragement and available information. Some of these factors might be subject to change resulting in increases in equalities of educational opportunity such as changes in schools and school personnel while others would require basic changes in the personality of the individual or structure of the family.

The analysis of the educational attainment process specifically sets out to describe and measure the major variables that account for the differences in educational attainment or the individual's ability to maximize his educational opportunity.¹⁸ The determination of the sources of educational inequalities allows conclusions to be drawn about changes in the school system that would increase the equality of opportunity for individual young people.

Increased equality of educational opportunity does not necessarily result in increases of equality of social statuses.¹⁸ However, the goal of increased equality of educational opportunity continues to be an important criterion for evaluating our educational system in its own right. Since everyone in the population contributes through taxation to the school system, all citizens should be able to benefit from the opportunities available in the school system. Even though increasing educational

¹⁸See for example, the work by Boudon, op.cit. and Jencks, op.cit.

opportunity will not necessarily decrease inequalities in society at large without more far reaching changes in the stratification system, the goal of increased equality of education maintains its importance since the educational system provides individuals opportunity for expansion of knowledge, personality development and self-fulfillment as well as providing them potential entry into better jobs and careers.

Societies cannot afford the loss of talent involved in an educational system that does not equalize opportunities as much as possible regardless of background. Highly industrialized societies need their best trained minds to provide the manpower required to deal with the increasingly complex problems it faces.

Equality of Educational Opportunity and the Ontario School System

The present research study has been formulated to provide a basis for evaluating equality of educational opportunity in Ontario secondary schools within the tradition described above. The research project sets out to describe the degree of equality of opportunity in Ontario secondary schools and to analyze the process that links background characteristics with specific levels of educational attainment. In this way the factors are determined that are most influential in determining a student's ability to maximize on his opportunities. The second chapter examines the theoretical and empirical background of the educational attainment process providing the context in which the present research was carried out. The third chapter describes the data collection and main characteristics of the sample. Chapters 4 to 8 present the data analysis.

The data employed in the study are composed of a two part panel which provides information on a sample of young people as they completed

Grade 8 and as they were potentially completing Year 5 or Grade 13 studies, five years after the first questionnaire was completed. This data set is unique in panel studies of educational attainment which tend to be generally based on high school seniors, by using a sample representative of Grade 8 Ontario students in 1971 since it was drawn at a time when most young people were still in school by law. In this way it provides a basis for evaluating the secondary school attainment process and the influence of the elementary school experience in this process.

The study of equality of educational opportunity in secondary school is of particular interest in Ontario because of the changes that have been made in the structure of the curriculum in Ontario secondary schools in the last ten years and the changing evaluations of the benefits that can be obtained from formal education in North American society. From the time that free universal education in primary and secondary school was established the overall level of educational attainment of the Canadian population has steadily increased in the last 70 years. As more people stayed in school longer the average level of education required to obtain a particular job also increased. In part because of the increasing complexity of these jobs but largely as a result of an escalating trend of higher educational requirements in the labour market and increasing supplies of more highly educated labour,¹⁹ young people were becoming

¹⁹Support for this argument can be found in the following: Ivar Berg, Education and Jobs: The Great Training Robbery, New York: Praeger, 1970. John K. Fogler and Charles B. Nam, Education of the American Population 1960 Census Monograph, Washington: Government Printing Office, 1967. Richard B. Freeman, The Over Educated American, New York: Academic Press, 1976.

better educated than their parents but were not necessarily able to obtain higher status jobs with their better education.²⁰ While the average level of educational attainment increased with a concomitant reduction in the variance of the population educational attainment (as part of a ceiling effect) differences in the overall level of educational attainment between individuals are still great.

It is of particular interest to examine the circumstances under which young people do not complete secondary school. Do these young people not have the ability to complete secondary school? Or through circumstances relating to their background and past educational decisions has the opportunity for secondary school completion and the associated entry into post-secondary studies been closed to them? With the increasingly highly trained pool of labour and increasingly high job entrance requirements (often not related to the actual requirements of the job), young people who do not take advantage of the opportunity to complete at least a secondary school education will be at an increasing disadvantage in the competition for permanent positions in the labour force. This is quite apart from being denied the personal individual benefits of such education as acquisition of knowledge, self-fulfillment and personality development as well as the larger societal benefits of having a well-informed, well-educated citizenry.

²⁰ The implications of lower class sons with higher levels of education than their fathers not being able to obtain better jobs than their fathers is described by Richard Sennett and Jonathan Cobb, The Hidden Injuries of Class, New York: Vintage Books, 1973.

A system of collegiate institutes, composite high schools, commercial and vocational schools was developed in Ontario prior to 1960. The collegiate institutes provided a university preparatory course while the others provided less academic courses. In 1960 a reorganized system of high school programs, later called the Robarts Plan was introduced to provide students a range of secondary school programs designed to better meet their individual abilities. Programs were offered in three branches- Arts and Science, Business and Commerce, and Science, Technology and Trades in a 5 or 4 year course as well as a short occupational course. With these changes that brought students following different courses of studies into one school, it was hoped that the general characterization of the technical and commercial programs in the composite schools or the technical and commercial schools as "the dumping grounds for those with no talent for academic work" would change.²¹

Under the Robarts Plan the 5 year program was to lead to university and the 4 year or 2 year occupational program was designed to provide specific occupational skills, or in the case of the 4 year Arts and Science program provide a stimulating educational experience suited to the student's academic abilities. In fact, the invidious distinction between university and non-university directed studies was even more apparent. Although theoretically there was to be flexibility in the program assignment with the possibility of changing from the 4 year program to the 5 year program,

²¹W.G. Fleming, Education: Ontario's Preoccupation, Toronto: University of Toronto Press, 1972, 191

few students actually transferred. Despite the original intentions, the course offerings in the 4 year program tended to be simplified versions of the 5 year program with little new or innovative content.²²

The rigid program structure it was felt restricted young peoples' ability to maximize on the benefits of secondary education given their ability. In fact, the program structure tended to still best serve the minority of students directed to university. Further changes in high school programs were made in the late 1960's, first introduced experimentally in 1967-8 and later outlined in the 1969-70 Circular HSl. The changes were specifically introduced to reduce many of the rigidities of the Robarts system of programs. Students were no longer restricted to a few programs but could set up a highly individualized program based on individual course selection at varying levels of difficulty. Changes were also made to increase flexibility in general learning environments - such as lifting restrictions on length of classroom study periods and increasing alternative styles of learning.²³

These new programs were introduced at different times in the province. By 1971-2 most high schools in the province had instituted these program changes. Ontario young people entering high school in the fall of 1971 were the first cohort of young people who would follow their entire high school career under the restructured system of programs. It is of particular interest to evaluate the structure of equality of opportunity of secondary school completion in Ontario under the new program

²²Fleming, op.cit., page 205.

²³Fleming, op.cit., page 212.

structure.

The research in the dissertation is directed towards providing a description and analysis of factors found to be associated with the equality of opportunity of secondary school completion in the Province of Ontario. Chapter 2 describes the previous theoretical and empirical work that provided the framework within which the present analytic problem was formulated. This guiding framework provides the basis for determining the type of data collection that was undertaken, the hypothesized relationships that are tested and data analysis techniques that are used. The third chapter provides the details of the data collection followed by a series of chapters describing the data analysis.

Chapter 2

Review of the Literature and Statement of General Propositions

The research described in this dissertation was undertaken in order to examine one aspect of equality of educational opportunity - secondary school attainment - in the Province of Ontario from 1971 to 1976. On an aggregate level the educational opportunity structure provides the societal requirement for trained manpower and a means of sorting and allocating young people into their adult social statuses. The functioning of the educational system forms an important component of contemporary macro-societal analyses¹ which examine the theoretical and empirical links between the educational opportunity structure, particular levels of educational attainment and other social structures. Empirical studies dealing with educational opportunity have tended to be analyses based on individual level data that specifically examine how young people achieve their particular educational statuses.

Studies of individual educational attainment examine the links between a young person's background and experience, his experience in school, the formation of specific educational plans and attainment of educational and occupational statuses. These studies address themselves to a particular issue in the context of social institutions. Measures of

¹See for example, the work of Daniel Bell, The Coming of the Post-Industrial Society, New York: Basic Books, 1973; Amitai Etzioni, The Active Society, New York: Free Press, 1968; and Talcott Parsons, The Systems of Modern Societies, Englewood Cliffs, New Jersey: Prentice-Hall, 1977.

social institutions are incorporated into the empirical analyses on an individual level as they reflect the characteristics of the person under study. The development of this area of study has been largely empirical first in the examination of individual variations in educational attainment in relationship to social and demographic characteristics, and secondly as other experiential and motivational measures were included in the analyses to explain better the variations in educational attainment.

Many of the empirical studies of educational attainment were undertaken to evaluate the degree of equality of educational opportunity which would involve an examination of the effects of individual background on educational attainment, holding constant the effects of ability. The selective review of the literature in this chapter starts with an overview of findings relating to equality of educational opportunity and the general explanations offered to account for these findings. The work of the social interactionist theorists is examined since they provide a basis for accounting for the process linking background and experiential variables to behaviour. The last two sections of the chapter provide an overview of studies reporting specific empirical findings and a general statement of the propositions that guided the present research.

Family Background and Educational Attainment

Numerous studies in Europe and North America report finding a significant and pervasive effect of socio-economic status, or family background on the levels of educational aspirations and levels of educational

attainment. Porter² in an analysis of the Canadian class structure and educational opportunity showed the presence of a strong association between social class and levels of educational attainment in Canada. Both the data that he assembled from the 1951 and 1961 official government censuses and other surveys showed that children with lower class parents are less likely to attend university. Porter goes on to report the effects of other individual background characteristics such as sex, ethnicity, and religion on chances of higher educational attainment within the context of a wide range of disparities in educational facilities across the province.

Sewell³ found that socio-economic status, with academic ability controlled contributed significantly to the failure of Wisconsin students to take advantage of educational opportunities. Further disadvantages were found to be associated with female sex status or membership in minority groups (with the exception of Jews). The pervasiveness of the effect of socio-economic status is clearly demonstrated in his multivariate analyses of educational attainment, in which much of the effect of SES is shown to operate through intervening variables introduced into the analysis.⁴

Pike⁵ in his analysis of accessibility to higher education in

²John Porter, The Vertical Mosaic, University of Toronto Press, 1965.

³W.H. Sewell, "Inequality of Opportunity for Higher Education," American Sociological Review, 36 (October): 793-809, 1971.

⁴W.H. Sewell and Robert M. Hauser, Education, Occupation and Earnings: Achievement in the Early Career, Dept. of Sociology, University of Wisconsin, 1974.

⁵Robert M. Pike, Who Doesn't Get to University and Why, Ottawa: Runge, 1970.

Canada also notes the important effects of sex, family background, geographic location, ethnic and religious background as they influence the necessary conditions for higher education, namely, adequate ability, high school certificates, financial resources and motivation to attend university. In a study of Ontario high school students by Blishen and Porter⁶ similar findings were reported in relation to educational aspirations. Lower socio-economic status was found to be associated with lower academic achievement and enrolment in terminal high school programs.

In examining many of the studies that have empirically and conceptually studied the relationship between background characteristics and educational attainment, Boudon⁷ found three main theoretical frameworks that he felt accounted for the process through which socio-economic status reduces educational opportunities. The first of these he termed the "value theory" as exemplified by Hyman's 1953 study⁸ showing differences in values to education by social class. In this conceptualization, educational opportunities are not realized because of different values that are a function of socio-economic status or membership in a specific group. The value orientations are manifest in different evaluations of the importance of school achievement and the importance attached to educational attainment.

⁶Marion Porter, John Porter and Bernard R. Blishen, Does Money Matter? Downsview: Institute for Behavioral Research, 1973.

⁷Raymond Boudon, Education, Opportunity and Social Inequality, Toronto: Wiley, 1973.

⁸Herbert, Hyman, "The Values Systems of Different Classes: a Social Psychological Contribution to the Analysis of Stratification", in Bendix and Lipset, Class Status, and Power, 1966, 488-499.

The value perspective, however, suffers from the lack of clearly demarcated classes within North American society, with the possible exception of those at the very top and those at the very bottom of the socio-economic status hierarchy, or special groups who have defined themselves outside of the dominant social structure. In fact, Parkin⁹ argues that lower socio-economic status group members can quite consistently express the value, on the one hand, that higher education is important in obtaining good jobs and on the other, discourage academic achievement in their children since education is defined as too costly in psychological and economic terms.¹⁰ Boudon argues that the "value theory" overlooks differences in the evaluation of the importance and accessibility of education by members of the lower portion of the socio-economic status structure that result from different cultural opportunities, experiences and different evaluations of the ability to pay the costs of education.

⁹Frank Parkin, Class Inequality and Political Order, London: Paladin, 1972.

¹⁰In his analysis of class inequality and meaning systems Parkin (op.cit.) argues that there are conceptually three meaning systems providing interpretations of class inequality: the dominant value system the subordinate value system and the radical value system. The latter tends to be the basis for opposition to the dominant system. The values of the dominant system are seen as being modified by subordinate class members for their own social circumstances. Parkin argues that on a general level the dominant value system provides the moral framework but in concrete, less abstract situations the modified version or "negotiated version" of the dominant value system, the subordinate value system, provides the framework. The dominant value system exists on two levels: one of societal relevance and the other addressed to more localized situations. In this way a class differentiated view of society is consistent with an argument that underlying any society is a minimal level of consensus in order to facilitate minimal social control. Parkin, op.cit., 79-102.

The second theoretical perspective emphasizing differential cultural opportunities he termed the "cultural theories". Both within the "cultural theories" and the "social position theories" the "deviant cases" of lower class members with higher educational achievement can more easily be accounted for. The "cultural theories" hold that lower class children have not been given the same opportunities as middle and upper class children to learn and develop the skills necessary for satisfactory school performance. The orientation of the schools tends to be largely middle class and its teachers, although many may have lower status origins, have a middle class outlook. The presence of largely a middle class, majority group perspective often results in frustration and more frequent negative sanctions for the lower class child. The emphasis here is not so much on basic values held with respect to education but rather on the lack of skill and experience needed for successful school participation.

Boudon concludes that in fact the clearest understanding of inequality of educational opportunity can be gained from the third perspective, "social position theories." This perspective stresses the importance of differential evaluations with respect to educational decision making resulting from the relative advantages or disadvantages associated with different positions in the status hierarchy. From this perspective, educational attainment or optimizing on available opportunities has to be considered in terms of the costs and benefits that the individual rationally feels he can attain relative to his own social background. For a lower class child to reach the same level of education as a middle class child he would have to have a higher aspiration level, since he has to travel a greater distance from his point of origin. This theoretical perspective implies a high degree of rationality and evaluation on the part of the student and his family.

While Boudon argues that the "social position theories" provide the clearest understanding of the source of educational inequality of opportunity, the "social position theories" and "cultural theories" are not mutually exclusive since the initial differences in the "social position theories" described by lower class status are those resulting from the different opportunities, experiences and evaluations within the dominant value system associated with particular status positions as described in the "cultural theories". Boudon's own empirical analysis is based on both theoretical frameworks, the cultural argument which defines inequalities among young people as they start secondary school and the "social position theory" which stresses educational decision making given the inequalities at the beginning of schooling and educational options available in the educational system. Both perspectives are based on the individual, as a unit of analysis, and assume an underlying psychological and evaluative component that forms the link between background characteristics and behaviour.

In the evaluation of the influence of background characteristics on educational attainment, genetic ability is generally held constant. It is conceptually easier to distinguish between inequalities in educational opportunity that result from genetic differences in ability from inequalities that result from socio-economic status than it is to measure these concepts separately. Even on a theoretical level it is difficult to determine at what point environmental influences take over from genetic influences in shaping ability in light of evidence relating the health of the mother to the well being of the unborn child. In the actual functioning of the school system the distinction becomes even more difficult to make

in part because of our limited knowledge of the exact components of genetic ability and how to measure it and the interaction between innate ability and environment from an early age.

Boudon's interpretation of the social position theories stresses the importance of rational educational decision making relating to the educational options available to young people at various points in secondary school. In Boudon's conceptualization these decisions are conditional on the advantages related to family background, ability and past school performance at the beginning of high school. The educational decisions made throughout the remainder of school have a cumulative effect on subsequent educational decision making in limiting or retaining options.

Type of School Studies and Educational Attainment

In his analysis Boudon uses as dependent variables the decisions students make to continue from one year of school to the next. As Boudon and others have noted, the content and structure of secondary school courses are closely related to student's plans and aspirations as well as his actual level of attainment. Breton¹¹ argues that the high school program of studies is an integral part of the type of schooling the individual obtains. Breton reported findings that demonstrated a relationship between the student's type of school program and his future plans as well as the organization of school programs available in different

¹¹ Raymond Breton, Social and Academic Factors in the Career Decisions of Canadian Youth, Ottawa: Manpower and Immigration, Government of Canada, 1972.

schools on student aspirations. The program organization in the school and its effect on young people are not pursued in this analysis; however, the effect of individual program choice on student careers is considered to be one of the educational decisions (in Boudon's terminology) which have a continuing influence on an individual's educational career.

In his analysis of the different mobility patterns in English and American schools Turner distinguished between two main types of mobility patterns - "sponsored" as opposed to "contest" mobility which he distinguished primarily by differences in school structural rigidity and the type of assignment of young people to courses of studies.¹² The English or "sponsored" system, at the time of Turner's analysis, assigned young people to an academically oriented school or non-academically oriented school at an early age on the basis of performance on achievement tests and teacher evaluations. The American or "contest" school system emphasized flexibility and encouraged the belief that it was possible to change courses through secondary school. Turner's analysis clearly draws the difference between the two systems through their selection of/or placement in rigidly or loosely organized courses. Depending on the rigidity of the curriculum structure, enrolment in a specific course of studies tends to limit future educational options

¹²Ralph H. Turner, "Sponsored and Contest Mobility and the School System," American Sociological Review, 25: 855-67, 1960.

and in the case of enrolment in a non-academic course, limits the young person's ability to maximize on the education opportunity structure.

As discussed in Chapter 1, the program structure in Ontario secondary schools has been undergoing considerable change in an effort to increase flexibility of choice for the individual student and reduce organizational rigidity. Courses of studies are still clearly distinguished into four and 5 year programs which serve as the major basis of differentiation of course selection aimed at fulfilling different secondary school educational goals.

Social Psychological Variables

In an effort to account for a greater proportion of the variation of educational attainment after individual differences arising from differences in ability, background and position in school had been accounted for, researchers looked to the process linking background characteristics to behaviour. It was hoped that variables could be found that when incorporated into the empirical analysis would provide a better understanding of the attainment process. This shift in the empirical models analyzing status attainment can be seen by contrasting the work of Blau and Duncan¹³ and the group at Wisconsin headed by Sewell.¹⁴

Many of the univariate findings linking specific background characteristics with educational attainment were brought together in the

¹³P.M. Blau and O.D. Duncan, The American Occupational Structure, New York: Wiley, 1967.

¹⁴Sewell, op.cit.

work by Blau and Duncan and the Wisconsin status attainment models. Blau and Duncan employed objective or non-psychological variables defining status positions such as family background and level of education in their model, while Sewell et.al. combined these types of status or structural measures with measures of ability and subjective socio-psychological variables. The Wisconsin model explains the formation of aspirations and how they influence attainment of the individual statuses of education, occupation and level of income.

In an overview and analysis of status attainment research, Haller and Portes¹⁵ conclude that the Wisconsin models advance two general hypotheses derived from the social interactionist's framework:

1. Attitudes including levels of aspiration - are formed and altered through two basic mechanisms: interpersonal influence, including reflexive adjustment of others' expectations, and including self-reflexion.
2. Status aspirations are complex forms of attitudes whose translation into attainment levels is affected by the context in which individuals attempt to exact them. 16

The above two statements do not provide very much of a link with the social interactionist theoretical framework and can only be understood in terms of testable hypotheses by referring back to the presentation of the Wisconsin status attainment model as presented by Haller and Portes. Statement 1 refers specifically to hypothesized relationships as shown in the path diagrams between measures of the influence of significant others and aspirations and measures of self-conceptions and aspirations. Statement 2

¹⁵Archibald Haller and Alejandro Portes, "Status Attainment Processes" Sociology of Education, 46: 51-91, 1973.

¹⁶Ibid., pages 68-69.

is intended to refer to paths from significant others and school evaluation measures to educational attainment as well as the principal relationship between educational aspirations and educational attainment.

While it is generally conceded that the incorporation of social psychological variables is based on theoretical considerations from the work of the social interactionists, the theoretical statements by Haller and Portes are extremely limited. The two statements as given are not testable hypotheses that can be accepted or rejected in terms of the empirical evidence. Nor is it clear from these statements what empirical measures would act as satisfactory indicators of reflexive adjustment or the "exacting" of levels of attainment. In fact as has been pointed out in an analysis of social interactionists by Arnold Rose, this theoretical framework has not been sufficiently developed to allow for a logical deduction of propositions and hypotheses. However, their work does provide a framework from which "logically consistent" propositions and hypotheses can be derived.¹⁷ In this sense the work of the traditional symbolic interactionists such as Cooley,¹⁸ Mead,¹⁹ and W.I. Thomas,²⁰ provides an organizing framework within which to expand the empirical models and

¹⁷ Arnold M. Rose, "A Systematic Summary of Symbolic Interaction Theory," pps. 3-19 in Arnold M. Rose, editor, Human Behaviour and Social Processess: An Interactionist Approach. Boston: Houghton Mifflin, 1962, 5.

¹⁸ Charles Horton Cooley, Social Organizations: A Study of the Larger Mind. New York: Charles Scribner's Sons., 1929.

¹⁹ George H. Mead, Mind, Self and Society, edited by Charles W. Morris, Chicago: University of Chicago Press, 1934.

²⁰ W.I. Thomas and Florian Znaniecki, The Polish Peasant in Europe and America, vol. I, New York: Dover Publications, 1958.

findings that are presently found in the literature relating to educational attainment.

From the theoretical work of the traditional theorists propositions have been derived by contemporary theorists such as Rose²¹ which suggest the basis for specific hypotheses relating to educational attainment. Because the arguments from general theoretical propositions to specific hypotheses cannot be made deductively, a test of these hypotheses do not constitute an empirical test of the social interactionist's framework. Rather by using this approach we are seeking to strengthen the rationale for inclusion of specific types of variables in the analysis and for a specific ordering of the variables in the multivariate analysis. By incorporating the theoretical work of the social interactionists, a more complete understanding of the largely empirically developed model of educational attainment is developed.

The general theoretical framework is drawn from the work of the symbolic interactionists - Cooley, Mead, and W.I. Thomas. From their original statements and the subsequent elaboration of the framework by such contemporary sociologists as Arnold Rose²¹ and Herbert Blumer²² a set of definitions, assumptions and general propositions are drawn that provide the direction for the data collection and analysis of the dissertation.

In the theoretical perspective of the social interactionists,

²¹ Rose, op.cit.

²² Herbert Blumer, "Society as Symbolic Interaction", pps. 179-192 in Arnold Rose, editor, Human Behaviour and Social Processes: An Interactionist Approach. Boston: Houghton Mifflin, 1962.

it is argued that basic human nature which is the same for all humans is developed within the context of social groups.²³ All human beings are born into an on-going society which is composed of a complex network of interacting individuals who have a common set of meanings and values or culture.

Culture is not necessarily uniform; culture can be composed of many possible subcultures, internal inconsistencies and ranges of variation.²⁴ In this sense the individual is socialized not only within the general culture but also into particular sub-cultures within which he is born. The child at birth has an...

hereditary outfit...(consisting) of vague tendencies or aptitudes which get definiteness and meaning only through the communicative influences which enable them to develop.²⁵

Self-identity and self-consciousness arise only within social groups so that individuality cannot be defined except with reference to some form of group, conversely the group cannot be defined except with reference to the individuals that make it up.

Mead assumes the existence of an individual physiological capacity that provides a receptivity to socialization through language and gestures. Much of Mead's work develops the details of how the individual's self-identity arises from the interaction with others, particularly in childhood, through role-taking and the use of symbols. By learning through individual

²³Cooley, op.cit., 28.

²⁴Rose, op.cit., p. 15.

²⁵Cooley, op.cit., p. 319

play and later through play with other children in games, the child grows and develops to the point that as an individual he is able to anticipate the reactions of specific individuals and any others that might be involved in a general activity.

A human individual is able to indicate to himself what the other person is going to do, and then to take his attitude on the basis of that indication. He can analyze his act and reconstruct it by means of this process. The sort of intelligence he has is not based on physiological differentiation, nor based upon herd instinct, but upon the development through the social process which enables him to carry out his part in the social reaction by indicating to himself the different possible reactions, analyzing them, and recombining them.²⁶

The individual's self-identity, who he is, what he wants to do with his life and how he hopes to do it is formed within the context of human group interaction. Social interaction is an ongoing dynamic process. The development of the self starts from early childhood and is a continual ongoing, cumulative process. Any action that the individual takes is constantly being evaluated and re-evaluated in terms of the actions and reactions of others.

It is through the learning of symbols that man is able to develop thought processes, learn to anticipate what other members of the society expect of him and also be able to anticipate the behaviour of others around him. Symbols have a meaning and value associated with them which can only be learned from interacting with other people. It is the common sharing of symbols that define societal norms and ideals. Attitudes are the subjective component of values.²⁷

²⁶ Mead, op.cit., 244.

²⁷ Rose, op.cit.

The individual's self-conceptions formed in past group interaction form the basis for action in terms of the individual's evaluation of relevant others. In terms of present actions the individual brings an accumulation of previous interactions to a situation.

Arnold Rose²⁸ summarized the assumptions underlying symbolic interactionism as it sets out how man is able, through the learning of symbols, to meaningfully interact with other members in the society and become an integrated member of that society.

- Assumption 1. Man lives in a symbolic environment as well as a physical environment and can be 'stimulated' to act by symbols as well as by physical stimuli.
- Assumption 2. Through symbols, man has the capacity to stimulate others in ways other than those in which he is himself stimulated.
- Assumption 3. Through communication of symbols, man can learn huge numbers of meanings and values - and hence ways of acting - from other men.
- Assumption 4. The symbols - and the meanings and values to which they refer - do not occur only in isolated bits, but often in clusters, sometimes large and complex.
- Assumption 5. Thinking is the process by which possible symbolic solutions and other future courses of action are examined, assessed for their relative advantages and disadvantages in terms of the values of the individual, and one of them chosen for action.²⁹

Rose then presents two propositions which he argues are logically consistent with the above assumptions. The first, in effect, tests the existence of society. Society can only exist if cultural learning has taken place which allows men to predict each other's behaviour. The

²⁸ Rose, op.cit.

²⁹ Rose, op.cit., pages 5-12.

second proposition states that: "the individual defines (has meaning for) himself as well as other objects, actions and characteristics."³⁰ The assumptions stated that man through symbols is able to predict the behaviour of others and is able to learn. The second proposition tests whether this learning has occurred.

A further assumption employed by the social interactionists is the importance of the family or family surrogate in the socialization of children. The family is first in time and in importance to the individual. Cooley drew the distinction between primary relationships that take place in the family and secondary relationships that take place outside of the family. The main distinction between the two types of relationships is made in terms of the primacy of group influence on the individual and of the totality of the involvement of the self in group interaction. In the primary group the individual gets his first socialization. Primary group relations are intimate and face-to-face and are not subject to change in the same way that the more elaborate secondary group relationships are.

The primary groups are primary...

chiefly in that they are fundamental in forming the social nature and ideals of the individual. The result of intimate association, psychologically, is a certain fusion of individualities in a common whole, so that one's very self, for many purposes at least, is the common life and purpose of the group.³¹

For most individuals in our culture, the family is the primary group that provides the earliest and most basic source of learning.

³⁰ Rose, op.cit., p. 11.

³¹ Cooley, op.cit., 23

For both Mead and Cooley institutional relationships are secondary in terms of individual involvement and are of importance as they define the setting for social action. Mead places a great deal of importance on educational institutions which provide the means for the individual learning of "the cultural media of the community in a more or less abstract way."³² Through education the individual is able to learn and simulate the responses of the members of the community and what is expected of him from the community. The development of schools and other institutions of education such as the church are extensions of the earlier parental learning relationships in the family. Similarly, Cooley argues that "the school...must form a whole with the rest of life, using the ideas generated by the latter (relationships within which he lives) as the starting point of its training."³³

In many instances the ideal continuity between education in the family and education in schools and other institutions does not exist. The work of W.I. Thomas provides extensive documentation of these discontinuities for Polish immigrants in America and the disruptive consequences of these discontinuities. Mead argues as W.I. Thomas demonstrates that such discontinuities result in an inability on the part of the individual to integrate himself into social relations with others from the larger social community resulting in individual attitudes of hostility or "latent opposition."³⁴

³² Mead, op.cit., 264.

³³ Cooley, op.cit., 48.

³⁴ W.I. Thomas, op.cit.

The empirical studies of educational attainment in the literature or in this dissertation do not provide a clear test of whether social learning as described in the assumptions has taken place but are based on the evaluations of the relationships consistent with the theoretical arguments. The empirical multivariate models use measures of variables that are used to tap the variation in the symbolic environment an individual is born into, the specific values, meanings and attitudes learned from others and how these factors are related to specific action. The theoretical statements giving primacy to the family, placing values and attitudes before action or behaviour, and self-reflection and the evaluations of others as part of the process of learning meanings and evaluations, are used to order the variables in recursive path models. The type of measurement instrument used in these studies is generally a self-completed questionnaire or personal interview which constrains the type of data that can be collected. The measurements of the symbolic environment or communication between individuals are most frequently obtained as perceptions reported by the respondent.

The work of the symbolic interactionists argues theoretically for continuity between the societal evaluations of the family and the individual and continuity between individual evaluations, intentions and behaviour while also noting the numerous sources of societal and individual variations that can and do exist. Severe discontinuities, on the other hand, are disruptive particularly when they occur between family and community systems and individual behaviour. The types of relationships posited in the empirical models of educational attainment are based on the interactionists emphasis on continuities between general evaluations characteristic of a particular background or environment and subsequent

evaluations and behaviour.

In summary, the work of the interactionists provides the basis for linking the meaning systems the individual learns in his family, from other people close to him and social institutions such as the school which together combine to form the individual's own value system which in turn influences action. In studies focused primarily on the issue of equality of educational opportunity, the influence of family background is examined in terms of attainment of specific levels of schooling. In the more broadly focused studies of educational attainment the influence of specific environmental factors such as family background, community, ethnicity, and religion are used as indicators of the types of meanings systems young people grow up in. Measures of placement in a school program of studies provide an indication of the type of value systems the young person is in in school. Since the basis for social learning lies in interaction with others, the evaluations of others are an important component of the individual's assessment of himself and his own values and aspirations. Measures of the evaluations by parents, teachers and friends are also frequently incorporated in these analyses. Measures of individual self-evaluations in relationship to behaviour are used to indicate the process of self-reflection that occurs on the basis of past and future interaction, before individual behaviour or action.

Findings of Additional Factors Found to be Associated with Educational Attainment

A substantial literature has developed examining the impact of specific variations in an individual's environment such as family background, ethnic status, religion and community on educational attainment.

The use of a particular variable in a study or empirical model is frequently based on the findings of previous studies. Many of these studies have found differences in social interaction patterns, in patterns of relationships with social institutions or in evaluations resulting from differences in family ethnic group status, family religion,³⁵ or as noted above, family socio-economic status. Other studies, drawing on the work of the social interactionists have demonstrated the important influence of variables measuring self-evaluations and perceptions of the evaluations of others on the individual's school performance and development of aspirations.³⁶ Variables that had been found to be significantly related to individual variations in the formation of individual plans and subsequent behaviour have tended to be included in increasingly complex empirical studies of educational aspirations and educational attainment.

³⁵ See for example the following studies: Sarane S. Boocock, "Community Influence on College Aspirations: An Empirical Evaluation of Explanatory Factors," *Rural Sociology*, 31(September): 277-292, 1966; James Coleman, *The Adolescent Society*, New York: Free Press, 1961; James Coleman et.al. *Equality of Educational Opportunity*, Washington: U.S. Government Printing Office, 1966; G.H. Elder, "Achievement Orientations and Career Patterns of Rural Youth," *Sociology of Education*, 37: 30-58, 1963; Robert E. Herriott, "Some Social Determinants of Educational Aspiration" *Harvard Educational Review*, 33: 157-177, 1962; Bernard Rosen, "Race, Ethnicity and the Achievement Syndrome," *American Sociological Review*, 24(February): 47-60, 1959; Richard P. Boyle, "On Neighborhood Context and College Plans III," *American Sociological Review*, 31(October): 706-707, 1966; Richard A. Rehberg and David L. Westby, "Parental Encouragement, Occupation, Education and Family Size: Artifactual or Independent Determinants of Adolescent Educational Expectations?" *Social Forces*, 45(March): 362-374, 1967.

³⁶ See for example, Wilbur B. Brookover, Ann Patterson, Thomas Shailer, *The Relationship of Self-Image to Achievement in Junior High School Subjects*, East Lansing: Office of Research and Publication, Michigan State University, 1962; Eigil Pedersen, *Student Characteristics and the Impact of Perceived Teacher-Evaluation on the Level of Educational Aspiration of Adolescents*, unpublished Ed. D. dissertation, Harvard University, 1966.

A large number of studies have been directed to the study of educational aspirations of young people.³⁷ These studies have reported findings relating numerous variables measuring individual and environmental factors to educational aspirations. The studies of aspirations are based on the assumption, drawn theoretically by the social interactionists,³⁸ that attitudes and aspirations are predictive of actual behaviour. Subsequent studies employing panel data have found empirical support for this theoretical link. The present research is a longitudinal extension of a cross-sectional study of the educational and occupational aspirations of Ontario young people. The first phase of data collection was directed to the study of educational and occupational plans while the second was designed to collect data on the fruition of these plans at the end of secondary school.

Many of the studies in the literature frequently used different operationalizations of the same concept often making direct comparisons between studies difficult. Many different operationalizations of family socio-economic status, for example, have been used in the study of educational aspirations and attainment. Some have used a single index based on occupations, for example, the Blishen scale,³⁸ others a more decomposed measure using income, occupational status and level of parental education separately,³⁹ while still others used indices based on family

³⁷ W.P. Kuvlesky and D.H. Reynolds, Educational Aspirations and Expectations of Youth: A Bibliography of Research Literature II. Texas Agricultural Experiment Station: Texas A. & M University, 1970.

³⁸ Porter, op.cit., 1973.

³⁹ Sewell and Hauser, op.cit.

finances and facilities in the home such as the number of books, and number of rooms per person.⁴⁰ However, all these studies reported finding a significant relationship between family socio-economic status and educational aspirations⁴¹ although the actual size of the relationship is found to vary. In multivariate analysis socio-economic status is a particularly important variable since it is related to many of the other variables in the model such as mental ability, influence of significant others and choice of school program.

Other family related characteristics such as family size and direct family influence and encouragement have also been shown to be positively related to educational aspirations. Direct family encouragement to do well in school and the presence of parents with high educational aspirations and expectations for their offsprings have been found to be clearly associated with higher levels of educational aspirations in the child.⁴² Similarly, the presence of peers and siblings with high levels of educational and occupational aspirations are found to be associated with high levels of aspirations in young people even when other factors such as

⁴⁰ Jerald G. Bachman et.al., Youth in Transition, Volume 1, Ann Arbor: Institute for Social Research, The University of Michigan, 1972.

⁴¹ Breton, op.cit., and Ronald M. Pavaiko and David R. Bishop, "Socio-Economic Status and College Plans: A Study of Canadian High School Students," Sociology of Education, XXXIX, Summer, 1966.

⁴² Breton, op.cit.; Trevor Williams, "Educational Aspirations: Longitudinal Evidence on their Development in Canadian Youth," Sociology of Education, 45: 107-133, 1972; Joseph A. Kahl, "Educational and Occupational Aspirations of 'Common Man' Boys," Harvard Educational Review, 23: 186-203, 1953; David J. Bordua, "Educational Aspirations and Parental Stress on College," Social Forces, 38: 262-269, 1960.

sex, intelligence and SES are controlled.⁴³

Ethnicity of the family has also been found to be related to achievement values which are in turn related to levels of educational aspirations. Rosen⁴⁴ reported findings that the achievement values and levels of aspirations of Jews, Greeks and White Protestants were high, while those of Italians, French-Canadians and Blacks were lower. In studies of school retention in Ontario, Pike⁴⁵ and A.J. King⁴⁶ have both reported findings showing that the level of academic achievement is lower and rate of early school leaving is higher for Franco-Ontarian students than other groups.

The size of the community of residence has also been reported to have an affect on the individual student's level of educational aspirations even when socio-economic status is controlled.⁴⁷

⁴³C. Norman Alexander and Ernest Q. Campbell, "Peer Influence on Adolescent Educational Aspirations and Attainments," American Sociology Review, 29: 568-575, 1964; Otis Dudley Duncan, Archibald O. Haller and Alejandro Portes, "Peer Influences on Aspirations: A Reinterpretation," American Journal of Sociology, 74: 119-137, 1968; A. O. Haller and C. E. Butterworth, "Peer Influences on Levels of Occupational and Educational Aspirations," Social Forces, 39: 289-302, 1960; Edward L. McDill and James Coleman, "Family and Peer Influences in College Plans of High School Students," Sociology of Education, 38: 112-26, 1965.

⁴⁴Rosen, op.cit.

⁴⁵Pike, op.cit.

⁴⁶A.J.C. King, "Ethnicity and School Adjustment," Canadian Review of Sociology and Anthropology, 5: 84-91, 1968,

⁴⁷C.M. Gregg and R. Middleton, "Community of Orientation and Occupational Aspirations of Ninth Grade Students," Social Forces, 38: 303-308, 1960; R. Middleton and C.M. Gregg, "Rural-Urban Differences in Aspirations," Rural Sociology, 24: 347-354, 1959; Lee G. Burchinal, "Differences in Educational and Occupational Aspirations of Farm, Small-Town and City Boys," Rural Sociology, 26: 107-121, 1961; Elder, op.cit.; Breton, op.cit., Boyle, op.cit.

The individual attributes of sex and mental ability have also been found to be important determinants of educational aspirations. Hall and McFarlane ⁴⁸ reported findings that showed that girls had consistently lower educational aspirations than boys. Porter, Porter and Blishen ⁴⁹ found the same relationship in their data; a particularly marked differentiation was found for lower socio-economic status girls. Not surprisingly, measures of mental ability or intelligence have also been found to be important determinants of levels of educational aspirations. ⁵⁰ The consequences of lower levels of mental ability are found to be much greater in terms of lower levels of aspirations for young people in the lower class, particularly girls.

The individual's school performance or academic achievement and his perceptions of his ability to do school work also have an important influence on educational aspirations. At a minimum an average level of achievement has to be maintained to gain admittance to many post-secondary institutions; this restriction is reflected in lower levels of achievement being associated with lower levels of aspirations. ⁵¹ The self-conception of ability to achieve is an important mediating variable between actual

⁴⁸ Oswald Hall and Bruce McFarlane, Transition from School to Work, Ottawa: Department of Labour, report iv, 1962.

⁴⁹ Porter, Porter and Blishen, op.cit.

⁵⁰ Pavalko and Bishop, op.cit.; Sewell, op.cit., 1970; Porter, Porter and Blishen, op.cit.

⁵¹ Sewell, op.cit., 1970; Porter, Porter and Blishen, op.cit.

achievement and aspirations.⁵² The student who has high secondary school grades but has little confidence that he can succeed in university is not likely to aspire to go on to university studies. Bordeleau and Desjardins⁵³ report findings that showed that senior Franco-Ontarian students planning to go to university were confident that they could do university work but that Franco-Ontarian students planning to attend a community college were uncertain about their ability to do university work.

Despite the move away from a structured set of programs in Ontario secondary schools, Blishen and Porter and subsequent follow-up work by McRoberts⁵⁴ and Barrados⁵⁵ have found that students clearly differentiated their high school program particularly in terms of the expected length of the program (in number of years) and whether they expected to go to Grade 13 honours diploma courses which are at a higher level of difficulty and require more prerequisite courses. Further, this choice of the type of high school program of studies by a student is strongly associated with the student's level of educational aspirations.⁵⁶

⁵² Brookover, op.cit., 1962.

⁵³ Gabriel Bordeleau and Louis M. Desjardins, L'Avenir des Etudiants Franco-Ontariens de 12 & 13 Années, 1974-1975, Government of Ontario: Ministry of Colleges and Universities, 1976.

⁵⁴ Hugh McRoberts, "Follow-up of Grade 12 Students from the Blishen-Porter Study of Education Aspirations," A report to the Council of Ontario Universities, mimeographed, 1974.

⁵⁵ Maria Barrados, "A Study of the Probability of Early School Leaving in a Cohort of Ontario Students from Grades Ten to Thirteen," Paper read at the Edmonton meetings of the Canadian Sociology and Anthropology Association, 1975.

⁵⁶ Porter, Porter and Blishen, op.cit.

Students in a 5 year program of studies are far more likely to have aspirations to attend university than students in other programs. Students in 4 year programs are more likely to aspire to attend a community college or plan to go directly to work upon high school graduation.

The multivariate models developed by Sewell et.al. at the University of Wisconsin brought together many of the bivariate findings previously reported in the literature. Their work was done on panel data that provided not only a measure of student aspirations but also their subsequent attainment. Sewell's work developed a series of summary models and also provided empirical support for the relationship between background variables, mediating variables measuring individual motivation and the effects of past performance, aspirations and actual attainment. Sewell's sample consisted of a set of Wisconsin high school seniors who were studied in 1957 and first recontacted in 1964.

Sewell's empirical model begins with socio-economic status and mental ability as the factors the individual brings with him into the school. These two variables operationalize a complex of factors that would include variety in family setting, knowledge and skill of parents, availability of family resources, and family life style⁵⁷ as well as ability to do school work. Then a set of intervening variables (also termed facilitators by Haller and Portes⁵⁸) are employed to measure motivation

⁵⁷ Joe L. Spaeth, "Cognitive Complexity: A Dimension Underlying the Socio-Economic Achievement Process," pps. 103-132 in Sewell, Hauser and Featherman (eds.), Schooling and Achievement in American Society. New York: Academic Press, 1976.

⁵⁸ Archibald Haller and Alejandro Portes, "Status Attainment Processes," Sociology of Education, 46: 51-91, 1973.

and factors relating to school performance and perceived encouragement by parents, teachers and friends. The aspiration variables are placed so as to be influenced by the background variables (SES and Ability), the evaluation of significant others and actual school performance. Unlike the relationships described by the social interactionists these relationships as represented in the path model are not reciprocal. This complex of background and intervening variables are presented as the source of explanation of the individual's educational and occupational attainment. The following path diagram illustrates the general empirical model and the types of relationships found between the variables for the total sample of Wisconsin males.

Figure 2.1

Path Coefficients for Antecedents of Educational and Occupational Attainment - Revised Model for Total Sample

(Source: W.H. Sewell, Archibald O. Haller and George W. Ohlendorf, "The Educational and Early Occupational Status Attainment Process: Replication and Revision," American Sociological Review, 35 (December), 1023.)

- X₁ Occupational attainment - measured using the Duncan socio-economic index of occupations (measured 1964-65).
- X₂ Educational attainment - measured by an arbitrary scale of 0 to 3 for no post high school education, vocational school, college attendance, and college graduation (measured 1964-65).
- X₃ Level of occupational aspiration - measured on Duncan's socio-economic index of occupations (measured 1957).
- X₄ Level of educational aspiration - arbitrarily coded from 0 to 2 for not continuing vocational school and college (measured 1957).
- X₅ Significant others' influence is formed by the factor analysis of questions relating to perceived parental encouragement to attend college, perceived teacher encouragement for college, and friends' college plans (measured in 1957).
- X₆ Academic performance - measured by youth's centile rank in high school.
- X₇ SES is a weighted combination of father's education, mother's education, father's occupation and average parental income from 1957 (weights determined by factor analysis).
- X₈ Mental Ability - measured on ~~Herman~~ Nelson Test of Mental Ability

Although the full model is given above, occupational attainment is not a concern of the research described in this dissertation. Only the part of the model that describes the effects on educational attainment are of direct interest. The present research is further restricted to one part of educational attainment - secondary school attainment. A striking aspect of the above model is the strong influence of the significant other variable both as a direct effect and variable through which the effects of mental ability, socio-economic status and academic performance are mediated.

As Sewell et.al. point out, the use of the above path model assumes that the summary relationships can be adequately presented in a recursive system even though the process of socialization is reciprocal

and that the model is broadly applicable in the same way to all the communities in the entire unit of analysis, Wisconsin. In other words it presumes: "that standardized achievement norms have diffused throughout the society, and that these norms are fairly uniformly applied in all communities."⁵⁹ This assumption becomes all the more important if the model is generalized to all Wisconsin young people since the sample does not include students who left school before completing Grade 12 and girls who were not included in this analysis.

Other difficulties in the model that can be seen from the above diagram is the correlation found to exist between family socio-economic status and the measure of mental ability. As one of the exogenous variables the mental ability measure is intended to evaluate a young person's innate ability as he enters the schooling process. Social scientists attempting to obtain measures of social class and ability are faced with the difficulty of obtaining an independent method of measurement or method of testing ability that is not sensitive to the differential effects of social class. Culture free tests of mental ability, as used by Porter, Porter and Blishen, have been developed although even these tests are found to be sensitive to the effects of social class. This association can be interpreted to mean that there is a true correlation between class and mental ability or an interpretation more consistent with the work of the

⁵⁹ William H. Sewall, Archibald O. Haller and George W. Ohlendorf, "The Educational and Early Occupational Status Attainment Process: Replication and Revision," American Sociological Review, 35: 1014-1027, page 1016.

social interaction theorists, that the differential learning that takes place by social class is so pervasive that none of our present measures of mental ability are able to remove completely the effects of social class.

As shown in the path diagram the residuals between occupational aspirations and educational aspirations are correlated. The relationship between these two variables in the model is not really clear since no paths are shown between them. The two variables are correlated but have different relationships with preceding and antecedent variables but are shown to have entered the model at almost the same time.

Sewell et.al. have produced other versions of the model incorporating measures of place of residence, further measures of social class and incorporating different versions of the intervening social psychological variable of significant others as well extending the model with further follow-up studies. Sewell's sample was composed of senior high school students so his analysis does not include a range of student high school programs and their effect on secondary school completion.

A recent retest of the portion of the Wisconsin model's explanation of educational attainment using a national U.S. longitudinal sample of Grade 10 students concluded that the restricted sample of senior high school students resulted in an overemphasis of the importance of significant others on educational aspirations in the model, an underevaluation of the importance of the ability measures of mental ability and academic achievement, and an underevaluation of the direct effect of socio-economic status on educational attainment. In this analysis educational attainment was operationalized as a 5 point scale: dropped out of high school; finished high school but did not attend any post-high school educational institution; went to a vocational/technical institute; attended a junior, community or

liberal arts college; and attended a university.⁶⁰ A further replication also using a Grade 10 cohort by Alexander and Eckland⁶¹ suggests a similar departure from the Wisconsin model with the exception of the increased direct effect of SES.

The retest of the Wisconsin model by Wilson and Portes⁶² generally supports the ordering and relationships of the variables found by Sewell et.al. but found a greater proportion of the variance in educational attainment could be accounted for with non-social-psychological variables such as SES and school academic evaluations than had been suggested by the earlier Wisconsin model.

Boudon⁶³ theoretically distinguished between primary and secondary stratification effects in his analysis of educational attainment to account for the apparent attenuation of the effects of socio-economic status and ability for older students as reported in the original Wisconsin model of senior students but not found in Wilson and Portes' younger cohort. Boudon argued that particularly in the analysis of students passing through secondary school a two step conception of family background is more appropriate than a single uni-dimensional effect of family background on

⁶⁰ Kenneth L. Wilson and Alejandro Portes, "The Educational Attainment Process: Results from a National Sample, American Journal of Sociology, 81: 343-363, 1975.

⁶¹ Karl L. Alexander, Bruce K. Eckland and Larry G. Griffin, "The Wisconsin Model of Socio-economic Achievement: A Replication, American Journal of Sociology, 81: 324-1975.

⁶² Wilson and Portes, op.cit.

⁶³ Boudon, op.cit.

secondary school attainment. The interaction of family background and academic achievement in elementary grades places a student in a position of advantage or disadvantage in relation to decisions that he faces as he passes through secondary school. This position of initial relative advantage reflects the primary effects of stratification which Boudon defines as the differential placement of children in a Cartesian space with lower class, low achievers in one corner, and upper class, high achievers in another.

The secondary effects of stratification are the probabilities of making particular decisions relating to progress through school. The perceptions and experiences of the parents and students would influence these probabilities as well as the individual's assessments of the relative benefits, costs and utility of a particular decision. Since the probability of making a specific schooling choice (for example, the decision to choose a particular course of studies or to stay in school) is dependent on past decisions, the effects of stratification are important both in terms of the original position of advantage or disadvantage and the consequences of this original position on preceding academic decisions made as an individual progresses through secondary school.

Boudon argues that primary stratification effects describe a set of pre-dispositions and experiences distributed unequally in society, the secondary effects of stratification are the consequences of the primary inequalities in the stratification order on decision making. As he schematically presents, the effects of unequal ability and socio-economic status are attenuated over time spent in secondary school as the most disadvantaged have the lowest probability of staying to the end of secondary school and the most advantaged have the highest probability of staying to the end of secondary school.

Both the many versions of the educational attainment model generated by Sewell et.al. and the data used by Wilson and Portes⁶⁴ use panel data collected at two or more points in time. Blau and Duncan used cross-sectional data and retrospective respondent reports on past occupational status and parental educational status. Because of problems with respondent recall this design cannot easily be used to collect past attitudinal data, particularly when these variables are intended to be explanatory variables in an empirical model.

School "Drop-Out" Studies

Particularly in the education literature, studies have been directed to more intensive study of students who do not reach a specific level of schooling. These studies have generally been characterized as dealing with the school "drop-out" or early school leaver. Much of this work has been designed to solve the perceived social problem of school drop-outs. Dropping out of school tends to be viewed as a societal wastage of talent, individual failure to maximize opportunities⁶⁵ or failure of the school system to retain students.⁶⁶ Most of the drop-out studies are cross-sectional and center their analysis on the comparison of groups of students who have

⁶⁴ Wilson and Portes, op.cit.

⁶⁵ Daniel Schreiber, "Drop-out - Causes and Consequences," pps. 308-316 in Robert L. Ebel (ed.), Encyclopedia of Educational Research, 4th edition, Toronto: Macmillan, 1969.

⁶⁶ Ontario Secondary School Teachers' Federation, At What Cost? A Study of the Role of the Secondary School in Ontario, Toronto: The Provincial Research Committee of the Ontario Secondary School Teachers' Federation, 1976.

stayed in school with those who have left. An exception is the longitudinal study of adolescent boys undertaken by Bachman et.al.⁶⁷ which within the context of a larger study analyzes in detail the factors associated with dropping out of school.

Because of the interrelationship between the study of educational attainment, educational aspirations and school drop-outs, it is not surprising that many of the factors found to be important in the first two areas of study are also found to be significantly related to dropping out of school.

In a summary of the literature on school drop-outs, the Encyclopedia of Educational Research characterizes the average drop-out as an adolescent who is slightly below average intelligence, more likely male than female, who is a low achiever, tends to be somewhat older than the other students in his class, seldom participates in extracurricular activities, his parents frequently are also school drop-outs and most likely from the lower class, and his friendships tend to be with older youngsters who are also school drop-outs.⁶⁸ Other findings that reoccur in the literature in relation to the characterization of drop-out populations are lack of parental support and encouragement, low self-conceptions and dissatisfaction with school programs and teachers.⁶⁹

⁶⁷ Jerald G. Bachman, Swayzer Green, Ilona D. Wirtanen, Youth in Transition: Dropping Out - Problem or Symptom? Volume 3, Ann Arbor: Institute for Social Research, U. of Michigan, 1971.

⁶⁸ Schreiber, op.cit., 310-315.

⁶⁹ Lucius F. Cervantes, The Dropout Causes and Cures, Ann Arbor: University of Michigan, 1966; Vivienne Young and Carol Reich, Patterns of Dropping Out, Toronto: Board of Education, Research Dept., no. 129, December, 1974; King, op.cit.; Schreiber, op.cit.

Considerable variation is seen in the literature in the definition of early school leavers or drop-outs or for that matter in the definition of the comparison group of school survivors. Many studies define drop-outs as young people who leave school before graduation or senior matriculation.⁷⁰ Other studies have defined drop-outs as young people who did not complete their program of study.⁷¹ By this definition a student in a two year program who leaves school at the completion of the program from Grade 10 would not be considered a drop-out. The conclusions drawn by different studies are, therefore, not always directly comparable. The whole issue of the definition of a drop-out is avoided if the analysis is more generally framed in terms of educational attainment.

In a study of all students who had completed high school in the original Grade 9 cohort of the 1960 U.S. Project Talent, those students who left before senior matriculation (Grade 12) were compared with students who stayed in high school but did not go on to a four year or junior college in the United States. In a separate analysis for boys and for girls, a significant difference between drop-outs and controls was found on a battery of ability tests, on interest inventory scales and on student activities inventory scales. However, an association between socio-economic status and school leaving was found for girls but not for boys.⁷² This finding must be qualified by the fact that the comparison group of boys who

⁷⁰Schreiber, op.cit.

⁷¹Young and Reich, op.cit.

⁷²Janet Combs and William W. Cooley, "Dropouts: In High School and After School," American Educational Research Journal, 5: 343-363, 1968.

stayed in school but did not go to college was predominately lower class but with higher levels of achievement than the drop-outs.

Bachman et.al. in their analysis of Grade 10 boys as they progressed to high school graduation and possibly their first year of post-secondary studies found that the high school drop-out (anyone who interrupted his high school studies for more than a few weeks for any reason other than illness) was more likely to be poor and come from a broken home, to have a history of poor work and failure in school and to engage in delinquent behaviour outside of school. In their analysis they used several comparison groups - all stayins, non college stayins, college entrants - to assess the relative strengths of several predictor variables. They concluded that the most comprehensive way of analyzing school drop-outs is to treat the dependent variable of educational attainment as a continuum since the predictor variables tend to be ordered in the same way as the rank ordering of the educational attainment groups. For example, low scores on family background variables, low scores on intellectual skills tests, low academic grades and higher scores on the negative school attitude scale, low scores on personality and behaviour indices are more likely to be associated with low educational attainment - which was defined as being a school drop-out.⁷⁴

In an analysis of an exploratory follow-up of the Grade 10 students surveyed by Porter and Blishen, Barrados⁷⁵ found that leaving school before

⁷³ Bachman, op.cit.

⁷⁴ Bachman, op.cit., 101-108.

⁷⁵ Barrados, op.cit.

Grade 13 was positively associated with rural residence, family size, low participation of the family in cultural activities and broken homes. The student who did not stay in secondary school tended to be older than the class average in 1971 and tended to score lower on a general mental ability test. The school leaver was more likely to be in a program other than the five year academic program leading to university; his grades tended to be lower and his academic self-concept was lower than that of the student still in school. Students not in school in Year 5 (Grade 13) had lower levels of educational and occupational aspirations in Year 2 (Grade 10) than the students who had stayed in secondary school.

The Deviant Case

Any empirical study tries with the data it has collected to account for as much of the variance in its dependent variable as possible. Data analysis involves a close examination frequently with a re-examination of empirical results. Sometimes as part of the examination of results new variables are included in the analysis or recombined or recoded in a new way. In the case of regression analysis particular attention is given to an examination of the residual cases that have a poor fit with the regression curve. In other types of analyzes, the "deviant" cases or cases that do not fit the general explanation put forward very well, are more closely examined. The residuals or deviant cases are examined with a view of finding additional relevant information in the data already collected or possibly collecting new information to be able to further account for these unexplained cases.

The empirical studies concerned with evaluating the level of equality of educational opportunity, specifically set out to describe and analyze how

lower socio-economic status family background combined with other variables, results in lower levels of attainment. However, the models are probabilistic and do not account for all cases. There are always some lower class young people who despite their background have higher levels of educational attainment. These students are atypical of their class. In the summary multivariate models frequently not enough information is given to more fully explain this atypical behaviour. Some studies have been undertaken to examine in greater detail these atypical students. For example, Kahl⁷⁶ undertook such a study in the 1950's in the United States. He compared a sample of lower class boys with comparable ability levels who had plans to attend university with those who did not plan to go to university.

Kahl's findings and an extension of his work by Cohen⁷⁷ found that the family's relative position within the lower class and the parent's encouragement of higher aspirations were important distinguishing characteristics between lower class boys planning and not planning to go to university. Other studies analyzing only the lower class⁷⁸ report findings consistent with those of Kahl and Cohen.

The findings from these studies on the lower class are consistent with the probabilistic educational attainment model derived from the inter-

⁷⁶ Kahl, op.cit.

⁷⁷ Elizabeth G. Cohen, "Parental Factors in Educational Mobility," Sociology of Education, 38: 404-425, 1965.

⁷⁸ Richard Hoggart, The Uses of Literacy, New Jersey: Essential Books, 1957; Brian Jackson and Denis Marsden, Education and the Working Class, London: Routledge and Kegan Paul, 1962.

actionist framework and tested by Sewell et.al.⁷⁹ They are also consistent with the conceptualization of social stratification that views social differentiation in terms of a continuum used in the multivariate models rather than discrete mutually exclusive social groups or classes.

The design of the study undertaken in this dissertation on the high school attainment of a sample of senior elementary school students included not only data collection on the entire sample but also a more detailed collection of data on a specifically designed sample of lower class students to allow a more detailed analysis of the lower class behaviour not consistent with the generalized model.

General Propositions

The foregoing has presented a summary review of the main theoretical arguments and empirical findings on educational attainment. The theoretical arguments were found to be consistent with the empirical findings although the theoretical statements have not been sufficiently formalized to allow a direct test of the theories. From the theoretical statements supported by the empirical findings, a set of general propositions are derived that form the basis for the research in this dissertation. These general propositions provided a guide to the development of the research instruments that include questions operationalizing many of the concepts used in the

⁷⁹ Sewell et.al., op.cit.

⁸⁰ See Parkin, op.cit., for an elaboration of this conception of class and John Eggleston, editor, Contemporary Research in the Sociology of Education, London: Harper, 1974.

propositions as well as providing a guide for the data analysis.

The principal concern addressed in the dissertation is an examination of the limiting effect of family social background on secondary school attainment holding constant the effects of individual ability. The analysis is expanded to include other variables measuring different aspects of an individual's background and factors that intervene between background measures and attainment in order to better describe the process through which background variables influence attainment.

Underlying the hypothesized relationships with school attainment is the conceptualization of schools as institutions involving achievement of tasks evaluated by standardized tests or individual teacher evaluations. Central to schooling is the individual acquisition of a body of material and the subsequent succession from level to level or year to year which is marked by some form of evaluation of this succession. The school as an institution also sets and enforces various behavioural norms relating to specific behaviour while at school. These norms may vary across schools and be differentially enforced but it would be expected that there would be considerable consensus on general standards of discipline.

Students would differ considerably in their ability to do school work. It is assumed that each of the propositions is applicable only to those students that have the ability to perform the required skills.

Proposition 1: Differences in childhood environmental experiences with respect to encouragement of particular levels of education are likely to result in concomitant differences in individual educational attitudes, aspirations and plans.

As is the case in the other general propositions that follow the

specific empirical indicators used in this study to represent such broad terms as environmental experiences will tend to represent only part of the variation implied by the concept. The choice of specific measures that are operationalized are made in terms of their consistency with the general proposition and the findings of other studies discussed above. Because of the specific interest in the equality of educational opportunity in relationship to family background, a measure of family socio-economic status is an important indicator of difference of environmental experiences. Other indicators of environmental experiences that have been noted as important sources of variation in the formation of educational attitudes and aspirations are measures of family place of residence, levels of parental education, family ethnicity and direct encouragement and assistance by parents.

Differences in environmental experiences would also include differences in the school activities and curriculum as well as differential influence of peers. The first proposition suggests that where these factors encourage higher levels of educational attainment, the individual student is more likely to have a positive view of advanced levels of educational attainment and have specific educational hopes and plans that reflect these views.

The expected relationships are not expressed in terms of bivariate relationships since as can be seen from the first proposition as well as the other propositions, sets of variables influence behaviour with the result that many possible bivariate relationships could be formed. The interaction framework would argue, however, that the family would be dominant among all possible influences.

Proposition 1 relates environmental influences with the formation

of educational attitudes, aspirations and plans. Proposition 5 relates these environmental influences and the associated educational attitudes, aspirations and plans with actual behaviour. Propositions 2 to 4 describe some of the intervening relationships that describe key elements in the process between childhood environmental influences, the development of attitudes toward education as well as educational plans and expectations and actual educational attainment by young people.

Proposition 2: An environment that encourages and facilitates high educational attainment is likely to be associated with positive behaviour in terms of meeting school standards. Conversely, an environment that discourages and does not facilitate high educational attainment is likely to be associated with negative behaviour in terms of meeting school standards.

Proposition 2 deals with the meeting of school standards taken to include a minimal level of academic achievement and acceptance of school rules or regulations dealing with such things as attendance, behaviour in the classroom and so on. Both of these considerations are necessary conditions for higher levels of educational attainment or continuance from one level of schooling to another. Essentially, proposition 2 states that the same factors found to be associated with the formation of positive attitudes to schooling and aspirations and plans for higher levels of educational attainment are also likely to result in behaviour in school that would at a minimum allow the individual to continue on in school.

From proposition 2 it follows that the child's ability to meet minimal school standards sets the constraints for educational decision making. If minimal standards are not met a child may be expelled from school or not be allowed to proceed to more difficult levels of study.

The influence of a child's academic performance on the formation of educational attitudes and aspirations is mediated by the child's perception of his abilities and past performance as outlined in proposition 3.

Proposition 3: The child's self-evaluations of academic ability mediate the influence of meeting school academic standards on the formation of other attitudes and behaviour.

This proposition rests on the social interactionists conceptualization of the reality that influences individual behaviour. Within this framework reality, while based on the evaluations and behaviour of others is essentially the individual's perception of those evaluations and behaviour as well as his perception of the meaning and consequences of his own behaviour. The work of Brookover (see page 35) in particular has stressed the importance of the individual's self-conceptions to perform academically in relationship to future academic performances.

Proposition 4: Young people in school make educational decisions based on their attitudes and aspirations with respect to school, environmental contexts and their past success in meeting school standards.

Proposition 4 is listed separately from proposition 5 although both are based on the social interactionist assumptions linking past social learning and conceptualizations with behaviour. As Boudon has argued the schooling process involves a series of educational decisions relating to the type of school to be attended, the type and duration of course of study and ultimately the decision as to whether to continue from one year to the next in school or whether to continue in school at all. These individual educational decisions accumulate to limit the actual choices a young person has open to him in determining his level of educational attainment.

Proposition 5: The high school attainment of young people is related to past educational decisions, attitudes and aspirations and environmental contexts.

Chapter 3

Data Collection and Description of the Sample

At the conclusion of the literature review in Chapter 2 a set of general propositions were put forward. These propositions are consistent with the theoretical statements made by the social interaction theorists and the empirical studies found in the literature that set out to study equality of educational opportunity and educational attainment. The propositions, stated on a general level tie together an individual's past learning with the formation of attitudes and values and subsequent behaviour. Many of the terms used in the statement of the propositions are general concepts or summary terms since many imply several different explicit situations. These summary terms need to be more specifically or operationally defined in order to derive empirically testable hypotheses.

The operational definitions of the concepts were guided by the work of other researchers in the area of study and the questionnaires developed by Blishen and Porter in 1971¹ which serve as the baseline for this two phase panel study. In the development of the research instruments general terms in the propositions such as environmental context, compliance with school standards, self-evaluations, aspirations and attitudes to schooling and mental ability were operationalized and incorporated as specific questions or sets of questions in the questionnaires.

As a first step in the data gathering, information was collected

¹Marion R. Porter, John Porter and Bernard R. Blishen, Does Money Matter? Prospects for Higher Education in Ontario, Institute for Behavioural Research, Toronto, 1974.

from each respondent that clearly described where he was in the schooling process or at what time he left the schooling process and what his achievement level was. In this way a respondent's placement in the schooling process is clearly established and the overall progress through secondary school of the respondents as a representative sample of Ontario Grade 8 students can be described. The last section of this chapter will describe the progress of the sample through secondary school.

After the progress through secondary school has been described the next step in the analysis is the examination of the factors that can possibly account for the differentials or inequalities in secondary school attainment. It is the general propositions that suggest factors that can account for these inequalities in secondary school attainment.

The following empirical operationalizations of the general concepts in the propositions were incorporated into the research instruments used in the study. Some of the operationalizations are the result of work by Blishen and Porter, some of their operationalizations consistent with the general propositions were repeated in the follow-up, while some new operationalizations arising from the review of the literature were also used in the follow-up questionnaires. The following provides an inventory of the measures of concepts used in the research instruments and the analysis. The dates behind the items indicate when the measure had been used, by Blishen and Porter in 1971 or in the 1976 follow-up study.

1. Different environmental experiences or an environment that encourages and facilitates a particular level of education. Three empirically distinct sets of environments - the family, the school, and peers are measured in the following way:

- a. the family:

1. its place of residence (1971, 1976)²
2. socio-economic status of the head of the household - measured on the 1971 Blishen scale (1971)
3. level of education of the mother and father (1971)
4. perceived parental aspirations and expectations for their child (1971)
5. family ethnicity through male ancestry (1971)

For 1976 interview respondents:

6. perceived parental evaluations of educational decisions (1976)
7. number of books at home (1976)
8. presence of a place to study at home (1976)
9. socio-economic status of the head of the household (1976)
10. perceived family encouragement to do school work (1976).

b. school:

1. self-reported and school reported Grade 7 grades (1971), for other applicable school years (1976 interview sample)
2. Grade 8 self-reported expected performance (1971)
3. expected high school program (1971)
4. actual high school program (1976)
5. language of instruction (1971, 1976)

c. peers:

1. educational aspirations or present activity of two best friends (1976 interview students)

²The years refer to the time in the panel study that this information was collected. Unless indicated as interview variables all the 1976 data was collected by mail questionnaire. See pages 63 to 67 of this chapter describing the different research instruments used in the data collection.

2. Measures of compliance with school standards:
 - a. academic performance
 1. school grades (1971, 1976 interview sample)
 2. number of high school credits (1976)
 - b. compliance with school rules measured as a deviance scale developed by Bachman³ (1976 interview sample)
3. Self-evaluations:
 - a. Self-evaluation of academic ability measured in 1971 using Brookover's scale of academic ability.⁴ The part of the scale that specifically measured academic self-concept of ability to pursue post-secondary education was readministered to the interview students in 1976.
 - b. Interview respondents were asked to evaluate the reasons for many of the academic decisions that they made such as their choice of high school program, reason for changing programs, reason for leaving school before completion, or for staying to Grade 13 or Year 5 where applicable.
4. Aspirations, Expectations and Attitudes to Schooling:
 - a. Students in Grade 8 in 1971 were asked when they planned and when they expected to leave high school and what they would like to do or what they expected to do after high school.
 - b. Respondents in 1976 still in school, were again asked when they expected to leave school and what they expected to do after school.

³Jerald G. Bachman, Swayzer Green, Llona D. Wirtanen, Youth in Transition: Dropping Out- Problem or Symptom? Volume 3 Ann Arbor: Institute for Social Research, The University of Michigan, 1971.

⁴See discussion on pages 35, 39 of Chapter 2.

Students out of school were asked to specify if they planned to take further schooling, what type of schooling and when they planned to start.

- c. Interview respondents were asked to evaluate ten items on the advantages and disadvantages of schooling.

5. Mental Ability:

1971 student scores on a standardized test completed at the same time as the 1971 questionnaire. The test that was given the students was the R.B. Cattell and A.K.S. Cattell Culture Fair Intelligence test. The test was specifically designed to eliminate bias resulting from differences in cultural skills.⁵

Data Collection

In the spring of 1971 B.R. Blishen and John Porter conducted a province-wide study, supported by a grant from The Canada Council, of Ontario young people in elementary and high schools to determine how they perceived their educational futures.⁶ Detailed questionnaires were completed by students in Grades 8, 10 and 12. These three grades were chosen for study because they were felt to be particularly important decision points

⁵ See discussion on page 44 of Chapter 2 on the social class bias still found in culture fair mental ability tests.

⁶ Marion R. Porter, John Porter and Bernard R. Blishen, Does Money Matter? Prospects for Higher Education in Ontario, Institute for Behavioural Research, Toronto, 1974. Revised and enlarged edition, McLellan and Stewart, Toronto, 1978 (forthcoming); Sid Gilbert, "The Selection of Educational Aspirations," in Richard A. Carleton, et.al., Education, Change and Society, Gage, Toronto, 1977, and Sid Gilbert and Hugh A. McRoberts, "Academic Stratification and Educational Plans," The Canadian Review of Sociology and Anthropology 14:1, Feb. 1977, 34-47.

in young peoples' educational careers. Five years after the first survey the same students who were surveyed when they were in Grade 8 were re-contacted to determine what secondary school careers they had actually followed and what their further educational plans might be.

The Grade 8 cohort was chosen for the present follow-up study because most of them would be completing their secondary school studies at the time of the new survey in 1976. Previous follow-up work of those in Grade 10 and 12 at the time of the original survey had collected longitudinal data used to analyze the transition out of secondary school but few data are available that have been gathered to examine the transition from elementary school (Grades 1-8) to secondary school and the course of secondary school careers.⁷

The follow-up data were collected in two phases: - a mail survey to all the students who could be located after five years; and personal interviews of a sub-population of them. The 1971 Blishen-Porter survey was based on a stratified random sample of all Grade 8 students in the Province. In the mail survey as many of these students as possible were recontacted to maintain the representativeness incorporated in the original study design. The interview sample following the work of Kahl and Cohen⁸ was deliberately limited to "lower socio-economic status (working class) students who had the ability, as shown by standardized tests, to do secondary school work and were living in the conurbation running from Oshawa to Hamilton.

⁷ Maria Barrados, "A Preliminary Report of Some Findings from the Follow-up of the Grade 10 Blishen-Porter Cohort of Ontario High School Students", mimeographed, Carleton University, 1974. Hugh A. McRoberts, "Follow-up of Grade 12 Students from the Blishen-Porter Study of Educational Aspirations: A Report to the Council of Ontario Universities", mimeographed, Carleton University, 1973.

⁸ See pages 52-54 in Chapter 2.

In the first phase of data collection designed to collect information on courses of high school studies and level of secondary school completion a short mail questionnaire was felt to be the most efficient and economical way to collect data from a sample of over 3,000 respondents dispersed throughout the province of Ontario. Sample students were identified by their 1971 address and school they attended in 1971. As a first step the sample lists were updated as much as possible by searches of telephone directories, city directories and in some cases contact with former elementary schools. The first mailing of the questionnaires was made in January 1976. The questionnaires were printed on colour coded cards with prepaid postage and a printed return address on the reverse side (see Appendix A for copies of the questionnaires and covering letters). Each respondent was sent three questionnaires of different colours and asked to return the questionnaire that best suited him - the blue questionnaire for respondents out of school, yellow for respondents taking schooling other than high school, and green for respondents still in high school. Essentially, the same type of information was collected on each questionnaire but with the three different forms it was possible to phrase questions more specifically for each student's situation. A French version of the questionnaire was sent to the students who had attended French or bilingual schools in 1971. Since the number of students in this sample was comparatively small (346 compared to 2,722 in the English sample), these questionnaires were lithographed on coloured paper. The respondent was asked to complete the appropriate questionnaire and return it in the enclosed addressed, postage-free envelope.

The questionnaire sent through the mail was designed to determine from each respondent how far he/she had gone in their schooling and what their future educational and occupational plans were. The questionnaire was kept

as short as possible to encourage respondents to take the few minutes necessary to complete it.

Five weeks after the mailing of the questionnaires to the English sample reminder cards were mailed to all non-respondents. A second mailing of the questionnaires with an additional short note of appeal was made a month later when only small numbers of questionnaires were still being received. Two mailings of the questionnaires were also made to the French sample, approximately two weeks after those of the English questionnaires. No reminder cards, however, were sent to the French sample.

By May, 58 percent of the English sample and 48 percent of the French sample had returned questionnaires through the mail. In May and June respondents for whom we had not yet received a reply were contacted by telephone and asked to complete the questionnaire by telephone. Since these calls were made to all parts of the province from Ottawa it was felt to be most expedient to attempt to obtain responses wherever possible from other family members if the respondent was not home. The overall response rate that was achieved with the addition of the telephone calls was 81 percent for the English sample and 76 percent for the French sample. Table 3.1 provides the details of the response rate.

Since detailed information was available for these students from the 1971 survey, an evaluation was made of the biases that may have resulted at the different stages of data collection and from our failure to locate and obtain responses from all of the students in the original sample. The analysis in Appendix B shows that the follow-up sample is somewhat biased in favour of respondents who could generally be characterized as being positively oriented towards school as measured by higher earlier levels of academic achievement and higher educational aspirations and expectations. The analysis also show that if the three waves of appeal had not been used

the bias would have been more serious. Since the respondents contacted on the third wave of appeal are statistically similar to the non-respondents, a weighting scheme was devised effectively to eliminate this sample bias (for details see Appendix B).

Table 3.1 Respondents and How They Were Contacted

	English Sample (percent)	French Sample (percent)
1st Mailing - Student ¹	48.0	38.8
Parent ²	1.2	1.5
Other	.3	
2nd Mailing - Student	20.1	20.5
Parent	1.0	.4
Other	.5	1.5
Phone - Student	11.6	11.8
Parent	9.4	21.7
Other	2.9	
Schools ³	.4	4.2
Interview ⁴	4.6	
	100.0 (2202)	100.0 (264)

¹Reminders were mailed to this group five weeks after the first mailing and approximately one month before the second mailing of the questionnaire.

²Mail requests had been directed to the student in care of the parent. In some instances where the sample student could not be reached another family member completed the questionnaire.

³For students for whom we could not confirm 1976 addresses or for whom we had questionnaires returned by the Post Office, schools were asked to check their records for more current addresses. In some cases enough information was provided to allow at least a partial completion of the questionnaire.

⁴This refers to the mail questionnaires completed at the time of the interview. Students slated for interviewing were sent questionnaires through the mail but were not contacted by telephone.

The data analysis in this dissertation is based on the weighted sample of mail responses. Because of the relatively small size and special restriction of the interview sample and our interest in presenting the more detailed subjective evaluations of smaller numbers of respondents, the weighting scheme was not used in the analysis of the interview data.

General Characteristics of the Students in the Sample

The respondents in the follow-up sample were in one of three groups: not in school at all; taking some other form of schooling outside of high school; or still in high school. As can be seen from Table 3.2, 48 percent of the students in the English sample⁹ were taking no further schooling, 13 percent were taking some form of schooling other than high school and 39 percent were still in high school. The activities of the French sample of students are markedly different. Only 16 percent of the respondents in the French sample were still in school. Most of the French students (65 percent) were already out of school.

⁹The designations of English and French samples refers to the two samples drawn at different sampling ratios from students whose language of instruction was English and from students whose language of instruction was French or were attending a French or bilingual school in 1971.

Most of the respondents not taking any form of schooling were working (80 percent of the English sample, 69 percent of the French sample), many were looking for work or unemployed (13 percent of the English sample, 19 percent of the French sample), some were housewives (7 percent of the English sample and 10 percent of the French sample) and a small proportion either travelling or ill. Not only are the students in the French sample more likely to be out of school but those that are out of school are more likely to be unemployed.

Of the students who were out of high school but taking some other form of training, the majority were taking courses at a community college (58 percent of the English sample and 62 percent of the French sample). The analysis of the French sample is limited to the multiple regressions in Chapter 7 because of the relatively small number of French respondents in contrast to the number of English respondents.

Approximately 40 percent of the students contacted in the follow-up survey had not yet completed their high school studies. The majority of them were completing Year 5 studies. As can be seen from the upper panel of Table 3.3 approximately 15 percent of the English and French sample students were still taking Year 4 studies and a small proportion of the students in the English sample was still taking Year 1 to 3 studies.

The lower panel of Table 3.3 shows the last year which the students who had left high school had completed. Approximately half of the English and French sample students left high school after completing four years of studies. A small proportion had completed Year 5 (Honours Diploma) studies

Table 3.2 Activity of the Respondents at the Time of the
Follow-up Study for the English and French Weighted
Samples

	English (percent)	French (percent)
Taking No Schooling	48	65
Schooling Other than High School	13	19
In High School	39	16
	—	—
	100	100
	(2721)	(344)

and the remainder left after completing Years 1 to 3. In comparing the proportions of students out of school who left at the end of each of the first three years it can be seen that the English sample students were most likely to leave at the end of Year 2 and 3, while the French students were more likely to leave at the end of Year 1 and 2 contributing to the lower overall level of high school attainment of the students in the French sample.

The data in both panels of Table 3.3 are combined to obtain an overall assessment of the high school attainment of the total sample which is representative of Ontario students completing Grade 8. The French sample was originally sampled with a larger sampling ratio. The combined samples were appropriately weighted to maintain representativeness and allow comparison with provincial statistics on the secondary school progress of Ontario students.

Table 3.3 Year of High School Attainment for the English and French Samples (Weighted Sample)

	English (percent)	French (percent)
IN HIGH SCHOOL		
Year 1	.2	
Year 2	.2	
Year 3	1.6	
Year 4	15.0	15.5
Year 5	83.0	84.5
	<hr/> 100.0	<hr/> 100.0
	(1052)	(56)
OUT OF HIGH SCHOOL		
Grade 8	3.9	1.7
Year 1	9.8	16.3
Year 2	14.2	15.7
Year 3	17.7	9.2
Year 4	51.8	52.1
Year 5	2.6	5.0
	<hr/> 100.0	<hr/> 100.0
	(1644)	(332)

Table 3.4 gives the sample probabilities of staying in school for each "year" or level of schooling. The figures in the table are given for every 100 students in Blishen and Porter's 1971 sample towards the end of Grade 8. Since the follow-up study contacted students five years after the time they were in Grade 8, most of the students in Year 5 had not yet completed their honours diploma (only 6 percent had already left secondary

school with completed honours diplomas). Eight percent of the sample had left school but returned later. The average length of the stop-out from secondary school was 7.6 months. The standard progression of these students would tend to be slower than that of the students who stayed in school continuously, as would the progress of students who could not work as quickly as the majority of students. Students who had left school but returned are included in the tables at their highest level of secondary school attainment.

Fifteen percent of our sample still in school were in Years 1 to 4. Less than 1 percent of the sample was in Years 1 to 3. The students still in Years 1 to 3 were included in the analysis of secondary school attainment as having completed the year of studies they were in, although some of them may well stay in school longer. The number of cases involved here is extremely small (20 of the weighted sample). The remaining students still in school were included in the analysis as completing Year 4 or still in the progress of completing Year 5, depending on their plans for high school completion. Most of the students in Year 4 at the time of the follow-up intended to leave at the end of the 4th year. Very few intended to go on to the Year 5 honours diploma studies.

Respondents were asked to give the year of studies that they were currently in and when they expected to complete secondary school or the level of secondary school they had completed and the month and year they had left secondary school. From these data the probabilities of completing each year of secondary school were calculated. From the reports of the time of secondary school leaving, further probabilities of starting each year, leaving before Christmas, leaving in the winter (January to March) or leaving in the spring (April to May) were calculated.

Table 3.4

SECONDARY SCHOOL PROGRESS OF EVERY ONE HUNDRED
FRENCH AND ENGLISH STUDENTS (WEIGHTED SAMPLE)

Sample Size 3335	(percent)				
	99.9	Started Year 2	Started Year 3	Started Year 4	Started Year 5
Completed Grade 8					
Started Year	YR1 99.7	95.1	85.7	74.7	37.6
Stayed to Xmas	98.5	92.8	83.4	72.1	35.7
Stayed the Winter	97.9	91.2	81.6	70.6	31.2 ¹
Completed Year	YR1 97.8	YR2 90.2	YR3 80.1	YR4 69.7	
Percentage of leavers who had completed a Program before June		3.0	5.0	4.1	with 4 YR Program 45.0 with 5 YR Program 10.0
Percentage of end of year leavers who had completed a Program	0.0	16.3	9.32	79.3	

¹Includes 6 percent of this sample who had already completed Year 5 studies when contacted in the follow-up in the last stages of the study in May and June 1976.

As can be seen from Table 3.4 for every 100 students in the sample at the end of Grade 8 a very small proportion (.3 percent) do not start secondary school. Of almost 100 students starting Year 1, 98 completed Year 1, 90 completed Year 2, 80 completed Year 3 and 70 completed Year 4. Thirty-one had completed or were still in Year 5.

Not all the students completing a year of secondary school go on to the next year. While 80 percent of the students completed Year 3, only 75 percent went on to Year 4 studies. The proportion of students who left at the end of one year and did not start the next increased from Year 1 to Year 5. From the end of Year 1, 3 percent did not start Year 2, while 5 percent did not continue after Year 3. The largest proportion who did not start the next year was the 32 percent who completed Year 4 but did not go on to Year 5 studies.

The students who left school, not to return, during the school year, were more likely to leave in the first part of the year, before Christmas than in the later part of the year. The proportion leaving before Christmas is lowest in Year 1 (1 percent) and remains relatively constant from Year 2 to 5 (2.3 - 2.6 percent).

From the second last row in Table 3.4 it can be seen that very few students who left school before the end of the year in the first four years had completed their program of studies.¹⁰ In Year 4, for example, only 4 per-

¹⁰ Students were asked in the mail questionnaire to give their program of studies. The example under the question provided the options of a five year advanced or general, four year general or vocational, 2 year general, vocational or remedial. Although a formal program structure no longer exists, it is clear from the document After 8? prepared by Stan Hendra (Ontario Ministry of Colleges and Universities, Ministry of Education, 1975) that occupational programs are tied to one to three years of study (p. 9), that secondary school graduation usually occurs after Year 4 and honours graduation

cent of the students who left school before the end of June had completed their program of studies. As can be seen from the last row in the table, not unexpectedly students who stayed to the end of the school year were more likely to have completed their program of studies than students who left earlier.

Table 3.5 provides the same data as Table 3.4 but presented separately for English and French students attending French or bilingual schools in the 8th grade in 1971. The most striking feature of Table 3.5 is the higher rate of school leaving for French students in comparison to English students. With the exception of Year 1, French students had lower proportions starting school each year and finishing each year. The rate of students leaving the sample was comparatively greater for the French students during Years 2 and 3. Also greater proportions of French students did not return to school after Years 1, 2 and 4. The differential in attainment level grew between the two groups from Year 1 where the French and English had similar levels

continued from page 74

after Year 5 (p.7). The publication notes that varying terminology has been used by different boards to designate different degrees of difficulty. It is stressed, however, that despite the differences in terminology the planning of a school program (p.19) has important implications for the student's long term plans. Although the terminology of a 4 or 5 year program is never directly used, it is clear from his discussion that there are important distinctions in the types of courses to be selected if a student intends to complete a secondary school graduation diploma (usually in 4 years) or the honours diploma (usually in 5 years or less).

In the pre-test, from the completed mail survey and telephone interviews, it was clear that students could without difficulty or hesitation identify their studies as being a 4 or 5 year program. In fact the vast majority of our respondents, 87 percent, further identified their program of studies as being composed of largely advanced, general or vocational courses. Less than 5 percent of these respondents qualified their course of studies by equivalent designations used under the old Roberts plan (e.g. Arts and Science, Science and Technology). In the interviews, interviewers were specifically asked to qualify the program question if the respondent showed any confusion in terms of the length of time the student intended to study in high school.

of attainment by fourteen percentage points as measured by the proportion of the sample still in Year 5 in the spring.

The English sample in the same way as described for the sample as a whole in Table 3.4 had increasing proportions of students from year to year completing one year of secondary school and not going on to the next year. (Two percent from Year 1 to Year 2, 4 percent from Year 2, 6 percent from Year 3 and 30 percent from Year 4 to Year 5.) For the French students this was not the case. French students left school in greater numbers in the first three years than the English students. Seven percent of the French sample left school at the end of Year 1, 6 percent from the end of Year 2 but only 3 percent left at the end of Year 3. Again a larger proportion of French students left school at the end of Year 4, 38 percent compared to 31 percent for the English students. If students left during the school year, students from both groups were more likely to leave school before Christmas than after Christmas (with the exception of Year 2 French students for whom there is no difference). Chapter 7 of this dissertation will further analyze the differences between Ontario English and French students.

Continued from page 75

Students were also asked in the questionnaire to provide grade levels which were equivalenced as in Hendra's chart on page 7. Again this provided no difficulty in data collection and was a procedure followed to ensure that the students completing secondary school graduation diploma requirements were equivalenced with 4 years of studies and students completing the honours diploma with 5 years of studies.

Table 3.6

PROGRESS OF ONTARIO STUDENTS THROUGH SECONDARY
PUBLIC SCHOOLS FOR SELECTED YEARS
(based on enrolment figures)

STARTING LEVEL	GRADE 9 YEAR 1	GRADE 10 YEAR 2	GRADE 11 YEAR 3	GRADE 12 YEAR 4	GRADE 13 YEAR 5	COMPLETE GRADE 13 YEAR 5
Completing Year						
1963	100	84	62	55	31	17
1964	100	85	62	56	33	19
1971	100	93	78	72	38	27
1972	100	92	80	71	36	27
1974	100	95	83	68	35	—
SAMPLE (from Table 1.4)						
1976	100	95	86	75	38	(31)

Source: Government of Ontario, Ministry of Education, Report of the Ministry of Education, 1972, p. 37.
Government of Ontario, Ministry of Education, Education Statistics Ontario, 1974, p. 17.

Table 3.6 provides Ministry of Education published estimates of the progress of secondary school students through school for selected years. These estimates are based on yearly enrolment counts unadjusted for movement into and out of the public school system. The data in the table are presented for students leaving school in the early 60's, 70's and mid 70's. School retention rates had been increasing from the early 60's to 1972 at which point the retention rates for Years 2, 4 and 5 dropped until 1974 when the proportions in Years 1 and 2 began to increase again.

In 1971 high school programs were in the process of being changed to provide students with a more individualized and flexible high school course of studies. From the 1971 HSl, the traditional grade structure employing standardized levels of achievement was changed to a credit system in which student progress was measured in terms of credits and time or years spent in school. A student currently in Year 3 of secondary school, for example, could be more or less advanced than the pre-1971 Grade 11 student. While Table 3.6 does combine grades and years in one category, it should be noted that the two designations are not completely comparable for the period prior to 1971 and after 1971.

The sample data unlike the published material based on enrolments, traced the progress through secondary school of a representative sample of Ontario students which was not affected by such factors as differential migration. This cohort of students is also the first group to have spent their entire secondary school careers in school programs which under the 1971 HSl circular removed much of the rigidity characterizing secondary school programs in the 60's. The changes in school program were specifically introduced to meet the individual needs of secondary school students and to encourage them to make maximum use of the resources of Ontario secondary

Table 3.6

PROGRESS OF ONTARIO STUDENTS THROUGH SECONDARY
PUBLIC SCHOOLS FOR SELECTED YEARS
(based on enrolment figures)

STARTING LEVEL	GRADE 9 YEAR 1	GRADE 10 YEAR 2	GRADE 11 YEAR 3	GRADE 12 YEAR 4	GRADE 13 YEAR 5	COMPLETE GRADE 13 YEAR 5
Completing Year						
1963	100	84	62	55	31	17
1964	100	85	62	56	33	19
1971	100	93	78	72	38	27
1972	100	92	80	71	36	27
1974	100	95	83	68	35	—
SAMPLE (from Table 1.4)						0
1976	100	95	86	75	38	(31)

Source: Government of Ontario, Ministry of Education, Report of the Ministry of Education, 1972, p.37.
Government of Ontario, Ministry of Education, Education Statistics Ontario, 1974, p. 17.

be that students would stay in school longer.

At the bottom of Table 3.6 is the equivalent progression through school for the sample students as reported in Table 3.4. The retention rate for Year 2 is the same as it was for the students completing secondary school in 1974. From Year 3 to Year 5, a greater proportion of students stayed in school each year in the sample. The increase in the proportion of students starting Year 4 was particularly marked, from 68 percent for the 1974 cohort to 75 percent for the 1976 cohort.

The high unemployment rate among young people no doubt contributed to the increased likelihood of Ontario students staying in school. However, the marked increase in the proportion of students who started Year 4 in the follow-up sample, is also likely influenced by changes in high school programs which for the sample students had been in effect for the entire time they spent in high school. These changes made it easier for students to stay in high school for four years by reducing the number of compulsory courses and relaxing many of the previous requirements.

As was noted in the discussion of Table 3.5, the proportion of French students who stayed in school at each level was lower than that of the English students. Little published material is available providing past progressions through secondary school of French students. One study that did provide such data was the Carnegie Study of the Identification and Utilization of Talent in High School as reported by the Royal Commission on Bilingualism and Biculturalism.¹¹

¹¹ Government of Canada, Royal Commission on Bilingualism and Biculturalism, Vol. 2, 1968.

The Carnegie data included any student in private or public school who spoke predominately French at home. Our sample data are restricted to French students in public French or bilingual schools in Grade 8 in 1971. Since private school pupils and French speaking students in English schools tend to have higher levels of attainment,¹² the Carnegie figures may tend to be somewhat higher than the population defined by our sample. However, the data are one of the few available for comparison and if biased would tend to somewhat over-estimate past achievement levels of French speaking students.

Table 3.7 compares the differences in attainment for English and French students in the Carnegie Study and the Follow-up Study. It can be seen that the differences between the two groups have been reduced particularly in the first four years. French students like all students have tended to stay in school longer and as well some of the past differences between them and English students have been reduced. However, the differences in attainment of Year 5 remained pronounced. The differences in attainment between the two groups had been reduced in the first four years of secondary school by as much as eight percentage points but the reduction in the proportions who attained Year 5 was comparatively small.

¹² Ministry of Education, Education Statistics Ontario, 1974. Respondents who gave their ethnic affiliation as French but were in the English sample had an average high school attainment of 11.51 years while students attending French or bilingual schools in the Follow-up had an average attainment of 11.47 years.

Table 3.7

Differences in the Proportion of English and French Students Starting School Each Year

	Grade 9 Year 1	Grade 10 Year 2	Grade 11 Year 3	Grade 12 Year 4	Grade 13 Year 5	Completed Grade 13 Year 5
	(percent)					
1959 ¹ to 1964	0	+11	+14	+16	+16	+10
1971 ² to 1976	0	+5	+9	+8	+14	(+14)

¹Source: Government of Canada, Royal Commission on Bilingualism and Biculturalism, Vol. 2, p. 311.

²Source: Table 3.5.

The data analysis in the dissertation is structured towards the development of a multivariate model of secondary school attainment. In Chapters 4 and 5 the hypothesized relationships that can be easily expressed in tabular form between background variables, school related variables, self-evaluations, educational expectations and secondary school attainment are examined. The findings from these relationships form the basis for the multivariate analysis of the English sample students in Chapter 6.

The analysis in Chapters 4 to 6 is based on the sample of English students. In Chapter 7 the differences that have been found between the English and French sample students are examined in greater detail. Chapter 8 is based on the analysis of the sub-sample of lower class students. This data provides greater detail on the process of secondary school completion for this specially drawn sample. The last chapter summarizes some of the

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main findings and contributions to the study of educational attainment made by this dissertation.

Summary

A two phase follow-up study of a Grade 8 cohort of Ontario students surveyed first by B.R. Blishen and John Porter in 1971 was carried out in 1976. A mail survey with follow-up telephone contact obtained responses from 81 percent of the English sample and 76 percent of the French sample of students. The mail questionnaire collected data on how long the student had stayed in school, what he had studied and what his plans were for further study after high school. A more detailed personal interview was completed by a sample of lower socio-economic status students who were of average or above average mental ability and lived in the conurbation from Hamilton to Oshawa. The interviews collected more detailed information on why and how lower socio-economic status students made specific educational decisions.

The sample data showed a continuation of an earlier trend for Year 1 and Year 2 retention from 1971 to 1974 of increased proportions of students staying in school. Students in the sample who started high school at the time of the program changes in 1971 tended to have stayed in school longer, particularly to Year 4.

The differences in school retention for English and French students was still marked. The difference in school retention for the first four years of high school appeared to be getting smaller. However, the difference in Year 5 attainment was only marginally reduced.

Chapter 4

Background and School Related Variables Associated with Secondary School Attainment

The central problem of the dissertation is the description and analysis of inequalities in secondary school attainment in the Province of Ontario. From the overview of the literature a series of general propositions were derived from which measures of the main concepts were operationalized and incorporated in the questionnaires. In this chapter the empirical relationships between past educational and environmental contexts and their relationship to high school attainment and program are examined, drawn from propositions 2, 4 and 5. The analysis in Chapter 5 examines the empirical relationships derived from propositions 1, 3 and 4. Together these findings with the multivariate analyses in Chapter 6 will elaborate and explain the mechanism through which the environmental and background variables early in a child's educational career influence behaviour.

In the following analysis the secondary school attainment of Ontario young people is examined in relationship to the child's ability to do school work, a factor assumed to be held constant in the propositions, and the environmental factors related to family background, individual status and school placement and performance. As argued by the social interaction theorists, the family is the primary influence in time, place and importance in the socialization of young people. The measure of family status or background has also conceptually and empirically been a key variable in the studies of equality of educational opportunity. Consistent with these traditions and the general propositions, the measure

of family background is examined not only in relationship to secondary school attainment but also in relationship to other educational variables such as choice of school program and school performance. Further, several of the interrelationships between family background and other variables are examined.

Apart from the measure of family status, differences in environmental context are also measured by place of family residence (urban or rural) and individual status characteristics of age and sex. Despite attempts at change in recent years, many career expectations and goals are still clearly differentiated by sex. The relative age of students in relation to elementary school peers reflects not only the student's relative position in relation to peers but also indicates his relative ability to have progressed through school more rapidly. The younger student generally performed better academically and progressed through school more quickly than the older student.

The main school experience measures are a child's ability to do school work in the early grades and his choice of school program. The measurement of early school performance occurred prior to the choice of a school program. As will be discussed and demonstrated later in this chapter, early school performance has a strong influence on the choice of high school program of studies.

The examination of the empirical relationships starts with the presentation of bivariate relationships. But as has been found in other empirical studies and as is stated in the propositions, the variables do not influence secondary school attainment univariately. Rather the relationships between the variables are complex and interrelated. The

presentation of the bivariate relationships is the first step to examining increasingly complex relationships. After an examination of the bivariate relationships other variables are added to the cross-tabulations. In this way more detailed relationships are presented in tabular form which allows an examination of the effect of more than one variable on the dependent variable - in this chapter, secondary school attainment or choice of school program - as well as examining the nature and extent of interaction between the independent variables. The findings from the tabular analysis in this chapter and the next provide both an empirical and conceptual basis for the construction of the multivariate models in Chapters 6 and 7.

Differences in family background are operationally summarized in measures of social class or socio-economic status, SES (the terms are used interchangeably) by the ranking of the occupations of the head of the household. Social class has been found to be associated with inequalities in educational opportunity because of differences in interaction patterns, in contexts in and out of the family, and different evaluations of opportunities, life chances and future plans. Following this tradition, socio-economic status in this study has been measured by the rankings of occupations of the heads of households on the Blishen scale.¹

Differences in relative position on the scale are associated with differences

¹ Bernard R. Blishen, "A Socio-economic Index for Occupations in Canada", Canadian Review of Sociology and Anthropology, 7:2, 110-27, 1967; Bernard R. Blishen and Hugh A. McRoberts, "A Revised Socio-economic Index of Occupations in Canada", Canadian Review of Sociology and Anthropology, 13:1, Feb. 1976, 71-79.

in secondary school attainment.

As can be seen from Table 4.1, students from lower SES families are more likely to leave school after Years 1 to 3 and more likely to stay to the end of Year 4 rather than Year 5 than higher SES students. Conversely, students from higher SES families are more likely to stay in school longer and complete Year 5 than either students from middle and lower SES families. Much of the analysis in this dissertation will serve to elaborate on the relationship between the student's family background and his educational attainment and future educational plans.²

Another important consideration in the evaluation of inequalities of educational opportunity is the individual's ability to do the required school work. Two elements of ability are difficult to isolate empirically: innate ability and performance of school-related tasks which are highly influenced by environmental and motivational factors. There is no convincing evidence that children from lower socio-economic status groups

²In the presentation of the crosstabular data, the findings will be discussed in terms of the percentages or probabilities associated with the distribution of specific characteristics. In the presentation of the tables themselves generally two statistics are presented, a Chi-square with the appropriate significance level and a measure of strength of association, either Cramer's V or Gamma for ordinal or interval data. Wherever appropriate the conditional Gammas, first, second and third order Gammas will also be presented. The Chi-square statistics are used to establish statistical significance at the .05 level for the entire follow-up sample and at a higher level for the smaller interview sample (.10). The confidence limits of Gamma have not been calculated although they can be calculated from the tables. The conventions for Gamma outlined by James A. Davis, Elementary Survey Analysis, New Jersey: Prentice-Hall, 1971, p. 49 are used. Any value from .01 to .09 is considered negligible, .10 to .29 low, .30 to .49 moderate, .50 to .69 substantial, .70+ very strong. The same descriptions would apply to the same negative ranges.

are genetically less able to do school work, except in the cases of extreme poverty where malnutrition has been shown to be linked with reduced mental skills.

In the original Blishen and Porter³ study a standardized mental ability test was completed by the students in the sample. The test, the Cattell and Cattell culture fair test of mental ability, was specifically designed to overcome bias arising from different social, cultural and language backgrounds. The researchers had incorporated this mental ability test into their study design to allow the evaluation of educational hopes and plans while holding constant the effect of individual abilities. As they noted (Appendix to Does Money Matter?³) some relationship was still found between family socio-economic status and mental ability test scores, a finding which they argue is not surprising given that the test was administered in school and required individual motivation and attention to complete. In addition, in spite of the attempt at being 'culture fair', many middle and upper SES youngsters may still be at an advantage in terms of having more past experience with this type of test and the stimuli that are used in them. For the Grade 8 English students who come from high SES families, 42 percent are in the upper third of the mental ability test scores distribution, 39 percent in the middle third and 19 percent in the bottom third in contrast to students from lower SES families who have 26 percent score in the upper third, 40 percent in

³Porter, Porter, Blishen, op.cit., pps. 217-219. See discussion on page 44 on this point.

the middle third and 33 percent in the lower third.

As can be seen from Table 4.2 a high mental ability score is associated with a greater likelihood of staying in secondary school until Year 5 and staying in school for Years 1 and 3. Mental ability test scores do not greatly affect the probability of staying to the end of Year 4. What is surprising, however, is that a relatively large proportion (21 percent) of the students who had scored in the lowest third of the distribution did stay in school to Year 5. As indicated in the table a low test score does not necessarily disqualify a student from more advanced secondary school studies but does reduce the likelihood that combined with other factors he will stay to Year 5.

Table 4.1

Secondary School Attainment by Family
Socio-Economic Status (Weighted Sample)

	High	Medium (percent)	Working (Low)
Years in Secondary School			
Grade 8 only	1	1	4
Year 1	2	5	7
Year 2	4	9	11
Year 3	5	11	14
Year 4	33	36	40
Year 5	55	38	24
	100	100	100
	(511)	(840)	(1168)

$\chi^2 = 190.88$ $p < .001$
Gamma = - .336

Table 4.2

Secondary School Attainment by Mental
Ability Scores (1971) (Weighted Sample)

	Mental Ability		
	High ^a (top 1/3)	Medium (middle 1/3) (percent)	Low (bottom 1/3)
Years in Secondary School			
Grade 8 only	1	2	5
Year 1	3	5	10
Year 2	7	8	11
Year 3	8	12	14
Year 4	36	37	38
Year 5	45	36	21
	—	—	—
	100	100	99
	(799)	(1036)	(829)

$$\chi^2 = 164.0 \text{ } p < .001$$

$$\text{Gamma} = -.294$$

The influence of family socio-economic status on the relationship between mental ability scores and years of secondary school attainment are shown in Table 4.3. As is evident from the table, high SES students are more likely to have higher levels of high school attainment than lower SES students, despite the level of mental ability score. The differences in the proportions of school attainment between low mental ability scorers and high mental ability scorers are great for all three socio-economic status groups. It is, however, the level of the probability of attaining Year 5 that is consistently higher for students with higher mental ability scores as well as higher family socio-economic status

scores. Students with lower mental ability scores have a lower probability of attaining Year 5 but the student from the higher SES groups is still clearly at an advantage.

Table 4.3 demonstrates the difficulty of measuring mental ability independently of considerations of family background in the evaluation of school attainment. As the table demonstrates, a low mental ability score for high SES groups is associated with a lower level of secondary school attainment than a high mental ability score (39 percent achieving Year 5 compared to 64 percent) but the probability of reaching Year 5 studies is still higher than that of lower class students with high mental ability (39 percent compared to 31 percent achieving Year 5). The proportion of high mental ability students leaving school before Year 5 from the low SES groups is striking (64 percent high SES students reach Year 5, 48 percent middle SES and 31 percent low SES, all of high mental ability).

The evaluations by teachers of their student's ability to do school work shows a similar relationship with socio-economic status as the mental ability test scores. For each student in the original sample an evaluation of the student's school work at the end of seventh grade was obtained from the school. These evaluations of school work were ranked into high, average, and low categories corresponding to grade point averages of 70 percent and over, 60 - 69 percent, and 59 percent and less, and we refer to them as early school achievement.

Unlike the mental ability test scores which attempted to measure ability apart from home environment, stimulation and encouragement, school performance scores in Grade 7 would be expected to be more clearly associated with socio-economic status differences. In fact SES differences

were found to show the same trend as found in the relationship between SES and mental ability with 64 percent of high SES students, 55 percent middle SES, 48 percent lower SES students having high school performance scores. Conversely, 7 percent of high SES, 11 percent of middle SES and 14 percent of low SES students obtained low school grades.

Table 4.3

Secondary School Attainment by Mental Ability Scores (1971) Controlling for Socio-Economic Status (Weighted Sample)

Year in Secondary School	Mental Ability		
	High	Medium (percent)	Low
High SES			
Grade 8 only	1	-	2
Year 1	1	2	5
Year 2	3	4	6
Year 3	1	7	8
Year 4	29	33	40
Year 5	64	54	39
	99	100	100
	(216)	(193)	(103)

$$\chi^2 = 29.76 \quad p < .001$$

$$\text{Conditional Gamma} = -.290$$

Table 4.3 continued

Medium SES

Grade 8 only	-	1	2
Year 1	4	4	9
Year 2	7	9	12
Year 3	9	11	12
Year 4	32	37	39
Year 5	48	38	27
	—	—	—
	100	100	101
	(258)	(324)	(258)

$$\chi^2 = 36.4 \quad p < .001$$

$$\text{Conditional Gamma} = -.235$$

Low SES

Grade 8 only	1	3	6
Year 1	3	7	11
Year 2	10	9	13
Year 3	11	14	15
Year 4	44	40	40
Year 5	31	27	15
	—	—	—
	100	101	100
	(297)	(465)	(406)

$$\chi^2 = 57.25 \quad p < .001$$

$$\text{Conditional Gamma} = -.247$$

$$\text{Summary Gammas Zero Order} = -.282$$

$$\text{First Order Partial} = -.248$$

The school performance evaluations, unlike the scores on the mental ability test, are given to the student and his family and in this way would be a consideration in the student's and others assessment of his ability to do school work. The early grade performance would be a consideration in the selection of courses of high school studies and subsequent number of years spent in school.

Lower levels of attainment (Grade 8 to Year 3) are disproportionately associated with lower Grade 7 marks (see Table 4.4). If students with low early grades are likely to stay in school they stay to Year 4, although two-fifths will have left after Year 2. Conversely, the students who do best in Grade 7 are most likely to stay to Year 5 and less likely to leave school earlier. Medium early achievement students fall between the other two categories and are the most likely to complete Year 4 studies. These findings are not surprising in light of the structure of Ontario secondary schools (see page 102).

When each of the ability measures were cross classified with secondary school attainment, as shown in Tables 4.2 and 4.4, the Gammas for the association of early school grades and years in secondary school is substantially higher than the Gamma for the association between mental ability scores and years of secondary schooling (.294 in contrast to .548).

Average age of a student in relationship to other students in the same grade cohort might also provide comparative advantage for young people in school. Younger students are more likely to have higher grades, since they are more likely to have been advanced and less likely to have been held back because of an inability to do school work. The older student is also likely to have more difficulty adapting to the peer culture of those with whom he takes classes. If a student is older than other students

at his stage of studies he is likely to have been held back in his school progress and less likely to stay in school longer. Table 4.5 presents the relationship between age of the students, as older or younger than average and the number of years spent in school.

The table clearly shows that younger students are more likely to stay to Year 5 and less likely to leave before the completion of Grade 8 or Year 3. Older students are less likely to stay to Year 5. If the older student stays in secondary school he is most likely to stay to Year 4.

Table 4.4

Secondary School Attainment by Grade 7
School Reported Grades (Weighted Sample)

	High	Average	Low
	(70+)	(60-69)	(59 -)
Grade 7 Grades			
Years in Secondary School			
Grade 8 only	1	3	7
Year 1	2	8	16
Year 2	4	11	19
Year 3	7	14	19
Year 4	35	41	34
Year 5	51	23	5
	100	100	100
	(1268)	(952)	(340)

$$\chi^2 = 494.4 \quad p < .001$$

$$\text{Gamma} = -.548$$

Table 4.5

Secondary School Attainment by
Average Age (Weighted Sample)

Age	Below Average (13 -)	Above Average (14 +)
Years in Secondary School		
Grade 8 only	1	4
Year 1	3	9
Year 2	5	13
Year 3	9	13
Year 4	36	39
Year 5	46	22
	100	100
	(1343)	(1306)

$$\chi^2 = 216.62 \text{ } p < .001$$

$$\text{Gamma} = -.420$$

Other dimensions that are frequently considered are sex and urban or rural residence. The relationship between sex of the student and high school attainment, see Table 4.6, is negligible ($\text{Gamma} = .02$). As can be seen from the Table, boys are somewhat more likely to leave school before Year 4 and stay to Year 5. Girls, on the other hand, are somewhat more likely to stay in school and complete Year 4 rather than stay to Year 5 but these relationships are not strong and not statistically significant. As will be discussed in subsequent multivariate analyses in Chapters 6 and 7 the sex of the student is an important factor operating indirectly through other variables, such as school grades, on years of high school attainment, rather than directly.

The relationship between urban or rural residence and years spent in high school is also found to be very weak (Cramer's $V = .08$) but statistically significant. As can be seen from Table 4.6 there is a relationship between urban residence and a greater likelihood of staying to Year 5. Forty-two percent of the respondents living in Toronto and surrounding urban area stayed in high school until Year 5 compared to 30 percent of students living in rural areas. Respondents in rural and minor urban areas (100,000 and less) were somewhat more likely to complete Year 4, 39 percent compared to 35 percent for the Toronto area. Respondents in rural and minor urban areas were also more likely to leave school before completing Year 4 than students in the Toronto urban area and other Ontario major urban areas.

Boudon⁴ refers to the differences between the different social classes in school attainment along such "dimensions" as mental ability, age, rural-urban residence and the like as primary effects of stratification. Our findings bear out his general thesis that these differences set groups of students apart as being more or less advantaged before they start { secondary school.

These primary stratification effects set the conditions for the development for the child's future plans and educational decision-making such as types of courses the individual will take, his program of studies and when he leaves school. These decisions become the secondary effects of stratification on the educational process, and all involve some estimation of costs and benefits. This decision-making is, then, conditioned by the advantages and disadvantages resulting from the primary effect and

⁴Boudon, op.cit., pp.29-30

so may be described in terms of conditional probabilities of the individual proceeding through the various choices presented by the school structure.

Table 4.6 Secondary School Attainment by Sex of the Student (Weighted Sample)

	Sex	
	Male	Female
Years in Secondary School		
Grade 8 only	3	2
Year 1	6	6
Year 2	9	9
Year 3	12	10
Year 4	35	40
Year 5	35	33
	100	100
	(1393)	(1251)

$$\chi^2 = 12.1 \text{ } p < .06 \quad \text{Gamma} = .02$$

Table 4.7 Secondary School Attainment by Place of Residence (Weighted Sample)

	Toronto Megalopolis (percent)	Major Urban (100,000+)	Minor Urban (10,000- 100,000)	Rural (less than 10,000)
Years in Secondary School				
Grade 8 only	2	2	3	3
Year 1				
Year 1	4	4	8	7
Year 2	7	8	10	10
Year 3	10	11	12	11
Year 4	35	37	39	39
Year 5	42	38	28	30
	100(886)	100(351)	100(1134)	100(293)
	$\chi^2 = 56.1 \text{ } p < .001$		Cramer's V = .08	

Boudon produces axioms and theorems describing his simulated model of conditional probabilities. We have used his conceptual scheme to present some of our main findings relating family background and educational decision making rather than concern ourselves with the outcomes of the hypothetical models presented by Boudon.

Table 4.8 presents the probabilities of reaching each of the attainment levels designated in Years from Grade 8 to Year 5 in secondary school. The achievement measure that is used is the school reported achievement of the child at the end of the seventh year of elementary school. It is of interest to note that the zero order Gamma of $-.548$ between years in secondary school and Grade 7 achievement is not substantially altered when the effect of socio economic status is held constant (first order Gamma $= -.528$). In other words, the relationship between Grade 7 levels of achievement and secondary school attainment is not in part the result of differences in socio-economic status. However, as can be seen from Table 4.8 the specific levels of the probabilities are very different for each socio-economic status group.

The probability of staying in secondary school to Year 5 is highest for high early achievers from high SES families. When the influences of high socio-economic status and high academic achievement were examined separately (Tables 4.1 and 4.4) the probabilities of staying to Year 5 were high (.55 and .51 respectively). When early achievement and SES are considered together, the effect of high achievement and high SES increases, the probability of staying to Year 5 increases to .67.

Another striking feature of Table 4.8 is that low SES, high achievement students are less likely to stay to Year 5 than medium SES, high achievement students and average and high achievement high SES students.

Table 4.8
PROBABILITIES OF SECONDARY SCHOOL ATTAINMENT HOLDING CONSTANT
GRADE 7 ACHIEVEMENT AND FAMILY SES (WEIGHTED SAMPLE)

School Attainment	Grade 8 only	Year 1	Year 2	Year 3	Year 4	Year 5	N
High SES							
High Achievement	.006	.006	.02	.02	.28	.67	(305)
Average Achievement	.02	.05	.04	.10	.37	.42	(152)
Low Achievement	-	.05	.19	.12	.52	.13	(39)
		$\chi^2 = 89.30 \quad p < .001$			Conditional Gamma = -.547		
Medium SES							
High Achievement	.007	.02	.04	.07	.32	.55	(420)
Average Achievement	.006	.08	.12	.14	.43	.23	(306)
Low Achievement	.03	.16	.22	.22	.30	.07	(95)
		$\chi^2 = 168.8 \quad p < .001$			Conditional Gamma = -.565		
Low SES							
High Achievement	.01	.03	.06	.11	.42	.38	(505)
Average Achievement	.05	.07	.13	.17	.43	.16	(432)
Low Achievement	.09	.21	.18	.18	.33	.02	(169)
		$\chi^2 = 197.5 \quad p < .001$			Conditional Gamma = -.506		

Zero order Gamma = -.548

First order Gamma = -.528

Low achievement students are least likely to stay to Year 5 but again marked SES distinctions are seen. Low SES students with low achievement have only a probability of .02 of staying in school to Year 5, while low achievement, high SES students have a probability of .13 of staying in school to Year 5.

Early low achievement students are more likely to attain lower levels of schooling than students of other achievement levels but in this case the students from middle and lower socio-economic status families are more similar. Low SES, low achievement students are the most likely to leave school after Grade 8 and Year 1 of high school with middle SES, low achievers being more likely to stay to Year 2 and Year 3 with the overall proportion leaving before Year 4 being very similar. Lower SES students of average achievement are also more likely to leave school earlier and in larger numbers than the average achievement students of the other two SES groups.

The trend in the probabilities of staying in school to Year 4 is the converse of the probabilities of staying to Year 5 for students from high SES families. These high SES students with low and average levels of achievement stay in school to Year 4. But students from middle and low SES families of low early achievement are not likely to have the alternative of staying to Year 4 or Year 5. The alternative for them is staying to Year 4 or leaving before Year 4.

Up to this point the school as an institution has been shown to be an institution that despite its innovations in classroom techniques, changes in physical surroundings, curriculum and teacher training has not yet managed to equalize inequalities that result from the disadvantage of coming from a lower SES home in the early years of school. The lower SES

child tends to score lower on school evaluations of ability to do school work and on standardized tests (the latter being available to the teacher in the form of other school test scores). These early differential evaluations, in addition to the advantages of higher SES status or disadvantage of lower SES status, go on to have an important consequence for the child's progress through school.

One of the mechanisms through which the "primary stratification" effects of family background and early school achievement further limits the educational opportunities of Ontario students is in the choice of high school courses and programs of study whether they be directed to a secondary school graduation diploma at the end of four years of study or the honours diploma at the end of five years of study.

The choice of a high school course of studies is made at the end of eighth grade after consultation between parents, students and school personnel. No doubt there will be diversity in a province the size of Ontario on the range and type of contact between school, parent and child although the policy of the Ontario Ministry of Education is to have as much consultation as possible. In any case once a student has started a course of studies, it is easy enough for a student to change programs from the five year to the four year program (advanced to general courses) but much more difficult to move from a shorter less demanding program to a longer more demanding one.

At the time the students completed the first questionnaire in April 1971, they were asked what program of high school studies they planned to take. Thirty-six percent planned to take a four year program and 64 percent planned to take a five year program. By the time of the follow-up study

47 percent of the students described their course of studies as a four year program and 53 percent described their course as a five year program of studies.

Two types of changes were most likely to have taken place between the time the first question was asked in 1971 and the second question almost five years later. Some students could have changed from the shorter program to the longer program before they even started high school or in the early part of their high school career, and some students could have changed from the longer course to the shorter course anytime during their high school career.

When the proportion of students whose planned program of study is compared with their actual program of study, 24 percent of the students planning to take a four year program actually took a five year program and a somewhat larger portion, 29 percent planning to take a five year program took a four year program. Conversely, 76 percent of the students planning to take a four year program were in the four year program at the time of the follow-up and 71 percent of the students planning to take the five year program were in the five year program at the time of the follow-up. When the changes from planned program to actual program are controlled for socio-economic status, a striking pattern of differentiation between the SES groups emerges as shown in Table 4.9.

Higher SES students are the most likely to have planned a five year program of studies and stayed in it. If they changed their program of studies they most likely changed from the shorter program to the longer program, by necessity relatively early in their secondary school career.

Table 4.9 Probability of Staying in the Expected Program of Studies with SES Controlled (Weighted Sample)

SES	5 Year Program ¹ No change	4 Year Program No Change
High	.83 (378) ²	.58 (103)
Medium	.71 (529)	.71 (262)
Low	.63 (611)	.82 (478)

¹ Expected program of studies in 1971 compared with actual program of studies as reported in 1976.

² Marginal totals, i.e. the total number of students planning to take a particular program of studies of a particular SES group, including those who actually took another program.

Table 4.10 Probabilities of Taking a 5 Year Program of Studies Controlling for SES and Early School Reported Grades (Weighted Sample)

5 Year Program	
High SES	
High Achievement	.87
Medium Achievement	.60
Low Achievement	.31
	(370)
$\chi^2 = 82.1$ $p < .001$	Conditional Gamma = $-.688$
Medium SES	
High Achievement	.77
Medium Achievement	.37
Low Achievement	.15
	(456)
$\chi^2 = 186.34$ $p < .001$	Conditional Gamma = $-.736$

Table 4.10 continued

Low SES

High Achievement	.63
Medium Achievement	.30
Low Achievement	.07
	(462)

$$\chi^2 = 196.3 \text{ } p < .001$$

$$\text{Conditional Gamma} = -.687$$

$$\text{Zero Order Gamma} = -.707$$

$$\text{First Order Gamma} = -.704$$

Low SES students on the other hand, were the most likely to have planned on taking a four year program and stayed in the four year program. If they changed their program they changed from the five year program to the shorter four year program. The larger absolute number of low SES students (numbers in the brackets in Table 4.9) accounts for the overall increase of the proportion of students mentioned earlier taking a four year program when compared to those who planned to take the four year program. ✓

Schools make their recommendations with respect to the student's program of study on their assessment of the student's ability to do the required work. Lower SES parents have traditionally been characterized as being more reluctant to interfere with school decisions and recommendations and less supportive of high educational attainment. Further, the circumstances of lower socio-economic status make the costs of staying longer in school greater relative to the perceived benefits than for the higher status groups.

The decision to take a particular program of studies at the end of Grade 8 was to have been made in close consultation with elementary

school personnel. The changes in these intentions further increased the inequalities by socio-economic status as can be seen from Table 4.9. Higher status students, likely with the direct encouragement or intervention of their parents, were more likely to change to the longer program, while lower SES students tended to change to shorter programs. (The change in program by lower SES students will be further analyzed with the interview data in Chapter 8.)

The decision to switch to the shorter program of studies reduces the alternatives the student has, sets him towards his goal of secondary school attainment and in this way limits his choices of post-secondary school education. Table 4.10 presents the conditional probabilities of taking a five year program holding constant the effects of family socio-economic status and early school grades.

Students from high socio-economic status families are consistently more likely to have taken a five year program of studies. This is the program of studies actually taken, in other words, after the switching referred to in Table 4.9. Within each socio-economic status group the probability of having taken a five year program of studies drops as the level of early achievement drops. However, it is noteworthy that the probability of a higher SES student with low achievement taking a five year program is close to the same probability of average achievement middle and lower SES students. Similarly, the average achievement high SES students have a similar probability of taking a five year program of studies as high achievement low SES students. As can be seen from the Table, disproportionately larger numbers of lower SES students who demonstrated an ability to do school work and meet the requirements of school performance

forego the opportunity of taking five years of more advanced study in secondary school.

When the findings in Table 4.10 are further elaborated by controlling for the effects of average age of the student compared to his classmates in the 8th grade, similar trends appear in the conditional probabilities (Table 4.11).

Table 4.11 Probabilities of Taking a Five Year Program of Studies Controlling for SES, Early School Reported Grades and Average Age (Weighted Sample)

	Younger	Older
High SES		
High Achievement	.89	.82
Medium Achievement	.70	.41
Low Achievement	.44 (267)	.28 (102)
Medium SES		
High Achievement	.79	.73
Medium Achievement	.44	.33
Low Achievement	.30 (282)	.10 (174)
Low SES		
High Achievement	.69	.55
Medium Achievement	.39	.24
Low Achievement	.11 (271)	.06 (191)

Zero Order Gamma = $-.705$

Second order Gamma = $-.675$

As was shown previously in Table 4.5, the younger students do better in school and tend to stay in school longer. The younger student also is more likely than the older student to have taken a five year program of studies. However, when the effects of age as well as early academic performance and socio-economic status are held constant, the previous relationship described in Table 4.11 is only changed within each socio-economic status group.

Both older and younger high SES students have greater probabilities of having taken a five year program of studies than comparable age groups of different statuses. The younger student within each achievement and SES level has a greater probability of having taken the five year program of studies.

Under the present high school system it is very difficult to complete the Year 5 honours diploma without having taken courses in the five year program of studies. The courses needed to fulfill the honours requirement are generally more academic and more advanced and in part designed to meet the entrance requirements of further post-secondary studies. The four year program of studies has less demanding courses and can include a range of courses with more specific vocational or job skill content.

Consistent with the structural constraints in the school system only one-half of a percent of the students in the four year program reached Year 5 studies whereas 67 percent of the students in a five year program reached Year 5 studies. Enrolment in a five year program leaves open the opportunity to complete the honours diploma but by no means guarantees it.

As shown previously, students from higher socio-economic status

families were more likely to have been enrolled in a five year program and if any change had been made from their intended program of studies to their actual program of studies they were likely to have changed from a four year to a five year program. With this type of support from the higher socio-economic status family ~~it~~ would be expected that high SES students in a five year program would be less likely to leave school in Years 1 to 4. As can be seen from Table 4.12, this is the case, however, 25 percent of these students do not complete the fifth year of studies.

From Table 4.12 it can be seen that all young people, regardless of family background, are less likely to leave from Years 2 to 4 when in the five year program than the 4 year program. Respondents from higher SES backgrounds are the least likely to leave from Years 2 to 4 particularly if they are in the five year program. While middle and lower SES young people in a five year program were more likely to leave secondary school during and at the end of the first year, they were also less likely to leave secondary school in contrast to other students of the same status groups but in the shorter programs.

Table 4.12

Probabilities of Year of Secondary School Attainment
Controlled by Program of Studies and SES (Weighted Sample)

Secondary School Attainment	Five Year Program		
	High SES	Medium SES	Low SES
Grade 8 only	-	.002	.01
Year 1	-	.02	.03
Year 2	.02	.04	.03
Year 3	.02	.04	.07
Year 4	.21	.21	.27
Year 5	.75	.69	.58
	(372)	(453)	(477)

Table 4.12 continued

Secondary School Attainment	Four Year Program		
	High SES	Medium SES	Low SES
Grade 8 only	-	.01	.04
Year 1	.08	.10	.10
Year 2	.10	.15	.16
Year 3	.13	.19	.19
Year 4	.69	.54	.51
Year 5	.007 (133)	.01 (371)	.001 (668)

Zero order Gamma = .840

First Order partial Gamma = .804

The extra effort of the upper SES family to maximize the educational opportunities for their children does not necessarily mean that they will stay in the school system. Students from higher SES backgrounds have the highest probability of completing five years of study in the five year program and four years of study in the four year program in comparison to students from other status groups. Yet 25 percent of them do not complete five years of study in the five year program and 31 percent of them do not complete four years of study in the four year program. As can be seen from the table, these proportions are even higher for students in the middle and lower status groups.

Summary

The preceding analysis has demonstrated the importance of the background variables of family socio-economic status and ability, particularly as demonstrated by the ability to do school work, and grade retardation.

These factors combine to define the relative position of advantage a young person has in maximizing on educational opportunity. As Boudon argues theoretically, and we have demonstrated empirically, these positions of advantage have important consequences for the student's choice of school program and his decision on how long to stay in school.

To this point the analysis has not dealt with the motivational components of school achievement, program choice, and the decision to leave school or the consistency of educational expectations over the high school career. These issues will be examined in the next chapter.

Chapter 5

Grade 8 Educational Expectations and Secondary School Attainment

In the previous chapter the influence of factors in a young person's background including his place in a high school program on his secondary school attainment were discussed. These empirical relationships were drawn from proposition 5. School performance in the early years was found to be an important mediating variable between the student's background characteristics, his program of studies and years actually spent in school. These findings relate to proposition 2. The measure of school performance, Grade 7 marks, reflects both the student's ability and his motivation to do school work. In this chapter another aspect of individual motivation, educational expectations, their consistency over time and their relationship to continuation in secondary school is explored. These empirical relationships are drawn from propositions 1, 4 and 5. In addition, findings are presented based on proposition 3, showing the relationships between academic performance, self-evaluations of ability and educational expectations.

The first section of this chapter draws primarily on the data collected by Blisshen and Porter in the 1971 survey of the respondents when they were still in Grade 8 to show how the student's educational plans at the time were related to his family background and his school performance. Two additional variables measuring the student's perception of his ability to do school work and his perception of his parents' educational hopes for him, are used to further conditionally define student educational expectations¹

¹See Porter, Porter and Blisshen, *op.cit.* for detailed analysis showing the importance of these variables in the understanding of educational expectations.

The second section of the chapter examines how the student's Grade 8 educational plans to complete high school have been fulfilled. Also the respondent's position in the schooling process at the time of the follow-up is examined in terms of his post-secondary plans in Grade 8. The third section of the chapter examines the consistency between the educational expectations the respondents had in Grade 8 with their educational expectations at the time of the follow-up study five years after the first survey.

From the work of the social interaction theorists as summarized in the propositions, a consistency between background characteristics, expectations and behaviour is expected. Similarly consistency is expected between levels of expectations over time. The interaction theorists point out, however, that this consistency is not perfect because of the numerous variations in sub-cultures and different interaction patterns.² The degree of consistency between measures of background, behaviour and expectations over time is an empirical question. The analysis in this chapter presents the empirical findings from the Grade 8 follow-up, demonstrating the consistency between these variables and the implications this consistency has for educational decision making.

Educational Plans in Grade 8

Students were asked towards the end of Grade 8 how long they expected to spend in secondary school and what type of further post-secondary studies their parents wanted them to follow, how well they were

²See pages 26-32, Ch.2.

doing in school compared to their friends, and whether they thought they could do post-secondary studies. The following analysis will empirically examine the relationships between these perceptual variables and the student's own expectations for further studies in the context of his family's social status and school performance.

The young person's articulation of his future plans in Grade 8 may vary in strength and is subject to change through the same processes which created them. However, the student's formulation of educational plans and expectations in elementary school are extremely important since they provide direction to other educational decision-making such as the choice of high school program and length of time spent in school. The Grade 8 student's educational plans potentially limit his future educational options and provide a basis for understanding his future educational attainment.

In order to simplify the presentation of the data, the student's expectations have been dichotomized into expecting to stay in high school to Year 5 or not, and expecting to attend university or not expecting to attend university. The categories describing low expectations, not completing Year 5 or not going to university, include "don't know" and non-responses. In the first two tables we examine the relationship between Grade 8 educational expectations and Grade 7 school marks. The differential effect of family background is also controlled in these tables.

Table 5.1 shows the probability of the student expecting to complete high school to Year 5 and Table 5.2 shows the student's probability of expecting to go to university both as expressed in Grade 8. As would be expected from the social interactionist framework which argues that

expectations shape behaviour, the pattern of relationships between socio-economic status, Grade 7 marks and educational plans, is similar to that relating SES, Grade 7 marks and secondary school attainment, Table 4.8. High achieving students are more likely to expect to complete Year 5 or to go to university than middle achieving students or low achieving students who are the least likely to have expectations to complete Year 5 or go to university.

Table 5.1

Probability of Expecting to Complete Year
5 in 8th Grade Controlling for School
Reported Marks and Socio-Economic Status

Expecting to Stay to Year 5	
High SES	
High Achievement	.90
Medium Achievement	.69
Low Achievement	.59 (405)
Middle SES	
High Achievement	.83
Medium Achievement	.58
Low Achievement	.27 (538)
Low SES	
High Achievement	.77
Medium Achievement	.44
Low Achievement	.19 (1082)
Zero order Gamma = $-.663^1$	
First order partial Gamma = $-.657$	

¹In tables where several variables are controlled, only the summary statistics are presented.

Table 5.2

Probability of Expecting to Go to University
in 8th Grade by School Reported Marks
Controlling for Socio-Economic Status

Expecting to Go to University	
High SES	
High Achievement	.64
Medium Achievement	.42
Low Achievement	.20 (269)
Middle SES	
High Achievement	.50
Medium Achievement	.30
Low Achievement	.13 (309)
Low SES	
High Achievement	.33
Medium Achievement	.14
Low Achievement	.08 (232)

Zero Order Gamma = $-.535$

First Order Gamma = $-.508$

Differences in expectations in both tables by achievement levels exist within each socio-economic status group. High SES students have the highest educational expectations and lower SES students have the lowest educational expectations. The negative effect of low achievement on expectations to complete Year 5 is greater for middle and low SES groups than high SES groups. As can be seen from Table 5.1, a drop in probability of expecting to complete Year 5 of ten points is found between middle achievement and low achievement high SES students while the difference

between the students of the same achievement levels from medium SES families is 31 points and for students from low SES families, 25 points.

Contrasting the probabilities associated with expectations to complete Year 5 in Table 5.1 with the probabilities of expecting to go to university in Table 5.2, it can be seen that the probability of expecting to go to university is lower for all groups and achievement levels. It can also be seen from the table that the differences between the status groups with respect to university expectations is greater than for the expectations to complete Year 5. The difference between high SES, high achievement students and low SES high achievement students expecting to complete Year 5 is thirteen points while the difference between these two groups of students expecting to go to university is 31 points. The difference in expectations to attend university is much greater across socio-economic status groups than the difference in expectations to complete Year 5 both as expressed towards the end of elementary school and controlling school marks.

The marks assigned at school provide the basis for students, parents other teachers and the like for evaluating the student's abilities to do school work. There are, however, many other cues based perhaps on the relationship with teachers or special encouragement from parents and friends that would also influence the student's perception of how well he can do school work. In terms of understanding the student's educational expectations it is the student's self-assessment of his ability to do school work relative to his peers and his assessment of his ability to do post-secondary work which is important. In the 1971 survey, eight questions were completed by the student that measured his self-assessment to do school

work of varying degrees of difficulty. The responses to these eight items were combined together to form a self-concept of ability scale as developed and tested by W.B. Brookover.³

Table 5.3 shows the relationships between educational expectations to complete Year 5 and self-concept of ability and Table 5.4 shows the relationship between expectations to attend university and self-concept of ability controlling for the effects of Grade 7 school achievement and social status in both tables. From the lower second order partial Gammas in the

Table 5.3

Probability of Expecting to Complete Year 5 in
8th Grade by Self-Concept of Ability Controlling
for Marks and Socio-Economic Status

	Self-Concept of Ability		
	High	Medium	Low
High SES			
High Achievement	.97 (197) ¹	.80 (72)	.42 (5)
Medium Achievement	.89 (41)	.71 (44)	.44 (19)
Low Achievement	- (31)	- (4)	.52 (16)
Middle SES			
High Achievement	.96 (225)	.76 (113)	.35 (13)
Medium Achievement	.83 (49)	.69 (79)	.31 (31)
Low Achievement	- (3)	.40 (12)	.17 (10)
Low SES			
High Achievement	.92 (198)	.75 (134)	.39 (28)
Medium Achievement	.72 (49)	.53 (93)	.24 (44)
Low Achievement	1.00 (7)	.39 (15)	.10 (13)

Expectations to Go to Year 5 by Self-Concept of Ability

Zero Order Gamma = $-.789$ Second Order Partial Gamma = $-.683$

¹ These figures give the number of respondents with the characteristics described by the probability.

³ Wilbur B. Brookover, Self-Concept of Ability and School Achievement, Michigan: Educational Publications Service, Colleges of Education, Michigan State, 1962.

Table 5.4

Probability of Expecting to Go to University in
8th Grade by Self-Concept of Ability Controlling
for Marks and Socio-Economic Status

	Self-Concept of Ability		
	High	Medium	Low
High SES			
High Achievement	.78 (160)	.36 (32)	- (3)
Medium Achievement	.71 (34)	.48 (29)	- (1)
Low Achievement	- (3)	- (2)	- (3)
Middle SES			
High Achievement	.65 (152)	.37 (56)	.14 (5)
Medium Achievement	.67 (40)	.31 (36)	.07 (7)
Low Achievement	- (3)	.17 (5)	- (4)
Low SES			
High Achievement	.50 (108)	.22 (40)	.08 (6)
Medium Achievement	.41 (28)	.17 (31)	- (4)
Low Achievement	- (3)	.21 (8)	- (3)

Expectations to attend University by Self-Concept of Ability

Zero Order Gamma = $-.766$

Second Order Partial Gamma = $-.675$

two tables it can be seen that the effects of socio-economic status and school marks accounts for some of the relationship between self-concept of ability and expectations. Some relationship between marks and self-concept of ability resulting in some overlap of explained variance would be expected since school marks are conceptually as well as operationally linked to self-concept of ability. As can be seen from the tables, the probabilities of expecting to attend university are markedly lower than the probabilities of expecting to complete Year 5, particularly for lower SES high achievers.

When the probabilities of the student's expectation to complete Year 5 by self-concept of academic ability as presented in Table 5.3 are compared for each SES group it can be seen that students with high achieve-

ment have only small differences in probabilities by social status. The probability of the lower SES high achievement student expecting to complete Year 5 is only three to five percentage points lower than the probability of the higher socio-economic status student with high achievement expecting to complete Year 5 for each level of self-concept of ability. This is only true, of course, because the self-concept of ability variable has been controlled. For high achievement students in Grade 8, status differences with respect to expectations to complete Year 5 of high school result from differences in self-conceptions of ability to do school work and advanced studies. As can be seen from the table, differences in the probabilities of students expecting to complete Year 5 exist for each level of self-concept of ability for all levels of marks and all socio-economic status groups.

Despite the control for self-concept of ability, socio-economic status differences in expectations to complete Year 5 remain for middle and lower achievement students. In this case, when the probabilities are considered separately by self-concept, the gap between status groups is greater for low SES students and medium SES students than medium SES and high SES students.

The number of students with low school achievement and expectations to complete Year 5 is too small to warrant extensive analysis. Table 5.3 in presenting some of the findings from the original Blishen and Porter study demonstrates the importance of the mediating social psychological variables of self-concept of ability in gaining an understanding of the relationship between family background, school performance and an individual's educational plans. The strength of the socio-psychological variable of self-concept of ability can be seen in Table 5.3 as it, in part, accounts

for the earlier demonstrated difference in probabilities by socio-economic status but only for students with high marks.

Table 5.4 is similar to Table 5.3 but presents the student's expectations to go to university. Again, the introduction of socio-economic status and academic achievement as control variables accounts for part of the relationship between self-concept and expectations as can be seen from the lower second order partial Gamma. Unlike the findings in Table 5.3 for expectations to complete Year 5, the differences by socio-economic status groups for the expectations to go to university remain marked despite the control of the student's self-concept of ability. In the case of expectations to complete Year 5 of high school studies, high academic achievement in elementary school, controlling for the differential self-evaluations of academic ability, resulted in a reduced social status effect. In the case of expectations to attend university, the positive influence of high achievement even with differential self-evaluations held constant is not strong enough to overcome the negative influence of lower socio-economic status on expectations to attend university.

As can be seen from Table 5.3, the expectations to complete high school are clearly differentiated by school achievement even with the controls of family socio-economic status and self-concept of ability. The higher a student's level of achievement the more likely he is to expect to complete Year 5 studies in high school. The student's school performance in elementary school is clearly associated with his high school expectations. The association between elementary school marks and expectations is also found for students with expectations to attend university but only for the lower socio-economic status group (an exception is the very small number

of low SES, low achieving students with high self-concepts of ability who all expect to go to university).

For students from the middle and higher socio-economic status groups, the differences in expectations to attend university between the high and middle achievement groups is considerably reduced with self-concept of ability, the advantages of higher social status for these students offsets the disadvantage of average school achievement in setting their educational expectations. Middle achievement lower SES students do not have the additional advantage of higher status that encourages attendance at university despite average school grades. As can be seen from the table, very few students with low self-concepts of ability or low grades expect to go to university.

From Table 5.4 it can be seen that even when self-conceptions of academic ability are included in the relationship between background variables and expectations to attend university, marked differences in expectations are found by different socio-economic status groups. The probability of high achievement, high SES, high self-concept of ability students expecting to attend university is .78 while the same probability for middle SES students is .65 and low SES students is .50.

The importance of a variable like socio-economic status is that it provides a general indication of the life style and orientation of a family. The educational expectations of parents for their children can also be measured directly either as reported by the parent or as perceived by the student. As was shown in the preceding tables, the general background in which the student grows up influences the formation of specific educational expectations. Table 5.5 presents findings relating the parent's expectations for university attendance for their child and the child's own

expectations to attend university. The measure of parental expectations was reported by the student when he completed the first questionnaire in 1971. In our analysis, the report of the parents' perceived expectations for university attendance is presented as preceding the child's own educational expectations; however, the interaction process between parents and children that would result in the child being able to assess his own expectations as well as his parents would most likely be reciprocal and on-going. This relationship is only in part presented in Table 5.5 because of the way these variables were operationalized.

Table 5.5 presents the probability of a student reporting that he expects to attend university in relationship to his perception of whether either of his parents have university expectations for him holding constant the differential effects of school performance and family social status.

Table 5.5 Probability of Expecting to Go to University
in 8th Grade by Perceived Parental Expectations
for University Attendance Controlled by Marks
and Socio-Economic Status

High SES	Perceived Parental Expectations			
	For University		Not for University	
High Achievement	.82	(189)	.10	(8)
Medium Achievement	.70	(62)	-	(2)
Low Achievement	.57	(8)	-	(0)
Middle SES				
High Achievement	.72	(181)	.19	(32)
Medium Achievement	.59	(79)	.03	(5)
Low Achievement	.48	(12)	-	(0)
Low SES				
High Achievement	.69	(140)	.05	(15)
Medium Achievement	.46	(54)	.03	(9)
Low Achievement	.48	(13)	-	(1)

Zero Order Gamma = .946

Second Order Gamma = .923

From the table it is clear from the declining probabilities in each panel of the table, that parents and students of all socio-economic status groups take into account the student's past school performance in formulating their expectations to attend university. Further, the effect of socio-economic status is clearly present. Higher SES students are more likely than lower SES students to perceive their parents as having high expectations similar to their own. As well, lower SES students are less likely to perceive support in terms of a congruence of expectations for university attendance with their parents than students from other SES groups. It can also be seen from the table that very few students of any SES group have plans to attend university if their parents do not.

Grade 8 Expectations and High School Studies

At the time of the follow-up study, respondents were asked to describe their program of studies. In Table 5.6 we show the relationship between the student's educational expectations to complete Year 5 in Grade 8 and the program he reported taking in high school at the time of the follow-up. In Table 5.7 we examine the relationship between the student's educational expectations to attend university in Grade 8 and his program of high school studies. Both these tables have controls for family socio-economic status and Grade 7 marks.

Not unexpectedly, these tables show that if a student has expectations to complete Year 5 or go to university he is much more likely to take a five year program of studies in high school. When these relationships are controlled for the effects of socio-economic status and school

Table 5.6

Probability of Taking a 5 Year Program of Studies
by the Expectations of Completing Year 5 in 8th
Grade and Controlling for Grade 7 School Reported
Marks and Socio-Economic Status (Weighted Sample)

Taking a 5 Year Program				
	Expecting to Stay to Year 5		Expecting Not to Stay to Year 5	
		N		N
High SES				
High Achievement	.92 ¹	(251)	.46	(14)
Medium Achievement	.68	(73)	.35	(14)
Low Achievement	.41	(8)	.23	(5)
Middle SES				
High Achievement	.83	(296)	.44	(28)
Medium Achievement	.50	(91)	.17	(19)
Low Achievement	.29	(9)	.09	(6)
Low SES				
High Achievement	.72	(274)	.33	(40)
Medium Achievement	.47	(94)	.16	(36)
Low Achievement	.22	(7)	.04	(5)

Taking a 5 Year Program by Expectations to Stay to Year 5

Zero Order Gamma = .796

Second Order Gamma = .681

¹1.00 - this probability would give the probability of taking a 4 year program of studies.

Table 5.7

Probability of Taking a 5 Year Program of Studies
by the Expectation of Going to University in 8th
Grade Controlling for Grade 7 School Reported
Marks and Socio-Economic Status (Weighted Sample)

Taking a 5 Year Program				
	Expecting to Go to University		Expecting Not to Go to University	
High SES		N		N
High Achievement	.92	(189)	.76	(78)
Medium Achievement	.79	(51)	.44	(38)
Low Achievement	-	(4)	.26	(9)
Middle SES				
High Achievement	.87	(195)	.66	(132)
Medium Achievement	.58	(49)	.29	(62)
Low Achievement	.47	(7)	.08	(7)
Low SES				
High Achievement	.79	(125)	.56	(191)
Medium Achievement	.64	(44)	.24	(88)
Low Achievement	.47	(6)	.04	(6)

Taking a 5 Year Program by Expectations to Stay to Year 5

Zero Order Gamma = .725

Second Order Partial Gamma = .569

achievement, part of the relationship found to exist between educational expectations and subsequent high school program is accounted for by these variables, as can be seen in the lower second order partial Gammas.

For all students, regardless of family social status or level of achievement, if in Grade 8 they had expected to complete Year 5 or expected to go to university, they were much more likely to take a five

year program in high school. For example, 83 percent of high achievement, medium SES students who expected to complete Year 5 are in a five year program of studies while only 44 percent of high achievement, medium SES students who did not expect to complete Year 5 are in a five year program of studies. Similarly, 87 percent of students of the same background and achievement level who had expected to go to university in Grade 8 are in a five year program while 66 percent who did not expect to go to university are in a five year program. As can be seen from the tables, the probability associated with being in a five year program increases the higher the family social status and the higher the level of achievement.

The pattern in the relationships between the presence of either of the higher levels of educational expectations and choice of the five year program is generally the same, see Tables 5.6 and 5.7. The probabilities of taking a five year program depending on whether the student expects to complete Year 5 or go to university are similar for high SES high achievers but tend to be higher for the medium and low SES high achievers and the middle level achievers in all classes if the student expects to go to university (Table 5.7). Except for the select few with high SES and high achievement, the presence of expectations for university attendance in Grade 8 rather than only expectations to complete Year 5 increases the likelihood that the student will take the longer program of studies in high school.

As can be seen from Tables 5.6 and 5.7 the number of students who are in the five year program but did not expect to complete Year 5 (right-hand column of Table 5.6) is much smaller than the number of students who are in the five year program but do not expect to go to university

(right-hand column of Table 5.7). This is likely the result of the fact that university education is just one of the several alternatives for further study available to the Year 5 graduates.

From Table 5.7, it can be seen that students with high achievement and medium and high SES background, followed by middle achievement, high SES and then high achievement, low SES students, were the most likely to be in a five year program of studies even though they had not expected to complete Year 5 in Grade 8. The presence of high socio-economic status and/or high achievement, increased the probability that the student would be in the more advanced course even though he had not expected to complete Year 5 studies in Grade 8. A combination of parental or school intervention probably influenced the student to redefine his course of high school studies or, in cases of uncertainty, influenced him on his choice of courses.

Table 5.7 shows that the presence of Grade 8 expectations to attend university increases the probability of taking a five year program of studies and the absence of these higher expectations markedly reduces the probability of taking the five year program. Again the effects of higher socio-economic status and higher achievement increase the probability of taking a five year program.

The choice of the program of studies results, as was shown previously, in limiting actual high school attainment, Table 4.12. The educational expectations in Grade 8 are also found to be related to the years spent in school; Table 5.8 presents the relationship between Grade 8 expectations to continue in high school to Year 5 and the student's actual years spent in high school studies. Table 5.9 presents the relationship between expectations to attend university in Grade 8 and high school attainment.

On the basis of the analysis of Tables 5.6 and 5.7 these relationships are assumed to be mediated by the high school program of studies. To avoid presenting unduly complex cross-tabulations, the program variable has not been included in the following tables. The variables found to be significantly associated with years spent in high school will be included in the multivariate analysis in Chapters 6 and 7.

As can be seen from Table 5.8, if the Grade 8 student expected to stay in high school to Year 5 he has a much higher probability of staying in school longer and also a lower probability of leaving school before Year 4. Of the students expecting to complete Year 5, 48 percent reach Year 5 studies in contrast to students not expecting to stay to Year 5 of whom only nine percent actually reach Year 5 studies. Of the students expecting to stay to Year 5 who do not stay that long, 33 percent completed Year 4 studies and 19 percent left before Year 4. Of the students not expecting to complete Year 5, the largest proportion, 44 percent completed Year 4 studies. A much larger proportion of the students with the lower expectations, 46 percent, left high school before Year 4.

Table 5.8

Probability of Secondary School Attainment
by Expectations of Completing Year 5 in
Grade 8 (Weighted Sample)

High School Attainment	Expecting to Go to Year 5	Expecting Not to Go to Year 5
Grade 8 only	-	.05
Year 1	.03	.11
Year 2	.06	.15
Year 3	.09	.15
Year 4	.33	.44
Year 5	.48	.09

$$\chi^2 = 487.03 \quad p < .001$$

$$\Gamma = .619$$

Table 5.9 Probability of Secondary School Attainment
by Expectations of University Attendance
in Grade 8 (Weighted Sample)

High School Attainment	Expecting to Go to University	Expecting Not to Go to University
Grade 8 only	.01	.03
Year 1	.01	.08
Year 2	.03	.11
Year 3	.06	.14
Year 4	.28	.42
Year 5	.61	.21
	<u>1.00 (882)</u>	<u>.99 (1753)</u>

$$\chi^2 = .466.25 \text{ } p < .001 \quad \text{Gamma} = .638$$

Table 5.9 shows the relationship between years of secondary schooling and expectations to go to university. As was the case in Table 5.8, higher educational expectations are associated with increased proportions of students staying in school to Year 5. Sixty-one percent of the students with Grade 8 expectations to attend university stay in high school to Year 5 while 48 percent of those expecting to complete Year 5 stay to the last year of high school.

As can be seen from Table 5.9, a Grade 8 expectation not to attend university is not as clearly related to lower levels of high school attainment as is the Grade 8 expectation not to go to Year 5. Twenty-one percent of the students not expecting to go to university still stay to Year 5 and 36 percent left before Year 4 studies. On the other hand, only nine percent of students who had not expected to stay to the last year of high school actually stay to Year 5 studies and a further 46 percent left before completing Year 4 studies. Thirty-nine percent of the students who had

expected to go to university in Grade 8 did not even stay to Year 5 in high school. Likewise, 52 percent of the students who had expected to complete five years of high school study did not even get to Year 5. For a sizeable proportion of the students in our sample their actual high school attainment fell short of their elementary school expectations.

Any of the relationships between two variables within our theoretical framework are conditional on the influence of previous variables. In Tables 5.10 and 5.11, the educational expectations to complete high school or attend university in Grade 8 in relationship to high school attainment are broken down by family socio-economic status. These tables show which students (by family background) are the most likely to have their actual high school attainment fall below their earlier educational expectations.

As can be seen from Table 5.10, the students from higher socio-economic status families are the most likely to have their higher educational expectations matched with higher educational attainment. Sixty-three percent of high SES students who expected to complete Year 5 stay to Year 5, while only 38 percent of low SES students who expected to complete Year 5 stay to the last year of high school.

Of the students who did not expect to complete Year 5, a greater proportion of high SES than low SES students stay to Year 5. Twenty-two percent of the high SES students who had not expected to stay to Year 5 actually stay in high school that long while only seven percent of low SES students who had not expected to complete Year 5 stay to Year 5.

Table 5.10

Probability of Staying to Year 5 or less by
Expectations to Complete Year 5 in Grade 8
Controlling for Socio-Economic Status
(Weighted Sample)

Expectations to Complete Year 5				
	Stay to Year 4 or Less	Stay to Year 5	Total	(N)
High SES	.37	.63	100	(407)
Middle SES	.50	.50	100	(575)
Low SES	.62	.38	100	(636)
Expectations Not to Complete Year 5				
	Stay to Year 4 or Less	Stay to Year 5	Total	(N)
High SES	.78	.22	100	(99)
Middle SES	.89	.11	100	(245)
Low SES	.93	.07	100	(508)
Zero Order Gamma = .793			First Order Partial Gamma = .778	

Table 5.11

Probability of Staying to Year 5 or Less by
Expectations of University Attendance in
Grade 8 Controlling for Socio-Economic
Status (Weighted Sample)

Expectations of University Attendance				
	Stay to Year 4 or Less	Stay to Year 5	Total	(N)
High SES	.29	.71	100	(278)
Middle SES	.42	.58	100	(326)
Low SES	.47	.53	100	(248)
Expectations of Non-University Attendance				
	Stay to Year 4 or Less	Stay to Year 5	Total	(N)
High SES	.65	.35	100	(231)
Middle SES	.76	.24	100	(500)
Low SES	.84	.16	100	(907)
Zero Order Gamma = .707			First Order Partial Gamma = .671	

The honours diploma (Year 5 graduation) is the general university entrance requirement.⁴ The honours diploma graduate has several other options beside university available to him at the end of high school but certainly the student with university expectations is also likely to have an expectation to complete Year 5. The lower SES student is, in fact, the most likely to have had expectations to complete Year 5 in high school but not expect to go to university. Of the students in Grade 8 with expectations to stay in high school until Year 5, 37 percent from the higher SES group, 47 percent from the middle SES group and 64 percent from the lower SES group did not expect to go to university.

Even lower SES students with university expectations in Grade 8 are less likely to stay to Year 5 than higher SES students as can be seen from Table 5.11. Of the high SES students with university expectations, 71 percent stay to Year 5 studies while only 53 percent of low SES students with expectations to go to university stay to Year 5 studies. Conversely, of the students who had not expected to attend university a larger proportion (35 percent) of high SES students stay to Year 5 than lower SES students of whom only sixteen percent stay to Year 5.

The lower SES student by circumstance appears to be particularly disadvantaged by being less likely to have high educational expectations in elementary school and even if he has high educational expectations he is less likely to realize them. These relationships will be further analyzed in Chapter 6 with multivariate analysis and with the interview data in Chapter 8.

⁴Some Ontario universities provide equivalent honours program courses.

1

Consistency of Educational Expectations

Another aspect of early educational expectations, apart from how these expectations are related to secondary school attainment is how consistent these expectations remain over time. No expectation or evaluation is static since it is the product of past and on-going interaction. In the follow-up questionnaire respondents were asked what their educational plans for the future were. These expectations were measured at the time that most of the respondents were completing or had already completed their high school studies. They provide a basis for comparison with the respondent's educational expectations in Grade 8. As the foregoing analysis has shown, some respondents by their choice of high school program or the decision to leave school before completing their program of studies had already made it difficult to fulfill their earlier educational expectations. These respondents would likely have adjusted their plans for further study accordingly.

At the time of the follow-up study some of the respondents were not taking any other schooling: some were out of high school but taking other studies and some were still in high school. The further educational plans of the respondents in high school or not in any type of schooling were combined with the post-secondary study goals, set by the students who were pursuing non-high school studies, to obtain a summary measure of the future educational expectations of all the follow-up respondents. As can be seen from Table 5.12, if students had planned to stay in high school to Year 5 in Grade 8 their present plans most likely include community college or university studies. If they did not expect to stay to Year 5 when they were in Grade 8 they most likely do not have any further plans five years later. Fifty-seven percent of the respondents who expected to complete Year 5 studies in Grade 8 still expect to attend a community college

or university while only twenty percent of the respondents who had not expected to complete Year 5 expect to attend either of these institutions.

If the direction of the calculation of the percentages in Table 5.12 are reversed, of the students with university aspirations, 93 percent had planned to stay to Year 5; and of students with plans to attend a C.A.A.T., other short courses or with no further expectations, 71 percent, 54 percent and 45 percent, respectively, expected to stay to Year 5. Year 5 expectations can then be argued to be a necessary condition, but not a sufficient condition, for the presence of university plans at the end of secondary school.

Table 5.12

Present Educational Expectations by
Expectations to Complete Year 5 in
Grade 8 (Weighted Sample)

	Expectation to Complete Year 5 (percent)	Expectation Not to Complete Year 5
No further educational expectations	34	68
Other Short Courses	9	12
Community College	24	16
University	33	4
	<hr/>	<hr/>
	100	100
	(1961)	(1198)

$$\chi^2 = 487 \quad p < .001$$

$$\text{Gamma} = .607$$

Table 5.13 Present Educational Expectations by
Expectations to Go to University in
Grade 8 (Weighted Sample)

	Expecting to Go to University (percent)	Expecting Not to Go to University
No further edu- cational expectations	27	56
Other Courses	7	12
Community College	22	21
University	44	11
	100	100
	(1017)	(2185)

$$\chi^2 = 476 \quad p < .001 \quad \text{Gamma} = .552$$

Table 5.13 presents the relationship between the student's expectations to go to university in Grade 8 and his subsequent level of educational expectations. The greatest consistency between past and present expectations is for the 44 percent of the students who had expected to go to university in 1971 and still have this expectation at the time of the follow-up. As can be seen from the table, eleven percent who did not have early university expectations do expect to go to university later. There are, however, substantial proportions of students who had expected to go to university in elementary school who now plan to attend community college (22 percent) or who have no plans for further education (27 percent).

The relationships in Tables 5.12 and 5.13 were controlled for the effects of socio-economic status in Tables 5.14 and 5.15 to determine if the respondents from one type of family background were more likely than the

respondents from another to have suffered a drop in their educational expectations. As can be seen from Table 5.14, it is the lower SES student who is the most likely to have expected to stay to Year 5 and have no further educational expectations. It is the higher SES student who did not expect to stay to Year 5 who is more likely to have plans for post-secondary studies and less likely to have plans to take another course. Not only are the students from lower socio-economic status families more likely not to expect to study further after high school; although they had expected to complete Year 5 studies, they are also less likely to have had low expectations in Grade 8 and have higher expectations five years later.

Table 5.14

Present Educational Expectations by Expectations to Complete Year 5 in Grade 8 Controlling for Socio-Economic Status (Weighted Sample)

	Expecting to Complete to Year 5	(percent)	Expecting Not to Complete to Year 5
High SES			
No further educational expectations	28		62
Other Short Courses	7		7
Community College	17		19
University	48		12
	100 (473)		100 (124)
Middle SES			
No further educational expectations	30		65
Other Short Courses	9		13
Community College	27		18
University	34		4
	100 (655)		100 (325)
Low SES			
No further educational expectations	41		68
Other Short Courses	10		14
Community College	26		15
University	23		3
	100 (736)		100 (647)

Zero Order Gamma = .597

First Order Gamma = .559

Table 5.15

Present Educational Expectations by
Expectations to Go to University in
Grade 8 Controlling for Socio-Economic Status
(Weighted Sample)

	Expecting to Go to University	Expecting Not to Go to University
	(percent)	
High SES		
No further educational expectations	23	48
Other Short Courses	5	9
Community College	15	20
University	57	23
	<u>100 (315)</u>	<u>100 (285)</u>
Middle SES		
No further educational expectations	25	52
Other Short Courses	8	11
Community College	25	24
University	42	13
	<u>100 (369)</u>	<u>100 (620)</u>
Low SES		
No further educational expectations	33	59
Other Short Courses	7	13
Community College	26	19
University	34	8
	<u>100 (286)</u>	<u>100 (1114)</u>

Zero Order Gamma = .551

First Order Partial Gamma = .512

The above relationships can be more clearly seen in Table 5.15. Of the students expecting to go to university in Grade 8, lower socio-economic status students were more likely to no longer have university plans in 1976. They were also most likely to have no further educational plans of any kind in comparison to other SES groups. Low SES and middle SES students were also more likely to have changed their expectations for post-secondary study at a university to plans to study at a community college.

Looking at the student who did not expect to go to university in 1971, it can be seen that again it is the higher SES student that is the most likely to have changed his educational plans to include university attendance. Students from lower socio-economic status families are the most likely to have suffered a drop in their educational expectations and the least likely to have raised their educational expectations from the time they were in Grade 8.

Summary

The preceding analysis has examined empirically the relationships between specific background characteristics, self-evaluations and expectations as well as secondary school attainment. The analysis has clearly shown that Grade 8 educational expectations influence a student's choice of school program, length of time spent in secondary school and plans for further post-secondary education at the time of the follow-up study five years later. If a respondent has high educational expectations in Grade 8 particularly if these expectations are to attend university, he is more likely to take a five year course of studies, stay in school longer and plan to continue to university.

The predictive strength of university expectations in Grade 8 is

striking. These expectations are much more unequally distributed across socio-economic status groups than the expectations to complete Year 5 and less closely related to self-evaluations of ability and school marks. The factors related to time spent in school, such as school marks and self-evaluation of academic ability, can offset some of the disadvantages of lower socio-economic status on expectations to complete high school but this is not the case for expectations to attend university. Perhaps too little attention is paid in elementary school to developing longer range post-secondary goals as well as the more immediate secondary school one.

Lower socio-economic status students who expected to go to university when they were in Grade 8 are less likely than students from other status groups to perceive that either one of their parents wanted them to go to university. When Grade 8 educational expectations were compared to educational plans five years later, the lower socio-economic status students again are most likely to have lowered their educational expectations in terms of university attendance. The disadvantage of lower family socio-economic status is particularly manifest in lower levels of educational expectations as early as Grade 8, less perceived support from parents for post-secondary studies and a greater drop in educational expectations through the secondary school years.

Chapter 6

The Multivariate Model for English Students

In this Chapter we bring together the findings of the previous chapters on the variables found to influence the length of time Ontario young people spend in high school. The influence of these variables on the number of years our respondents spend in high school are evaluated simultaneously in a series of multiple regressions. The follow-up sample is particularly appropriate for this type of analysis since our sample is representative of all Ontario young people completing elementary school in 1971 and has as its main dependent variable an interval measure, years in school. Further, the data was measured at two points in time providing a clear basis for establishing a temporal sequence in the direction of effects in the model.

In Chapter 4 we showed the influence of such factors as mental ability, family background, place of residence, early school performance and grade retardation in elementary school (age of the student) on the length of time Ontario young people stayed in school (Tables 4.1 - 4.7). We also showed that many of the variables found to be significantly related to the length of time spent in school were also significantly related to the student's program of studies in high school (Tables 4.9 - 4.12) which, in turn, would significantly affect the length of time students spent in school.

Chapter 5 examined the influence of educational expectations while in elementary school on secondary school attainment as measured by the number of years spent in high school study. Again, the variables of family

background and ability to do elementary school work were found to be significantly associated with early educational expectations. Also, in Chapter 5, a measure of the parents' educational expectations for their children and the students' self-evaluations of their academic ability were examined in relationship to their Grade 8 educational expectations. Both these variables were found to be significantly associated with educational expectations.

The analysis to this point has used cross-tabulations of two to four variables. The analysis of the preceding chapters has made a convincing case for the importance of particular variables in the understanding of high school attainment. Cross-tabular analysis does not, however, easily permit the simultaneous evaluation of many variables and the comparison of single effects while holding other variables constant. Nor does cross-tabular analysis provide summary measures of the proportion of the variation explained in the dependent variable. In order to evaluate the relative strength of different variables and the influence they have on each other, the variables found to be significantly associated with the years spent in school in the foregoing analysis were introduced into a series of multiple regression equations to develop a structural model of the secondary school attainment of Ontario young people.

The choice of the variables for operationalization in the research instruments and for inclusion in the foregoing analysis has been based on the theoretical considerations of the social interaction theorists and the empirical work dealing specifically with the analysis of educational attainment. Variables were operationalized to measure the influence of differences in family and home environments as well as individual differences in ability, motivation, school achievement and school program on high school

attainment.

In the present analysis, variables which describe differences in home and family environment are: place of residence (urban as opposed to rural), family size, family socio-economic status and father's education. The latter measure taps many of the same sources of variation in family environment as family socio-economic status. The direct influence of parents is measured by the student's perceived evaluations of his parents' educational expectations for him. The variations in mental ability and other aspects of student status were measured by a standardized mental ability test, student age in Grade 8 and sex. Place of residence, family size, mental ability, sex, age, father's education and family socio-economic status are treated as the exogenous variables in the structural model as presented in Figure 6.1. The diagram in Figure 6.1 presents the variables that are introduced into the equations of the structural model. By reading the diagram from left to right the causal ordering used in the development of the structural equations can be seen. Family size has been included as one of the exogenous variables because of the documented effect of increased family size in limiting the emotional and financial support provided to the children in the family.

Sex was kept in the analysis, despite the finding in Table 4.6 that there was no significant relationship between the sex of the student and the length of time spent in school. The work by Porter, Porter and Blishen¹ and others have shown that there are important differences between

¹Porter, Porter and Blishen, op.cit.

boys and girls with respect to school performance and future educational and occupational careers.

The variables describing sources of individual and family background variation are first used to explain variation in measures of the student's ability to meet school performance standards in elementary school which, in turn, is used to explain the respondent's self-evaluation of ability to do Grade 8 work and more advanced studies. The school performance variables are measured through school reported marks and the score on a scale of self-concept of ability. The next variable entered into the structural model as outlined in Figure 6.1 is the respondents's perception of his parents' university aspirations for him. As was the case for self-concept of ability and academic achievement, all the preceding variables are used to explain the variation in the next variable introduced in the model. Individual motivation as measured by self-expressed educational expectations is introduced next in the model as a function of the exogenous variables followed by the measures of school performance, self-evaluations of ability and parental expectations. This entire set of variables is used to account for the student's structural placement in secondary school and his subsequent secondary school attainment.

The model as described in Figure 6.1 is distinct from many of the educational attainment models developed by the Wisconsin group² in that the exogenous variables, place of residence and respondent's sex, have been included as well as a measure of structural placement in school programs specifically related to the Ontario secondary school system.

²See for example William H. Sewell, Robert M. Hauser and David L. Featherman, editors, Schooling and Achievement in American Society. New York: Academic Press, 1976.

Figure 6.1

Order of Variables Introduced into the Regression
of Years in School for Students in English Schools

X_1	Metro-Other		PARU		
X_2	Rural-Other		X_{11}		
X_3	Family Size				
X_4	Mental Ability	Self-Concept of Ability			
X_5	Sex	X_{10}	LEE		
X_6	Age		X_{12}		
X_7	Father's Education			Program	Years in School
X_8	SES	Achievement	X_{13}		X_{14}
		X_9			

Table 6.1

Means and Standard Deviations of Variables
included in Regression of Years in Secondary
School for Students in English Schools (Weighted)

	Mean	Standard Deviation
Metro-Other	.32	.47
Rural-Other	.12	.32
Family Size	4.14	2.20
Mental Ability	30.66	5.24
Sex	.53	.50
Age	13.52	.71
Father's Education	10.40	2.91
SES	44.24	14.92
Self-Concept	69.88	8.73
PARU	27.20	4.47
LEE	.50	.50
Program	.53	.50
YR	11.89	1.20

Number of Cases = 1826

The variables were operationalized for inclusion into the structural equations as follows:

X_1 Metro-Other. The place of residence was coded 1 for the Toronto Megalopolis (area including Toronto, Hamilton, Oshawa and all places in between) and 0 for all other places of residence as reported in 1971.

X_2 Rural-Other. The place of residence was coded 1 for rural residence and 0 for all other places of residence.

X_1 and X_2 together provide dummy variables to distinguish between Megalopolis residence, urban Ontario residence (communities not in the megalopolis over 10,000) and rural Ontario residence (communities less than 10,000 including farm areas), as reported in 1971.

X_3 Family Size. The number of children including the respondent in the family with an upper limit of seven or more in the last response category, as reported in 1971.

X_4 Mental Ability Scale scores from 6 - 51 on the R.B. Cattell and A.K.S. Cattell Culture fair intelligence test, form A, scale 2. This test was completed at the time of the 1971 survey.

X_5 Sex of the respondent. Coded 0 for females and 1 for males.

X_6 Age of the student as reported in the spring of 1971 when the student was in Grade 8.

X_7 Education of the father. Students in 1971 reported their father's level of education. The ordinal response categories of "no schooling" to "attending university" were transformed into a scale from 0 to 18 to reflect the number of years the father spent in school. The non-response rate to this question was 28 percent. In cases where the father's occupation but not his level of education was given, the mean education level of his occupational group (as defined by the Pineo-Porter 1977 categorization of

occupations³) was used as a proxy measure for the father's level of education. The use of this proxy measure for missing data did not substantially alter the correlations but resulted in fewer cases being deleted from the analysis when using listwise deletion of cases with missing values in the multiple regression.

X₈ SES. Family socio-economic status as measured by the placement of the father's 1971 occupation on the 1971 Blishen occupational scale which ranks occupations by a weighted score of occupational prestige, mean income and mean level of education.

X₉ Early school performance or Achievement. The percentage score (or equivalent) of a student's academic standing at the end of Grade 7, as provided by the schools in 1971.

X₁₀ Self-Concept of Ability. The combination of a series of questions on the individual's conception of his ability to do school work combined into a scale (16-40) developed by Brookover.⁴ These questions were also completed in 1971.

X₁₁ Perceived Parental Aspirations for University Attendance (PARU). If the student respondent in 1971 felt that either one of his parents wanted him to go to university, this variable was scored 1; if neither parent was perceived as having aspirations for university for the respondent, the variable was scored 0.

³Peter C. Pineo, John Porter, Hugh A. McRoberts, "The 1971 Census and the Socio-Economic Classification of Occupations", Canadian Review of Sociology and Anthropology, 14 (1) 1977, pages 91-102.

⁴See page 35

X_{12} Level of Educational Expectations (LEE). In 1971 the student was asked how much schooling he expected to complete. This variable was scored from 1 for Grade 8 to 10 for post-graduate university training to equivalence the expected number of years to be spent in school.

X_{13} Program of high school studies. The program of a student's studies was treated as a dummy variable, coded 0 for programs of four years or less and 1 for five year programs. This variable refers to self-designation by the student of his high school course of studies at the time of the follow-up survey.

X_{14} Years in high school (YR). Respondents in 1976 were asked to give the year of schooling they completed when they left school or the year they were in at the time of the survey. Of the students still in school, 99 percent were in Year 4 or Year 5. This variable is intended to approximate relative levels of high school attainment. The intended year of high school completion for the 14 percent of the sample still in Year 4 was taken as the value for the YR variable. For those few students still in Years 1 to 3, the year they were in was considered to be their level of high school attainment. Students in Year 5 were assigned the maximum value of thirteen. Very few students in Year 4 intended to go to Year 5 and almost all of the students in Year 5 intended to be finished that same year. The variable ranges from seven to thirteen.

The above variables were introduced into a set of structural equations in the order described in Figure 5.1. The fully specified form of the model is described by the following equations:

$$(1) \quad X_9 = a + b_{19} x_1 + b_{29} x_2 + \dots + b_{89} x_8 + e_1$$

$$(2) \quad X_{10} = a + b_{110} x_1 + b_{210} x_2 + \dots + b_{810} x_8 + b_{910} x_9 + e_2$$

$$(3) \quad x_{11} = a + b_{111} x_1 + b_{211} x_2 \dots + b_{811} x_8 + b_{911} x_9 + b_{1011} x_{10} + e_3$$

$$(4) \quad x_{12} = a + b_{112} x_1 + b_{212} x_2 \dots + b_{812} x_8 + b_{912} x_9 + b_{1012} x_{10} \\ + b_{1112} x_{11} + e_4$$

$$(5) \quad x_{13} = a + b_{113} x_1 + b_{213} x_2 \dots + b_{813} x_8 + b_{913} x_9 + b_{1013} x_{10} \\ + b_{1113} x_{11} + b_{1213} x_{12} + e_5$$

$$(6) \quad x_{14} = a + b_{114} x_1 + b_{214} x_2 \dots + b_{814} x_8 + b_{914} x_9 + b_{1014} x_{10} \\ + b_{1114} x_{11} + b_{1214} x_{12} + b_{1314} x_{13} + e_6$$

The model as specified is linear, additive and recursive. Consistent with the analysis in the previous chapter, the data used in the multiple regression describes the students who responded to the follow-up questionnaire and who were attending English speaking schools in Grade 8. The sample is weighted to remove any bias resulting from non-response to the follow-up questionnaire.

Table 6.1 provides the means and standard deviations of the variables to be introduced into the structural equations. Table 6.2 presents the upper triangle of the correlation matrix between the variables. As can be seen from Table 6.2, many of the correlations are quite small (.10 and less), for example, the correlations with rural residence (second line). There are three instances in the matrix where relatively large correlations result because the correlated variables have a common component in their measurement. The dummy variables describing place of, urban or rural residence are related to each other by definition. As pointed out in the discussion of Table 6.3 the measure of self-concept of ability includes a self-evaluation of school performance which results in a closer correlation with the school

reported school performance measure. Similarly, the operationalization of socio-economic status is, in part, based on the level of education associated with a particular job resulting in a correlation of .62 between the measures of socio-economic status and father's education.

Using the arbitrary criterion of noting correlations of .20 and over, it can be seen from Table 6.2 that increased family size is negatively associated with the presence of perceived parental aspirations for their children to attend university, as well as lower levels of self-concept of ability to do school work, lower levels of educational expectations, greater likelihood of taking a four year rather than a five year program of studies and lower number of years spent in school. The scores on the mental ability test are negatively associated with age, in other words, younger students tend to score better than older students. Higher scores on the mental ability test are also found to be associated with higher levels of school performance, higher levels of self-concept of ability, greater likelihood for perceiving parental aspirations to attend university, higher levels of educational expectations, enrolment in five as opposed to four year programs and a longer time spent in school.

The sex of a student is found to be negatively associated with school performance, in other words, girls do better in school work than boys. Older students tend to have lower levels of school performance, lower levels of self-concept of ability, lower levels of educational expectations, greater likelihood of taking a four year rather than a five year program and greater tendency to stay in school for a shorter period of time. Higher family socio-economic status and higher levels of father's education are found to be associated with higher levels of school performance, higher levels of self-concept of ability, higher levels of educational

expectations, a greater tendency to be enrolled in a five year program and staying in school longer.

In examining the correlations of the endogenous variables in the model in the same order as described in Figure 6.1, it can be seen that higher grades and higher levels of self-concept of ability, in addition to being related to each other, are positively related to a greater likelihood of perceiving parents as having university aspirations, higher levels of educational expectations, a greater likelihood of taking a five year program and staying in school longer. The perceived presence of parental expectations by the respondent for him to attend university is found to be positively associated with higher levels of educational expectations on the part of the student, a greater likelihood of taking a five year program of studies and staying in school longer.

The student's level of educational expectations is found to be associated with a greater likelihood of taking a five year program of studies and staying in school longer. Being enrolled in a five year program of studies, in addition to the marked correlations noted above, is found to be clearly associated with a greater number of years spent in school.

All these relationships were introduced into the multivariate analysis to obtain a parsimonious summary of the most important relationships in explaining the number of years Ontario young people tend to stay in school. The equations were checked for deviations from linearity and additivity. No serious deviations from the linearity assumption were found. However, some statistically significant interaction effects between sex of the student and grades, mental ability scores, self-concept of ability and perceived parental expectations for university attendance, were found in the equations for self-concept of ability, perceived parental expectations for university and level of educational expectations. These

effects are noted here but not incorporated in the presentation of the summary model because while these effects were statistically significant (unstandardized coefficients greater than twice the standard error) the change in the R^2 was minimal (less than .01) and the changes in slope associated with the interaction effects were small (less than .09). It should also be noted that with a sample of this size many very small effects are found to be statistically significant that have very little substantive interpretation in the data and are generally deleted from the reduced form equations.

In the fully elaborated model all statistically insignificant coefficients or standardized slope coefficients less than .09 were removed from the equations resulting in a more parsimonious reduced form model. Figure 6.2 diagrammatically presents the relationships and their direction that were retained in the reduced form model. Table 6.3 presents the standardized slope coefficients (Beta) and Table 6.4 presents the unstandardized slope coefficients (b), constants and R^2 . Each line in the table (with standardized or unstandardized coefficients) corresponds to one of the equations on page 149-150 with the trivial coefficients deleted from the equation. For example, equation 1 corresponds with line 1 in Table 6.4. The difference between the equation on page 149 and the first line of the table is the exclusion of terms for X_1 , X_2 , X_3 and X_8 , which were either not statistically significant or too small to be retained in the reduced form of the model.

Figure 6.2

Path Diagram of Significant and Non-Trivial Relationships in the Regression of Years in School for Students in English Schools

Table 6.2

Correlation Coefficients of Variables Included in the Regressions of Years in
Secondary School for Students in English Schools (Weighted Sample)

	Metro-0	Rural-0	Fam S.	M.A.	Sex	Age	F. Ed.	SES	ACH	SCA	PARU	LEE	PROG	YR
Metro-Other	1.00	-.25	-.15	.01	-.02	-.10	.13	.16	.08	.17	.14	.13	.13	.10
Rural-Other		1.00	.08	-.02	.02	.01	-.09	-.13	-.03	-.05	-.07	-.04	-.03	-.02
Family Size			1.00	-.10	-.01	.14	-.16	-.17	-.13	-.21	-.21	-.30	-.22	-.26
Mental Ability				1.00	.02	-.23	.17	.16	.29	.22	.22	.24	.24	.24
Sex					1.00	.10	-.02	.03	-.23	-.04	.15	.01	-.05	-.03
Age						1.00	-.17	-.17	-.32	-.31	-.17	-.31	-.31	-.33
Father's Education							1.00	.62	.20	.28	.32	.32	.28	.29
SES								1.00	.17	.28	.32	.30	.27	.25
Achievement									1.00	.58	.25	.42	.50	.46
Self-Concept										1.00	.41	.62	.50	.47
PARU											1.00	.62	.37	.33
LEE												1.00	.53	.51
Program													1.00	.59
YRS in Secondary School														1.00

As can be seen from Figure 6.2, no significant effects remained in the reduced form equations from the two variables describing urban or rural residence. The previous differences noted in Chapter 4 (Table 4.7) by place of residence are found to be accounted for, within this model, by the other variables in the equations.

The interpretation of the effects from father's education and family status are best considered together since these two variables are conceptually as well as empirically correlated. In all instances where father's education is found to be significantly associated with a particular variable but socio-economic status is not found to be significantly associated, the deletion of father's education from the equation results in the status variable explaining the same variation previously accounted for by the education variable. Both variables were kept in the analysis since, in the explanation of perceived parental expectations for university, socio-economic status makes an additional contribution to the explanation of the variance.

Further paths that were deleted as not contributing significantly or making too small a contribution to the explanation of the variance were the effects from the exogenous variable, family size to school performance, mental ability to self-concept of ability and sex of the student to self-concept of ability. The age and school performance variables were not found to contribute significantly to the variance in perceived parental expectations. As we progress through the diagram in Figure 6.2, it can be seen that many of the exogenous variables no longer affect variables later in the model, such as LEE, program and years in school, but rather the effects of these variables are indirect through the preceding endogenous

variables such as PARU, self-concept and school reported grades.

For level of educational expectations only a direct path from the exogenous variable family size remains as well as paths from self-concept of ability and perceived parental expectations. For program, the paths from father's education, school performance, self-concept of ability and level of educational expectations remain in the reduced form equations. In the final equation of the main dependent variables, years spent in secondary school, the variables for age, early school performance, level of educational expectations and program, are significant and sizeable effects that are kept in the equations.

The standardized coefficients in Table 6.3 allow the comparison of the relative strength effects within sets of equations such as those developed for this model. The unstandardized coefficients in Table 6.4 allow the comparison with other sets of equations (such as the comparison with French students carried out in the next chapter). Unstandardized coefficients should also be used in the assessment of the effect of dummy variables whose effect can be unduly biased in the standardized form by the distribution of cases in each response category.⁵

From the R^2 given in Table 6.4 it can be seen that an overall explanation of approximately 43 percent of the variance in the length of time Ontario young people spend in school is obtained. The highest explanation of variance obtained internally within the model is for the student's level of educational expectations of 56 percent. The first four

⁵ John F. Myles, "To Standardize or Not to Standardize: The Use of Nominal Categories in Regression Analysis", mimeo, Carleton University, 1976.

equations in the model have relied heavily on the previous work by Porter, Porter and Blishen⁶ in their study of the educational and occupational aspirations of Ontario students. The variables used in these first four equations were measured when the students were in the 8th Grade. The program variable and the main dependent variable of high school attainment were measured five years later at the time of the follow-up study and refer more specifically to secondary schooling.

The greatest direct effect of the exogenous variables is seen on the variables measured in elementary school. The strongest effect of family size (B-.117) is on level of educational expectations. Smaller but still marked effects on family size were seen on self-concept of ability (B-.10) and perceived parental expectations for university attendance (B-.096), Table 6.3. In each case the effect was negative. These coefficients provide an indication of relative strength of influence and the amount of change that results with one unit of change in the independent variable. For example, one standardized unit of change in the independent variable of family size results in the loss of 0.1 standardized unit of self-concept of ability, Table 6.3. Or from Table 6.4, the increase of family size by one child results in the loss of .2 point of the self-concept of ability scale.

The strongest effect of mental ability is directly on elementary school performance (B .223). The child's ability to perform well on a mental ability test also influences the presence of parental university

⁶Porter, Porter and Blishen, op.cit.

Table 6.3

Standardized Coefficients (Beta) of the Reduced Model - English Weighted Sample

	Metro/ Other	Rural/ Other	Family Size	M. A.	Sex	Age	Father's Ed.	SES	Grades	SCA	PARU	LEE	PP
School Reported Grades				.223	-.207	-.226	.124						
SCA			-.0997			-.109		.155	.509				
PARU			-.096	.0955	.163		.139	.109		.307			
LEE			-.117							.415	.427		
PROGRAM							.094		.285	.126		.297	
Yrs in Secondary School						-.0976			.156			.221	

Table 6.4

Unstandardized Coefficients (b) and Standard Errors of the Reduced Model - English Weighted Sample

School Reported Grades	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35	2035-36	2036-37	2037-38	2038-39	2039-40	2040-41	2041-42	2042-43	2043-44	2044-45	2045-46	2046-47	2047-48	2048-49	2049-50	2050-51	2051-52	2052-53	2053-54	2054-55	2055-56	2056-57	2057-58	2058-59	2059-60	2060-61	2061-62	2062-63	2063-64	2064-65	2065-66	2066-67	2067-68	2068-69	2069-70	2070-71	2071-72	2072-73	2073-74	2074-75	2075-76	2076-77	2077-78	2078-79	2079-80	2080-81	2081-82	2082-83	2083-84	2084-85	2085-86	2086-87	2087-88	2088-89	2089-90	2090-91	2091-92	2092-93	2093-94	2094-95	2095-96	2096-97	2097-98	2098-99	2099-00	2100-01	2101-02	2102-03	2103-04	2104-05	2105-06	2106-07	2107-08	2108-09	2109-10	2110-11	2111-12	2112-13	2113-14	2114-15	2115-16	2116-17	2117-18	2118-19	2119-20	2120-21	2121-22	2122-23	2123-24	2124-25	2125-26	2126-27	2127-28	2128-29	2129-30	2130-31	2131-32	2132-33	2133-34	2134-35	2135-36	2136-37	2137-38	2138-39	2139-40	2140-41	2141-42	2142-43	2143-44	2144-45	2145-46	2146-47	2147-48	2148-49	2149-50	2150-51	2151-52	2152-53	2153-54	2154-55	2155-56	2156-57	2157-58	2158-59	2159-60	2160-61	2161-62	2162-63	2163-64	2164-65	2165-66	2166-67	2167-68	2168-69	2169-70	2170-71	2171-72	2172-73	2173-74	2174-75	2175-76	2176-77	2177-78	2178-79	2179-80	2180-81	2181-82	2182-83	2183-84	2184-85	2185-86	2186-87	2187-88	2188-89	2189-90	2190-91	2191-92	2192-93	2193-94	2194-95	2195-96	2196-97	2197-98	2198-99	2199-00	2200-01	2201-02	2202-03	2203-04	2204-05	2205-06	2206-07	2207-08	2208-09	2209-10	2210-11	2211-12	2212-13	2213-14	2214-15	2215-16	2216-17	2217-18	2218-19	2219-20	2220-21	2221-22	2222-23	2223-24	2224-25	2225-26	2226-27	2227-28	2228-29	2229-30	2230-31	2231-32	2232-33	2233-34	2234-35	2235-36	2236-37	2237-38	2238-39	2239-40	2240-41	2241-42	2242-43	2243-44	2244-45	2245-46	2246-47	2247-48	2248-49	2249-50	2250-51	2251-52	2252-53	2253-54	2254-55	2255-56	2256-57	2257-58	2258-59	2259-60	2260-61	2261-62	2262-63	2263-64	2264-65	2265-66	2266-67	2267-68	2268-69	2269-70	2270-71	2271-72	2272-73	2273-74	2274-75	2275-76	2276-77	2277-78	2278-79	2279-80	2280-81	2281-82	2282-83	2283-84	2284-85	2285-86	2286-87	2287-88	2288-89	2289-90	2290-91	2291-92	2292-93	2293-94	2294-95	2295-96	2296-97	2297-98	2298-99	2299-00	2300-01	2301-02	2302-03	2303-04	2304-05	2305-06	2306-07	2307-08	2308-09	2309-10	2310-11	2311-12	2312-13	2313-14	2314-15	2315-16	2316-17	2317-18	2318-19	2319-20	2320-21	2321-22	2322-23	2323-24	2324-25	2325-26	2326-27	2327-28	2328-29	2329-30	2330-31	2331-32	2332-33	2333-34	2334-35	2335-36	2336-37	2337-38	2338-39	2339-40	2340-41	2341-42	2342-43	2343-44	2344-45	2345-46	2346-47	2347-48	2348-49	2349-50	2350-51	2351-52	2352-53	2353-54	2354-55	2355-56	2356-57	2357-58	2358-59	2359-60	2360-61	2361-62	2362-63	2363-64	2364-65	2365-66	2366-67	2367-68	2368-69	2369-70	2370-71	2371-72	2372-73	2373-74	2374-75	2375-76	2376-77	2377-78	2378-79	2379-80	2380-81	2381-82	2382-83	2383-84	2384-85	2385-86	2386-87	2387-88	2388-89	2389-90	2390-91	2391-92	2392-93	2393-94	2394-95	2395-96	2396-97	2397-98	2398-99	2399-00	2400-01	2401-02	2402-03	2403-04	2404-05	2405-06	2406-07	2407-08	2408-09	2409-10	2410-11	2411-12	2412-13	2413-14	2414-15	2415-16	2416-17	2417-18	2418-19	2419-20	2420-21	2421-22	2422-23	2423-24	2424-25	2425-26	2426-27	2427-28	2428-29	2429-30	2430-31	2431-32	2432-33	2433-34	2434-35	2435-36	2436-37	2437-38	2438-39	2439-40	2440-41	2441-42	2442-43	2443-44	2444-45	2445-46	2446-47	2447-48	2448-49	2449-50	2450-51	2451-52	2452-53	2453-54	2454-55	2455-56	2456-57	2457-58	2458-59	2459-60	2460-61	2461-62	2462-63	2463-64	2464-65	2465-66	2466-67	2467-68	2468-69	2469-70	2470-71	2471-72	2472-73	2473-74	2474-75	2475-76	2476-77	2477-78	2478-79	2479-80	2480-81	2481-82	2482-83	2483-84	2484-85	2485-86	2486-87	2487-88	2488-89	2489-90	2490-91	2491-92	2492-93	2493-94	2494-95	2495-96	2496-97	2497-98	2498-99	2499-00	2500-01	2501-02	2502-03	2503-04	2504-05	2505-06	2506-07	2507-08	2508-09	2509-10	2510-11	2511-12	2512-13	2513-14	2514-15	2515-16	2516-17	2517-18	2518-19	2519-20	2520-21	2521-22	2522-23	2523-24	2524-25	2525-26	2526-27	2527-28	2528-29	2529-30	2530-31	2531-32	2532-33	2533-34	2534-35	2535-36	2536-37	2537-38	2538-39	2539-40	2540-41	2541-42	2542-43	2543-44	2544-45	2545-46	2546-47	2547-48	2548-49	2549-50	2550-51	2551-52	2552-53	2553-54	2554-55	2555-56	2556-57	2557-58	2558-59	2559-60	2560-61	2561-62	2562-63	2563-64	2564-65	2565-66	2566-67	2567-68	2568-69	2569-70	2570-71	2571-72	2572-73	2573-74	2574-75	2575-76	2576-77	2577-78	2578-79	2579-80	2580-81	2581-82	2582-83	2583-84	2584-85	2585-86	2586-87	2587-88	2588-89	2589-90	2590-91	2591-92	2592-93	2593-94	2594-95	2595-96	2596-97	2597-98	2598-99	2599-00	2600-01	2601-02	2602-03	2603-04	2604-05	2605-06	2606-07	2607-08	2608-09	2609-10	2610-11	2611-12	2612-13	2613-14	2614-15	2615-16	2616-17	2617-18	2618-19	2619-20	2620-21	2621-22	2622-23	2623-24	2624-25	2625-26	2626-27	2627-28	2628-29	2629-30	2630-31	2631-32	2632-33	2633-34	2634-35	2635-36	2636-37	2637-38	2638-39	2639-40	2640-41	2641-42	2642-43	2643-44	2644-45	2645-46	2646-47	2647-48	2648-49	2649-50	2650-51	2651-52	2652-53	2653-54	2654-55	2655-56	2656-57	2657-58	2658-59	2659-60	2660-61	2661-62	2662-63	2663-64	2664-65	2665-66	2666-67	2667-68	2668-69	2669-70	2670-71	2671-72	2672-73	2673-74	2674-75	2675-76	2676-77	2677-78	2678-79	2679-80	2680-81	2681-82	2682-83	2683-84	2684-85	2685-86	2686-87	2687-88	2688-89	2689-90	2690-91	2691-92	2692-93	2693-94	2694-95	2695-96	2696-97	2697-98	2698-99	2699-00	2700-01	2701-02	2702-03	2703-04	2704-05	2705-06	2706-07	2707-08	2708-09	2709-10	2710-11	2711-12	2712-13	2713-14	2714-15	2715-16	2716-17	2717-18	2718-19	2719-20	2720-21	2721-22	2722-23	2723-24	2724-25	2725-26	2726-27	2727-28	2728-29	2729-30	2730-31	2731-32	2732-33	2733-34	2734-35	2735-36	2736-37	2737-38	2738-39	2739-40	2740-41	2741-42	2742-43	2743-44	2744-45	2745-46	2746-47	2747-48	2748-49	2749-50	2750-51	2751-52	2752-53	2753-54	2754-55	2755-56	2756-57	2757-58	2758-59	2759-60	2760-61	2761-62	2762-63	2763-64	2764-65	2765-66	2766-67	2767-68	2768-69	2769-70	2770-71	2771-72	2772-73	2773-74	2774-75	2775-76	2776-77	2777-78	2778-79	2779-80	2780-81	2781-82	2782-83	2783-84	2784-85	2785-86	2786-87	2787-88	2788-89	2789-90	2790-91	2791-92	2792-93	2793-94	2794-95	2795-96	2796-97	2797-98	2798-99	2799-00	2800-01	2801-02	2802-03	2803-04	2804-05	2805-06	2806-07	2807-08	2808-09	2809-10	2810-11	2811-12	2812-13	2813-14	2814-15	2815-16	2816-17	2817-18	2818-19	2819-20	2820-21	2821-22	2822-23	2823-24	2824-25	2825-26	2826-27	2827-28	2828-29	2829-30	2830-31	2831-32	2832-33	2833-34	2834-35	2835-36	2836-37	2837-38	2838-39	2839-40	2840-41	2841-42	2842-43	2843-44	2844-45	2845-46	2846-47	2847-48	2848-49	2849-50	2850-51	2851-52	2852-53	2853-54	2854-55	2855-56	2856-57	2857-58	2858-59	2859-60	2860-61	2861-62	2862-63	2863-64	2864-65	2865-66	2866-67	2867-68	2868-69	2869-70	2870-71	2871-72	2872-73	2873-74	2874-75	2875-76	2876-77	2877-78	2878-79	2879-80	2880-81	2881-82	2882-83	2883-84	2884-85	2885-86	2886-87	2887-88	2888-89	2889-90	2890-91	2891-92	2892-93	2893-94	2894-95	2895-96	2896-97	2897-98	2898-99	2899-00	2900-01	2901-02	2902-03	2903-04	2904-05	2905-06	2906-07	2907-08	2908-09	2909-10	2910-11	2911-12	2912-13	2913-14	2914-15	2915-16	2916-17	2917-18	2918-19	2919-20	2920-21	2921-22	2922-23	2923-24	2924-25	2925-26	2926-27	2927-28	2928-29	2929-30	2930-31	2931-32	2932-33	2933-34	2934-35	2935-36	2936-37	2937-38	2938-39	2939-40	2940-41	2941-42	2942-43	2943-44	2944-45	2945-46	2946-47	2947-48	2948-49	2949-50	2950-51	2951-52	2952-53	2953-54	2954-55	2955-56	2956-57	2957-58	2958-59	2959-60	2960-61	2961-62	2962-63	2963-64	2964-65	2965-66	2966-67	2967-68	2968-69	2969-70	2970-71	2971-72	2972-73	2973-74	2974-75	2975-76	2976-77	2977-78	2978-79	2979-80	2980-81	2981-82	2982-83	2983-84	2984-85	2985-86	2986-87	2987-88	2988-89	2989-90	2990-91	2991-92
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Standardized Coefficients (Beta) of the Reduced Model - English Weighted Sample

Metro/ Other	Rural/ Other	Family Size	M. A.	Sex	Age	Father's Ed.	SES	Grades	SCA	PARU	LEE	PROG
			.223	-.207	-.226	.124						
		-.0997			-.109		.155	.509				
		-.096	.0955	.163		.139	.109		.307			
		-.117							.415	.427		
						.094		.285	.126		.297	
					-.0976			.156			.221	.361

Unstandardized Coefficients (b) and Standard Errors of the Reduced Model - English Weighted Sample

CONSTANT	R ²
94.108	.209
17.11	.395
-1.118	.272
2.59	.556
-1.778	.39
11.049	.428
	158

.372 (.036)	-3.623 (.368)	-2.78 (.269)	.372 (.012)									
-.202 (.038)		-.690 (.123)	.046 (.006)	.260 (.010)								
-.02178 (.005)	.0091 (.002)	.1634 (.02)	.0237 (.004)	.0344 (.002)								
-.095 (.013)				.165 (.007)	1.52 (.006)							
				.0163 (.001)	.014 (.003)							
				-.166 (.03)	-.021 (.003)							

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expectations (B .10). However, mental ability does not directly affect either program in high school or the length of time spent in high school, while elementary school grades are important influences on these two variables.

The sex of a student most strongly influences elementary school grades. The negative coefficient indicates that girls do better than boys in elementary school (b-3.62). However, the parents of boys are much more likely than the parents of girls to have university expectations for their children.

The age of the student in relation to his peers has its strongest effect on elementary school achievement. The effect of age is negative in that older students do less well academically (B-.226). Age also negatively influences self-concept of ability (B-.109). Age of the student is the only exogenous variable that directly affects the main dependent variable, number of years in school (B-.10), holding constant the effects of the other variables.

Father's education or family status influences school grades (B .124), self-concept of ability (B .155), parental expectations for university attendance (B .138 and .109). While no direct influence of father's education or family SES is found on the level of educational expectations, father's education does directly influence the choice of school program (B .09).

As can be seen from Tables 6.3 and 6.4, the model is hierarchical in that the strength of the direct influence of a variable generally decline through the model. In this way many of the exogenous variables become attenuated over time, as is the case for father's education and family socio-economic status. The influence of these variables is most clearly seen for the first three variables - school reported grades, self-concept of

of ability, perceived parental aspirations for university - in the model with a smaller significant effect on choice of high school program. This does not mean that father's education and family status do not affect a student's level of educational expectations or years spent in high school. Rather, for our data, the effect of these background variables operate indirectly through their influence on school reported grades, self-concept of ability and parental expectations for university which provide the main sources of explanation of the variance for educational expectations and the length of time spent in school.

Examining each of the equations for the endogenous variables sequentially in Tables 6.3 and 6.4, it can be seen that the lowest explanation of variance, 21 percent, is obtained for school reported grades. The sex of the student has the strongest influence on school grades. Being a male student rather than female is associated with a reduction of 3.6 in the grade point average, holding constant the effects of mental ability, relative age and father's education. The effects of mental ability and age on school reported grade are about equal in size but the latter is negative ($B = -.23$). The effect of father's education is the smallest with a Beta (B) of .124.

Forty percent of the variance in self-concept of ability is accounted for by the four variables of family size, age, family SES and school grades. As can be seen from Table 6.3, the largest effect on the self-concept of academic ability scale is from the school reported academic ability ($B = .509$). The influence of family status is next in strength of influence ($B = .155$), followed by age ($B = -.109$) and family size ($B = -.10$). The student's perception of his own academic ability is a function first of how well he has performed

in the past as measured by the previous year's school performance and his age in relationship to the other students in his class. Self-concept of ability is further influenced, but to a lesser extent, by family background as shown by the effects of family size and family socio-economic status.

The variable measuring the student's perception of whether either of his parents have university expectations for him provides a more direct measure of the parental encouragement for academic studies by parents than father's education and family status which tap more generally the differences in cultural, social and financial support for continued education found in different Ontario families. The parents' plans for their children vary by family background and parental assessments of the child's ability to do the required work.

As can be seen from Table 6.3, the single strongest influence on parental expectations for university is the child's own self-concept of ability ($B .307$). These are both self-reported measurements by the same student. Most likely, parents and students would have reasonably close communication about the child's school performance and be influential in the student's self-evaluations of his ability to do advanced studies.⁷ This argument is supported by the negative path ($B -.10$) from family size and positive path from mental ability ($B .10$). Parental expectations for university are found to be influenced by the level of the father's education

⁷ It is most likely that the actual sequence of effects between SCA, PARU, IEE is reciprocal, which cannot be handled with this recursive model. Given the limitation of the methodology it is felt that the recursive path model does adequately present in summary form the relationships between the variables.

and the socio-economic status of the family, Betas of .138 and .109, respectively. Further, the sex of the student affects the presence of parental expectations for university. If the student is male his parents are more likely to have university expectations for him than if the student is female, holding constant the effect of the ability and background variables.

Fifty-six percent of the variance of a student's educational expectations is accounted for by the variables of parents' expectations, self-concept of ability and family size. The presence of parental expectations for university has the single largest effect, with the effect of the other variables held constant ($b = 1.52$). High self-concept of ability also positively influences the formation of educational expectations ($B = .415$). Increased family size, holding constant the effect of parental expectations and self-concept of ability, negatively influences the formation of higher educational expectations.

As noted previously in the equations describing the direct effects on secondary school program and length of time spent in school, the exogenous variables are generally no longer present with two exceptions and in both instances the effect is the smallest in the equation. The high school program of studies appears to be about equally influenced by school performance ($B = .285$) and the motivational factor of level of educational expectations ($B = .297$). The measure of self-concept of ability which includes a component of school performance and self-evaluation of ability to do university work, holding the other effects constant, has a Beta of .126. Even when the self-evaluative and school performance variables are held constant, father's education still has a significant independent effect of

(B .09). Together these variables explain 39 percent of the variance in the choice of high school program.

Forty-three percent of the variance in length of time spent in school is accounted for by the variables of high school program, level of educational expectations, school achievement and age of the student. Clearly, the most significant explanatory variable is program of high school studies. Enrolment in a five year as opposed to a four year program of studies accounted for an increase of .87 years in the dependent variable. Holding constant the effect of high school program, level of educational expectations in 8th Grade and elementary school performance were also found to significantly influence the number of years spent in secondary school. The Betas associated with LEE and school grades, respectively, were .221 and .156. Another aspect of elementary school achievement, the relative age of a student, was also found to contribute significantly, but negatively, to the years spent in school (B-.10).

The explanation of the variance in the main dependent variable, years spent in school, relies heavily on the program variable which sets structural constraints on the student's possible number of years spent in school. However, elementary school achievement and elementary school educational expectations are also important sources of explanation of variance. The exogenous variables, with the exception of age which indicates the student's relative rate of progression through school, although previously shown to be associated with the number of years a student spends in school, in fact have little direct effect on the variable. Rather, their effect is seen in the model through the intervening variables of school program and educational expectations.

Summary

The multivariate model, in presenting this summary of many of the findings previously discussed, clearly demonstrates how these variables can be ordered and understood to relate to each other hierarchically, that is, with reduced effect through the model. Presented in this way, the elementary years in school are shown to be particularly important in establishing educational expectations and evaluating achievement, which are both influential to the end of high school. Further, the placement of students in school programs, which is the single most important variable in determining the length of time spent in high school, occurs as a result of academic performance and evaluations and expectations that are formed in elementary school.

Some striking findings in the model not noted in the previous chapters can be seen from the individual coefficients. The effect of a student's sex is only found in the school related variable of achievement and not in any of the variables related to educational plans, program or attainment. However, the sex of the student is an important influence on the parents' expectations for their offspring.

While many exogenous variables are attenuated through the model, elementary school grade retardation continues to have a negative effect on high school attainment, holding constant the effects of achievement, motivation and school program. Higher father's education is also found to continue to influence the choice of high school programs even when the effects of school performance, individual self-evaluations of ability and motivation are held constant.

The literature on educational attainment has traditionally built its models based on data from senior secondary school students. The preceding

analysis has demonstrated the importance of going back to the elementary school to understand the process of high school attainment. The dynamics of elementary school participation are predictive of high school program choice and high school attainment. The analysis has demonstrated how the exogenous variables describing the student's background are attenuated through the schooling process; their effect on the dependent variable, of years spent in secondary school, operates through the intervening variables in the model that reflect other aspects of the schooling process.

Chapter 7

The French Students in Ontario

Blishen and Porter had designed their original study of the educational and occupational aspirations of Ontario students to include separate samples of students in English, French and bilingual schools. In drawing the samples of students, students in French and bilingual schools were specifically included with a larger sampling ratio than students in English schools to ensure an adequate number of responses for further multivariate analysis.

In 1971 French language instruction was being expanded. Before the changes in legislation in the late 1960's French language instruction was only guaranteed for the first three years in elementary school in the Ontario bilingual schools; not all French language schools were formally part of the publicly supported schools. Frequently, more French language instruction past Grade 3 was provided in the bilingual schools but the amount of French instruction varied by school boards. By 1971 many of the former bilingual schools were offering all French language instruction.

The respondents in our French sample all had taken some or all their elementary school instruction in French. They had completed French questionnaires and were given the instructions to the non-verbal mental ability test in French in 1971 and were recontacted in French in 1976. No other criteria beside language of instructions were employed in defining the French sample.

French speaking students in Ontario have only within the last

decade been able to obtain all their schooling in the French language. Prior to the late 1961's French language secondary schooling was generally not available to Franco-Ontarian students. Even now, French language instruction is still sometimes part of an English school administration. In addition, because of their smaller numbers, French students do not always have available to them the variety and range of secondary school courses that English students do.

Census figures show that Franco-Ontarians have lower overall levels of educational attainment and tend to reside disproportionately in small towns and rural areas in the province. Our sample population of French students reflects both these trends. As was noted in Chapter 3, students in the French sample did not stay in school as long as students in the English sample. Not surprisingly, of the students in the French sample none were from the Oshawa-Toronto-Hamilton megalopolis. The greatest proportion of the respondents were drawn from the Ottawa-Hawkesbury, Sudbury, North Bay, Welland and Timmins areas.

In this chapter we set out to assess how the differences in English and French secondary school attainment occur. We are particularly concerned with isolating which factors distinguish between the two groups the most clearly. The limited sample size of the French sample does not allow extensive cross-tabular analysis for an analytical problem which is clearly multivariate. Instead, we have used the multivariate model presented in Chapter 6 as a basis for developing a comparative analysis for the English and French students. For each of the samples of students a comparable set of structured equations was constructed to describe the influence of background and school variables on secondary school attainment.

It will be remembered that the English sample is eight times larger than the French sample. Because of the smaller number of French respondents a simplified version of the model developed in Chapter 6 is used. The exogenous variables of family size, age, and family socio-economic status have not been included. The measures of family size and age were removed to simplify the model. Family socio-economic status was excluded because of difficulties with the variable in meeting the linearity assumptions of the equations for the French sample.

The variables used in the analysis are defined and operationalized in the same way as in the previous chapter with the exception of rural-urban status. Since the French sample did not include any students living in the Toronto megalopolis and the variable for place of residence was not significant in the English model, the place of residence variable in this chapter was coded 0 for communities over 10,000 and 1 for communities less than 10,000 and farm areas.

From Table 7.1 presenting the means and standard deviations of the variables included in the equations for each sample, the two groups can be seen to differ markedly on a number of the variables. The French sample is more heavily rural and more likely to have been in a 4 year program of studies in high school. The fathers of the French students had lower levels of educational attainment and French parents are less likely to be perceived as having university aspirations for their children. The French students scored somewhat lower on the mental ability test and had lower average grades.

Table 7.2 gives the zero-order correlations of the variables used in the analysis for the English and French samples. The correlations are based on the weighted (for non-response bias) sample after listwise deletion of missing values.

Table 7.1 Means and Standard Deviations of the Variables in the Structural Equations by Language of Early Schooling (Weighted)

	English Sample		French Sample	
	Mean	Standard dev.	Mean	Standard dev.
Urban-Rural	.119	.324	.543	.499
Mental Ability	30.625	5.225	28.028	5.535
Sex	.532	.499	.558	.498
Father's Ed.	10.368	2.889	8.252	2.591
Grades	69.636	8.645	67.175	12.870
Self-Concept	26.989	4.415	27.231	4.744
PARU	.469	.499	.351	.478
Level of Educ. expectation	7.147	1.835	7.080	1.936
Program	.527	.499	.362	.482
Years in School	11.862	1.228	11.470	1.322
	(sample 2273)		(sample 286)	

The equations were checked for linearity and additivity. No significant deviations from linearity were found in the final equation. Particularly for the variables of urban-rural residence and sex of the respondent we were concerned that the relationships between the variables might not be additive. When interaction terms for these variables and the other variables in the model were introduced into the analysis very little change occurred in the proportion of the variance explained in the reduced form equations. The evaluation of many interaction effects simultaneously in the French equations became difficult because of the increasing instability of some of the coefficients.

Table 7.2 Zero-Order Correlations for English and French Samples (Weighted)

	UR	MA	SEX	F.ED.	ACH	SCA	PARU	LEE	PROG	YR
UR		-.077	-.046	-.123	.026	.072	-.017	.018	-.100	-.125
MA	-.012		.105	.074	.326	.305	.148	.263	.295	.280
SEX	.014	.028		-.005	-.214	-.177	.042	.041	.030	.013
F.ED.	-.105	.165	-.002		.118	.133	.151	.218	.190	.241
ACH	-.031	.287	-.214	.185		.478	.154	.365	.462	.503
SCA	-.055	.227	-.031	.252	.578		.315	.550	.446	.322
PARU	-.053	.203	.152	.294	.248	.400		.583	.244	.223
LEE	-.035	.222	.025	.288	.404	.596	.598		.494	.453
PROG	-.025	.233	-.024	.276	.490	.492	.364	.481		.485
YR	-.028	.236	-.026	.271	.448	.429	.315	.452	.562	

The correlations above the diagonal are for the French sample; the correlations below the diagonal are for the English sample.

The findings from the reduced form of the models are given in Tables 7.3 and 7.4. Table 7.3 presents the standardized coefficients to compare effects within sets of equations and Table 7.4 presents the unstandardized (or metric) coefficients to compare effects between sets of equations. The models in Tables 7.3 and 7.4 have deleted all trivial coefficients - coefficients that were not greater than twice the standard error or less than .09 in the standardized form.

As can be seen by comparing the models in Tables 6.4 and 7.4, the structure in the summary English model has only changed a little. Because of the inclusion of a different number of variables the coefficients are somewhat different and the proportions of the variance explained is lower for each of the equations.

Overall the two models achieve comparable levels of explanation of variance of secondary school attainment for both the English and the French students - coefficients of determination of .384 and .395 respectively. However, the internal dynamics of the model for the two groups are quite different. The amount of variance explained in some of the endogenous variables in the model is much lower for the French than the English and the relationships between many of the variables are also different.

For the English students, the differential effects of urban as opposed to rural residence in the model is negligible. As can be seen from Table 7.4 no significant paths remain in the reduced model for place of residence. For the French students place of residence influenced the type of program they selected and subsequently the length of time they stayed in school. French students in urban areas were more likely to take courses designed for 5 years of high school study and more likely to stay in school.

of urban or rural residence is not seen on the other 4 variables in the model which were measured at the time the student was in elementary school in contrast to the program and years in school variables which relate directly to secondary school.

The effects of sex of the respondent and level of education of the father tend to have smaller effects for French students on the intervening variables of self-concept of ability and perceived parental aspirations and a larger effect later in the model than for English students. For both groups girls get better grades, with the effect for French girls being stronger than for English girls. English boys, however, have higher academic self-concepts and are more likely to perceive their parents as having university aspirations. This is not the case for French students of either sex. For the English students the direct effects of the sex of the student are seen as they influence the student's grades, self-concept and perceptions of his parents' aspirations. For the French the effects of sex of the student is seen more strongly in school grades and then directly on levels of educational expectations, where being male raises the expectation of the number of years to be spent in school.

For both groups the direct effect of father's education on school grades is of equal size. For the English the effect falls off through the the model. But for the French, the next strongest effect of father's education is directly on the number of years spent in high school, with no effect on self-concept of ability, a smaller comparative effect on perception of parental aspirations and no effect on program of studies.

The Commission for Bilingualism and Biculturalism¹ in the second volume of their report argued that the fact that the past educational system

¹Government of Canada

Table 7.3 Standardized Coefficients of the Reduced Model for the English and French Samples

Dependent Variables	ENGLISH SAMPLE					
	Urban/ Rural	M.A.	Sex	Father's Education	Grades	SCA
Achievement		.270	-.222	.139		
Self-Concept			.092	.146	.571	
PARU			.163	.204		.354
LEE						.425
Program				.115	.281	.156
Years					.184	
						.241
						.196
						.377
	FRENCH SAMPLE					
Achievement		.345	-.250	.091		
Self-Concept		.166			.424	
PARU				.111		.301
LEE			.118		.150	.360
Program	-.123				.280	.149
Years	-.104			.105	.322	
						.216
						.199

Table 7.4 Unstandardized Coefficients and Standard Errors of the Reduced Model for the English and French Samples

ENGLISH SAMPLE
Independent Variables

Dependent Variables	Urban/Rural	M.A.	Sex	Father's Ed.	Grades	SCA	PARU	LEE	PROG	CONSTANT	R ²
Achievement		.447 (.032)	-3.84 (.335)	.417 (.059)						53.64	.151
Self-Concept			.813 (.152)	.224 (.026)	.291 (.009)					3.93	.364
PARU			.163 (.018)	.035 (.003)		.040 (.002)				-1.06	.226
LEE						.177 (.007)	1.57 (.059)			1.64	.509
Program				.020 (.003)	.016 (.001)	.018 (.003)		.066 (.006)		-1.76	.362
Years					.026 (.003)			.131 (.013)	.928 (.050)	8.61	.384

FRENCH SAMPLE

Achievement		.803 (.127)	-6.46 (1.41)	.454 (.269)						44.50	.177
Self-Concept		.143 (.047)			.156 (.020)					4.11	.253
PARU				.020 (.010)		.030 (.006)				-.64	.111
LEE			.458 (.167)		.023 (.007)	.147 (.020)	1.79 (.178)			.67	.515
Program					.011 (.002)	.015 (.006)		.077 (.014)		-1.24	.362
Years				.054 (.025)	.033 (.005)			.147 (.004)	.548 (.159)	7.72	.395

did not provide an opportunity for Franco-Ontarians to be educated in their own language and cultural milieu left Franco-Ontarians distrustful or at best ambivalent to the educational system. Parents of today's Franco-Ontarian students went to school under the old system. While French language instruction is increasingly available in some cases, the administration of the secondary school is still in English which presents a further barrier to the French speaking parent. Within this context it is not surprising that our data show that the parents of students in French and bilingual schools in Grade 8 have less influence on the development of early educational expectations than English parents.

The relationship between the exogenous variables and school grades is similar for both groups. Mental ability scores have the strongest influence, then sex and then father's education. Comparatively the effects of sex and mental ability are stronger for the French than the English resulting in a somewhat higher coefficient of determination for the French.

For the French students the significant paths into self-concept of ability are only from those variables associated with school evaluations, mental ability test scores and school grades. For the English sex of the student, the father's education and school grades all effect academic self-concept with the effect from school grades comparatively stronger for the English than the French.

For both self-concept of ability and perceptions of parents' aspirations the coefficient of determination is markedly lower for the French than for the English. For both groups self-concept of ability and father's education is found to influence the parental aspirations variables; the effects are comparatively stronger for the English than the French.

the parental aspirations variable.

For both the English and the French perceived parental aspirations and self-concept of ability are the strongest sources of explanations within the equation of level of educational expectations. The effect of the parental aspirations variable is stronger for the French than the English. The French equation also includes significant paths from sex and school grades which are indirect effects in the English model.

For the last three variables in the model, level of educational expectations, program of studies, and years in school, similar proportions of the variance are accounted for in the two groups. The most influential effects going into program of studies for each group are from school grades, with level of educational expectations and self-concept of ability, with level of educational expectations having a stronger influence and school grades a weaker influence for the French than the English. Expectations are more influential in the choice of a longer program of studies for the French than the effect of school grades. French students are constrained in their choice of school program if they live in a rural area. For the English students a higher level of father's education is also found to directly influence a longer course of studies.

In the final equation for years actually spent in high school, the effects of being in a five year program more strongly influences time in high school for the English than the French. The effects of educational expectations are about the same for the two groups. For the English, unlike the French students, the effects of previous variables are seen operating through choice of school programs to the main dependent variable. While there was a weaker effect from school grades to program for the French and no significant effect from father's education to program, school grades

the English. A significant effect is found from father's education to years in school for French students but not for English students. As noted above, rural residence has a negative effect on length of time spent in school.

French students do not stay in school as long as English students. They are also more likely to have parents with lower educational aspirations and have lower educational expectations for themselves. However, the same set of concepts are found to account for a similar amount of the variation in school attainment for these two groups. The relative importance of the variables, as has been shown above, in many cases differ for the two groups.

To summarize, rural residence has a negative effect on choice of a 5 year program of studies and a negative effect on the length of time spent in school for French students but not for English students. The variation in the variables of self-concept of ability and perceived parental aspirations were less well explained for the French than for the English students, although these variables were important in explaining the level of educational expectations and choice of program for both groups of students. Many of the effects of the background variables, such as sex and father's education appear later in the French equation than the English equations.

For the French students the effects of earlier elementary school educational expectations are comparatively stronger than school grades in both the choice of school program and years spent in high school. For English students the choice of high school program was far more influential in determining the years of high school attainment than for the French students who were negatively constrained by rural residence but more strongly influenced by other variables such as father's education and school grades which were seen to have a stronger effect for English students in choice of

Each of the French students was asked to evaluate their major language of high school instruction: 44% took predominately French courses, 17% predominately English and 39% English and French courses. When language of high school instruction was introduced into the equation for years spent in high school, it did not change the final equation. The negative effects of English or bilingual education are seen through the effects of rural residence (correlated with non-French instruction at .21) and lower grades (.13). Similarly the effects of self-concept of ability include a component of language of instruction (non-French instruction correlated with self-concept of ability at -.15).

Summary

The French students in the sample as the Franco-Ontarian population as a whole, were disproportionately from rural and small urban areas in the province and tended to leave school earlier than English students. However, after controlling for the background variables of place of residence and level of education of the father for French students, their educational attainment can be accounted for by variations in school grades, educational expectations and school program in the same way that variations in educational attainment for English students is explained. As the analysis showed the process defining these variables in elementary school is different for English and French students.

The foregoing analysis suggests two main sources of the differences in the high school attainment process of French speaking as opposed to English speaking students. The first is related to the structural factor of rural residence and limited availability to a wide range of secondary school programs in French, particularly for the students in this sample who started secondary

3

4

school in 1971. The second source of difference lies in the transition of elementary school effects to secondary school.

For English language students the effect of high school program, net of other effects is the most important factor in determining years of high school attainment. For French students this factor is also important but much less so than for English students. The structural constraints of school program and commitment to completing the longer course of studies are less for French students. The French student's school grades and educational expectations have a stronger effect, net of other effects, on high school attainment than the corresponding effects for English students.

Chapter 8

The Lower Class*Academically Able Student

The foregoing analysis has demonstrated the importance of both the child's family background and his ability to do school work in explaining high school attainment. Students with lower levels of mental ability and students from lower socio-economic status families were found to be less likely to finish five years of high school studies than those with higher mental ability and those from higher status families. The association between lower levels of ability and low high school attainment is not unexpected; that between lower socio-economic status and low levels of high school attainment is, however, of more concern. In an educational system committed to the ideal of equality of educational opportunity, why should young people whose families have lower socio-economic status spend less time in high school than young people from families with higher socio-economic status?

The research design of this follow-up study included personal interviews with a select group of students from lower socio-economic status families to provide some insight into why lower socio-economic status students make the educational decisions that they do. The analysis of the interview sample, described in this chapter, will focus on an examination of the variance in high school attainment within the set of lower socio-economic status families defined as those having a Blishen score of 45 or less on the 1961 version of the scale.¹

¹ See Appendix C for a discussion of the relationship between the

The more detailed analysis of the sample of lower socio-economic status students is undertaken in the context of the preceding chapters which showed that lower SES young people are more likely to choose a shorter high school program, are more likely to switch from a longer to a shorter program and more likely to leave school before the completion of their program. The data in the interviews were collected to gather more information on why young people from lower socio-economic status families made these decisions and to determine how they differed from other lower status young people who decided to stay in school longer and take longer programs. Respondents were asked to provide their own evaluations of their decision as well as to provide further information about particular characteristics hypothesized to be associated with lower secondary school attainment and lower socio-economic status.

Because of the expense of obtaining interviews, only those respondents in the follow-up study who lived in the conurbation from Hamilton to Oshawa were selected for interviewing. The sample for interviewing was further restricted to lower socio-economic status students who had mental ability scores in the upper two-thirds of the distribution. Of the students who had been located for the follow-up study, 332 were eligible for interviewing by having mental ability scores in the upper two-thirds

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measurement of the father's occupation on the 1961 Blishen scale, used in defining the sample and the 1971 Blishen scale, used in the analysis. If a family did not have a working parent as the head of the household or the data on the occupation of the head of the household were not included, respondents were considered eligible for interviewing if the mother's past occupation was low skilled or the parents had lower levels of education (less than high school graduation). Further details are given in Appendix C.

of the distribution, living in the Hamilton-Oshawa area and coming from lower SES families (Blisshen scores less than 45). Eighty-seven percent of those eligible were interviewed (289); 6 percent were not available for interviewing and a further 7 percent refused to be interviewed.

Because the analysis of the interview data is restricted to a small number of all the respondents and the particular concern is with their subjective evaluations of their educational decisions, no weighting scheme was introduced in the analysis to remove response bias which was found to exist in the follow-up study (see Appendix B). It will have to be remembered that, compared to the preceding analysis, the interview respondents will be somewhat over-represented by students with a more positive orientation to schooling and school achievement as described in Appendix B even after taking into account the controls in the sample design. Conversely, the significant findings relating negative evaluations of school and school activities with a particular decision will be understated because of the positive bias to schooling known to exist in the sample.

As a first analytic step it is important to identify the school drop-out or early school leaver. The definition has varied considerably from study to study. The most straight forward definition of the early school leaver is anyone who does not complete five years of high school. Clearly, this is not satisfactory since a student who leaves school at the end of four years of study with the secondary school graduation diploma has completed the program of studies undertaken at the beginning of high school. On the other hand, considering all the students who did not complete a program of studies would combine students who left school before finishing a five year program with students who had not finished a four

year program, when these two types of students had set different program goals for themselves and were following very different courses of studies. Throughout the analysis of the interview sample, as much as possible, the student's program of studies is always controlled either by discussing the analysis for each program separately - as in the case of the choice of a specific program - or by keeping the student's program as a control variable - as in the analysis of early school leaving.

The interview sample included young men (55 percent) and young women (45 percent). As can be seen from Table 8.1, almost one-half of the sample was still in high school when interviewed. This is in contrast to 39 percent of all respondents of the weighted sample (42 percent of the unweighted) who are still in school. The difference results largely from the definition of the interview sample to include only students for lower SES families in the upper two-thirds of the mental ability distribution and the further restriction to students in the conurbation of Hamilton to Oshawa. As has been shown in the analysis of Chapter 4, both urban residence and higher mental ability scores positively influence high school attainment (Tables 4.2 and 4.7).

Students who were interviewed were asked if they had ever left school and what program of studies they were in when they left school. Twenty-five percent of the interview sample had left school before completing their program of studies and 3 percent had left school but had returned later.² For analytic purposes, the students who had left school

²Of this 3 percent (eight respondents), two had completed a program of studies other than a five year program, four were still in school, and two were out of school again without completing their program of studies at the time of the interview.

Table 8.1

High School Careers of Students in the
Interview Sample by Sex (Low SES, Medium
and High Mental Ability)

	Male (percent)	Female	Row Percents
Left school from a 5 Year Program	8	13	10
Left school from a 4 Year Program	23	10	17
Completed a Program	21	28	25
Still in High School	47	48	48
	99 (159)	99 (130)	100

$$\chi^2 = 10.4 \text{ significant } p < .01 \quad \text{Cramer's } V = .1899$$

and returned were treated in the analysis as school leavers. One respondent had, at one time, left both a five year and a four year program of studies. He was included with the respondents leaving from the four year program (his program the last time he left school).

Ten percent of the students in the interview sample had left school before completing a five year program of studies. A somewhat larger proportion, 17 percent, had left high school before completing a two to four year program of studies. Only .7 percent of the sample (two respondents) were taking a program of studies less than a four year course. Because this last number is so small, students in programs less than four years are combined with respondents who had taken the four year program. Twenty-five percent of the respondents had completed their program of studies which, because of the timing of the interviews, was generally a four year

course³ and 48 percent were still in high school, (Table 8.1).

The proportions in Table 8.1 are presented separately by sex.

There is a significant difference between the career patterns of able lower status young men and young women. Young women are more likely to have left high school before completing a five year program of studies, less likely to leave school before completing a four year program of studies and, in fact, more likely to complete a four year program of studies than young men. There is no significant difference between the proportions of able lower status young men and women still in high school at the time of the interview. Where sample size allows, further tests for differences by sex in factors relating to the choice of high school careers will be made.

The Three Critical Decisions

The interviews were designed to obtain from the students the reasons for three critical educational career decisions - the choice of program, a change of program and the decision to leave school before the completion of a program of studies. Not only were students asked to provide the main reason, from among a number of reasons for the choice of a particular alternative, but they were also asked to assess the importance for them of numerous other factors that may have influenced their choice. In addition, more data were collected on the students' backgrounds, attitudes and peer groups to help explain the decision to change a course of studies or to leave school before completing a program.

³Six respondents had completed Year 5 studies and already left school.

For each of the three critical decisions respondents were provided with a list of possible reasons for the decision and asked to indicate whether for each one, the reasons were, very important, of average importance or not important (Questions 5, 10, 15, 21, and 26). They were also asked to indicate the main reason. The multiple response items for each of the critical questions were factor analyzed to reduce the amount of information obtained from these responses. (See Appendix D for the details of the factor analysis).

The following analysis will be divided into three sections, each dealing with one of the major educational options available to Ontario secondary school students: the choice of a particular program of studies, changing a program of studies and the option to leave school before the completion of a program of studies. It should be remembered that we are dealing with a group of lower socio-economic status students, the less well-off, who are reasonably or very bright, in the hope of finding out how well public education in Ontario reaches out to them:

Choosing a Particular Program of Studies

The students in our Grade 8 sample were starting their high school studies just at the time that the old Robarts plan was being replaced. The changes in the structure of high school programs brought about greater choice and flexibility for the student who, in consultation with parents and school personnel, determined what courses he would take in secondary school. The individual selection of courses then constituted the student's program of studies which at a minimum was clearly defined in terms of being oriented to meeting either the secondary school diploma requirements or the honours diploma requirements. The respondents were asked whether they thought they

had much opportunity to choose their high school course of studies.

Only 8 percent thought that they had no opportunity to choose for themselves between programs, 26 percent felt they had some choice and 66 percent felt they had a great deal of choice.

Those respondents who felt they had had a choice in their program were further asked to evaluate whether they had any doubt about their choice of program. Not many (7 percent) were very uncertain about their choice, 35 percent had some doubts and 58 percent had no doubts. The evaluation of the certainty of the choice of program and the amount of opportunity for choice did not differ significantly by sex or the specific choice of program. Thus, lower status students who were interviewed had, overall, a fair amount of opportunity to choose their course of studies and felt fairly certain they had made the correct choice.

The respondents were asked how happy they are now, several years later in 1976, about their decision to start high school in the program that they did. In this case, we do see a difference according to the high school program the student started (see Table 8.2). Overall, over one-half of the students interviewed were happy now about their choice of high school program and less than 16 percent were unhappy with their choice of program. As can be seen from Table 8.2, students in four year programs were less likely to be happy about their choice than students in five year programs and, in fact, were more likely to be unhappy with their choice.

Respondents were asked why they chose the particular program they did in a two-part question. The first part asked them to evaluate the importance of a number of items in their decision to choose the program they did (these were factor analyzed), Questions 5 and 15. In the second part

Table 8.2

Percentage of Students by Evaluations of their First Program in High School at Time of Interview by Type of Program (Interview Sample: Low SES, Medium and High Mental Ability)

Program	Five Year (percent)	Four Year
Happy about it	74	61
Neither happy nor unhappy	17	23
Unhappy about it	9	16
	<hr/> 100 (105)	<hr/> 100 (53)

$$\chi^2 = 4.60 \text{ } p < .10$$

they were asked to give what, in their opinion, their main reason for their choice was, Questions 6 and 16. These questions were, of course, asked separately by program of studies since different considerations were expected to be relevant in the choice of the five year or shorter program.

Choosing the Five Year Program

Table 8.3 shows the main reasons given by respondents for the choice of the five year program. Sixty-three percent of the students felt that the most important reason for their choice was obtaining the qualifications for post-secondary study. A much smaller proportion, 9 percent, felt that the five year program would provide them with better opportunities to get jobs. As can be seen from Table 8.3, numerous other main reasons were given by a minority of the respondents who had chosen the five year program. No significant difference in the main reasons given was found between young men and young women. We see then that there is a substantial majority of

students from lower social status families, if they are at least reasonably bright and living in the industrial centre, who start out high school with the intention of making the most of the accessibility provided by public education.

The factor analysis of the items in Question 5 isolated a factor for post-high school opportunities which included the first two main reasons for choosing a five year program of studies in Table 8.3. Two other factors were extracted, measuring a positive orientation to schooling and the influence of significant others (parents and friends). The three factors combined to account for 64 percent of the variance in Question 5. While students, when asked for the main reason for their choice, most frequently gave the importance of meeting post-secondary training requirements and getting better jobs, their other responses indicate that their attitude to school, ability to do school work and the influence of parents and friends also contributed to their decision. The details of the factor analysis, the composition of factors and the marginal distribution of the new variables, are shown in Appendix D.

From the marginal distributions presented in Table D.7 of the Appendix, it can be seen that generally the same proportion of respondents (30 - 27 percent) evaluated each of the three factors as not important. However, a slightly larger proportion of respondents consider the first two factors, positive orientation to school and post-high school opportunities (31 - 32 percent), as more important than the third factor, influence of parents and friends, (25 percent).

Table 8.3

Main Reasons for Choice of a Five Year Program
(Interview Sample: Low SES, Medium and High
Mental Ability)

	(percent)
To qualify for post-secondary studies	63
For better job opportunities	9
To keep options open	7
Parents' and family influence	5
Liked the types of courses offered	5
Perceived to offer the best education	4
Liked school and did well in it	4
Other	3
	<hr/> 99
	(185)

When the new variables created from the factor analysis were analyzed separately by sex, a difference between men and women is found in the importance attached to the second factor, liking school and having done well in elementary school, in the choice of the five year program. As can be seen from Table 8.4, young women were somewhat more likely than young men to evaluate as very important and of average importance choosing the five year program of studies because of past good grades and liking school. Conversely, young men were more likely to evaluate these reasons as not important.

Table 8.4 Choice of the Five Year Program of Studies by the Evaluation of the Importance of Positive Feelings About School by Sex (Interview Sample: Low SES, Medium and High Mental Ability)

	Very Important	Average Important (percent)	Not Important	Total (N)
Male	24	42	34	100 (96)
Female	38	37	25	100 (90)

$$\chi^2 = 4.39 \text{ } p < .12 \quad \text{Gamma} = -.235$$

The relationship in Table 8.4 is only marginally significant but it is of interest since girls generally do better in elementary school than boys and, as is shown in Table 8.1, lower status girls do enter the five year program in slightly higher proportions. However, they are also somewhat more likely to leave the five year program before completing it.

The differential evaluations of the reasons for the choice of the five year program (at the beginning of high school) were further examined in relationship to the respondent's subsequent high school career. Of the three factors summarizing the importance of various considerations in the choice of the five year program, the first factor measuring post-high school opportunities distinguished significantly between high school careers. As can be seen from Table 8.5, students who had left school, either before completing a program of studies or after having completed a shorter program of studies, were much less likely to have evaluated the post-high school opportunities of the five year program as very important, particularly in contrast to respondents still in school. Conversely, students still in school were less likely to evaluate the post-high school opportunities as not important than the other respondents.

Table 8.5 Choice of the Five Year Program of Studies by the Evaluation of the Program's Importance for Post-High School Opportunities by High School Career (Interview Sample: Low SES, Medium and High Mental Ability)

High School Careers	Post-High School Opportunities		
	Very Important	Average Importance (percent)	Not Important
Left a 5 Year Program	10	17	18
Left a 4 Year Program	5	8	16
Completed their Program	5	15	18
Still in High School	80	61	48
	<u>100</u>	<u>100</u>	<u>100</u>
	(60)	(76)	(50)

$$\chi^2 = 14.11 \quad p < .03 \quad \text{Cramer's } V = .195$$

The table differentiates between respondents who left the five year program before completing it or changed to a four year program which they left before or after completion. Students who had changed to the four year program were the least likely to have evaluated the post-high school opportunities of the five year program as very important.

The questions in the interview were framed to elicit answers relating to a specific time, for example, the choice of a program at the time of entering high school. However, respondents may have some difficulty remembering exactly how they felt several years ago. Also, present feelings may influence assessment of past feelings. Because of this

limitation of cross-sectional data, the findings in Table 8.5 are only suggestive of the argument that different evaluations of the benefits of the five year program at the start of high school put a student at a greater risk of leaving the five year program before completion. This interpretation is consistent with the strong link found to exist in the multivariate models between educational expectations and program of studies in high school and subsequent number of years spent in high school. The Table does unequivocally show that students who left the five year program evaluate the benefits of the five year program with respect to post-high school opportunities differently than those who stayed. Once again, the findings suggest how early attitudes to school derived from experience in elementary school have an important bearing on high school experience and attainment.

Choosing the Four Year Program

Seventy-one percent of the lower SES students who were interviewed had started high school in a five year program of studies and 28 percent had started in the four year program of studies. As had been shown in Table 8.2, the students starting school in a four year program of studies tended to be less happy in their choice than the students choosing a five year program. Students interviewed who started high school in the four year program of studies were somewhat more likely to be male (63 percent compared to 55 percent for the whole interview sample). As with respondents in the longer program of studies, respondents starting high school in the four year program were asked to evaluate the reasons for their choice; of course, the items they were asked to evaluate were different.

Students choosing the four year program of studies were less unanimous than those in the five year program in citing what they considered to be the most important reason for their choice (see Table 8.6). The reasons given the most frequently were the desire to finish school as quickly as possible (19 percent), and to meet the requirement of specific vocational courses (19 percent), while 14 percent felt the four year course provided the opportunity to obtain jobs more quickly. Other frequent reasons given for choosing the four year course of studies were similar in emphasis such as the desire for practical courses and courses suited to the individual's ability to do school work. Young men and women differed in the main reason they gave for the choice of a four year program. Of the respondents wanting to finish high school as quickly as possible, 87 percent were young men and 13 percent were young women. Similarly, of those wanting something more practical, 70 percent were young men and 30 percent were young women. On the other hand, of the small number seeking qualifications for a job, 67 percent were young women and 33 percent were young men.

The factor analysis of the evaluation of the list of response items for those in the four year program (Question 15, Appendix D) resulted in the extraction of three factors that provide a further elaboration of the main reasons for the choice of a four year program given by the students. It should be noted that one of the main reasons cited by the students, to meet the requirements of specific vocational courses, had not been included as one of the items in Question 15 and, as a result, is not included in the factor analysis.

The three factors were found to account for 68 percent of the variance in the items. The first factor includes the positive evaluation

of wanting to get through school as quickly as possible, the reason cited most frequently by respondents giving what they considered to be the main consideration in their choice. The loadings from this item are combined with loadings from the item measuring the importance of conformity with peers. Unlike the evaluations of the reasons for taking the five year program, where peers and parents were combined on one factor, the influence of peers and parents are not combined on the same factor in the choice of the four year program. The combination of the evaluation of the importance of conformity with peers and the importance of getting through school quickly provides an indication that the considerations of peers were important for the respondent and that the peers were also likely to feel that it was important to get through school as quickly as possible.

Table 8.6 The Main Reasons for Choice of a Four Year Program of Studies (Interview Sample: Low SES, Medium and High Mental Ability)

	(percent)
To finish schooling as quickly as possible	19
Because of specific vocational aspirations	19
Provides the opportunity to obtain jobs more quickly	14
Course is more suited to ability to do school work	14
Provided practical courses	13
Found course offerings attractive	10
Advice of school personnel	4
Other	7
	<hr/> 100
	(79)

The second factor combines the influence of poor school performance and parental influence suggesting that parental influence is tempered by the child's school performance record. The third factor combines the reasons associated with a more practical concern of getting more practical training and a job.

In many respects, the factor loadings of the reasons for choosing either the four year or the five year programs are opposed in orientation, particularly in terms of the first factors in each case. The first factor accounting for the variance of items considered in the evaluation of the five year program is the importance of a positive view of schooling and good school performance, while the first factor in the choice of the four year program is the evaluation of the importance of wanting to get through school as quickly as possible which is also positively associated with conformity with peers. While both factor loadings include factors for post-high school opportunities, this factor for the choice of the five year program is composed primarily of the items of getting a good job and wanting qualifications for post-secondary studies, while the factor for the choice of the four year program is also composed of an item measuring the desire to be qualified for a job but qualified more quickly and with a more practical orientation.

In the evaluations of the reasons for choosing the four year program the third factor, getting practical training and a job, was the least likely to be evaluated as not important (32 percent compared to 38 percent for the first factor). It is the first, getting through school as quickly as possible, and third factors that have the largest portion of strong positive evaluations (34 - 35 percent compared to 25 percent for factor 2). Factor 2, poor grades and parental influence, is more

likely to be evaluated of average importance. (See Table D.7 in Appendix D.)

As might be expected by the differences between young men and young women in the main reasons they gave for their choice of the four year program, the importance of the first factor is different for young men and young women. As can be seen from Table 8.7, young men are more likely to evaluate as important in their choice of the four year program that the program choice is the same as their friend's and that they can finish school more quickly. Young women, on the other hand, are more likely to evaluate these considerations as not important. Young women were more likely to evaluate as important getting more practical training and a good job but the number of cases for the latter breakdown are very small.

As will be recalled from Table 8.1, students leaving high school before completing the four year program of studies were more likely to be male than female. Consistent with this finding and the findings in Table 8.7, Table 8.8 shows that students who do not finish the four year program of studies are also more likely to evaluate as very important the first factor - conformity with peer's choice and getting out of high school as quickly as possible - in their choice of four year program (see Table 8.8).

Respondents who did not complete the five year or four year program both clearly wanted to get out of high school but from comparing the findings in Table 8.8 with those in Table 8.5 it can be seen that the students starting the four year program always intended to get out of high school as quickly as possible. Students who considered this to be a particularly important consideration in their choice of program were less likely to finish the program of studies. The students who did not finish

Table 8.7 Choice of the Four Year Program of Studies by the Importance of Conformity with Peers' Program and Finishing High School Quickly by Sex (Interview Sample: Low SES, Medium and High Mental Ability)

	Very Important	Average Importance	Not Important	Total (N)
	(percent)			
Male	36	36	28	100 (50)
Female	33	13	53	99 (30)

$$\chi^2 = 6.75 \quad p < .04 \quad \text{Gamma} = .266$$

Table 8.8 Choice of the Four Year Program of Studies by the Importance of Conformity with Peers' Program and Finishing High School Quickly by High School Career of the Student (Interview Sample: Low SES, Medium and High Mental Ability)

	Very Important	Average Importance	Not Important
	(percent)		
Left a 4 Year Program	54	27	23
Completed a Program	43	64	63
Still in High School	3	9	33
	100	100	99
	(28)	(22)	(30)

$$\chi^2 = 7.26 \quad p < .13 \quad \text{Cramer's V} = .213$$

the five year program had started in the longer program of studies but did not consider the benefit of increased post-high school opportunities as important as those who stayed in the longer program. They appear not to have been able to sustain the original motivations for the choice of the longer program through high school. Why these lower SES students left high school before completing their studies will be further analyzed in the last section of the chapter.

Respondents were asked to evaluate how their parents, teachers, guidance counsellors, school principal, siblings and friends felt about their choice of either the four year or five year program of high school studies. As might be expected from the tendency of individuals to avoid unnecessary negative personal influences, respondents would be most likely to view the evaluation of significant others with respect to a past educational decision as supportive of their decision. In fact, 94 percent of parents, 92 percent of school personnel, 93 percent of friends and 98 percent of siblings were viewed as having been in agreement with the decision to have chosen a particular program.

Among the small proportion of students viewing some "significant other", or potentially influential individual, as disagreeing with their decision to choose a particular program, an interesting difference can be seen by the program of studies the student actually was in (see Table 8.9). As can be seen from the statistics, the relationships are not significant for friends. However, for parents and school personnel more disagreement was perceived with the choice of the four year program of studies than the choice of the five year program of studies. This is consistent with the earlier finding reported in Table 8.2 that students in the four year program were somewhat more likely to be unhappy with their choice than students in

the five year program.

Table 8.9 Perceived Disagreement with Choice of Program
by Significant Others by Program of Study
(Interview Sample: Low SES, Medium and High
Mental Ability)

(percent)					
	5 Year Program (N)		4 Year Program (N)		χ^2
Parents (Father or Mother)	3	(7)	10	(9)	4.93 $p < .05$
School Personnel (Teacher, Guidance Counsellor or Principal)	5	(9)	13	(10)	4.25 $p < .05$
Friends	5	(8)	12	(6)	1.52 $p < .30$
Siblings	-		2	(1)	

Deciding to Change Program

It is now relatively easy for a secondary school student to change informally his program of studies to one directed to a five year course of studies to one directed to a four year course of studies by simply altering the choice of subjects at the beginning of the year. By changing the types of courses a student takes at the beginning of each year, the student's program can be changed from one aimed at the honours diploma to the secondary school graduation diploma.

Of the 205 lower SES respondents in the interview sample who started high school with the intention of choosing courses for five years of secondary school, 21 percent, at the time of the interviews, had changed their choice of courses to meet the less stringent requirements for four years of study and the secondary school graduation diploma. We asked those students who had changed to the shorter program why they made this change. Fifteen percent of the students starting high school in the five

year program left school before completing their program and 64 percent were still in the five year program. Only two respondents reported changing from a four year course of studies to a five year program. The difficulty of changing from the more general program to the longer, more advanced, program particularly later in the high school career has been discussed previously. We asked students who stayed to Year 5, most of whom were there at the time of the interview, why they stayed for the extra year when it was possible for most of them to graduate at the end of Year 4.

The respondents who decided to stay for the fifth year were asked to evaluate how certain they were about their decision and how happy they are about it at the time of the interview. Eighty-nine percent of them felt happy about their decision, 6 percent had no feeling either way and only a small proportion, 5 percent, felt unhappy about it. There was no significant difference between young men and young women in these evaluations. When asked how certain they were at the time they were making the decision, at the end of Year 4, 73 percent were very certain, 22 percent had some doubts and 4 percent were very uncertain. In this case, young women had felt less certain in their decision than young men. However, by the time of the interviews, at the end of the fifth year of studies, only a small proportion remained unhappy about their decision.

As was the case for the choice of a particular program, lower SES students who stayed to Year 5 were asked to evaluate the importance of a number of reasons why they had decided to stay the extra year in high school (Question 26). They were also asked to assess what they thought was the most important consideration in their decision (Question 27).

As can be seen from Table 8.10, 73 percent of the respondents felt the main

reason for their decision to stay to Year 5 was to obtain qualifications for post-secondary studies.

Table 8.10 The Main Reasons for Continuing to Year 5
(Interview Sample: Low SES Medium and
High Mental Ability)

	(percent)
Aspirations for post-secondary studies	73
Provides opportunities to get better jobs	7
Not sure	5
To complete the course of studies	4
Keeping options open	4
Parents	3
Liked school	2
Other	2
	<hr/>
	100
	(135)

This proportion is greater than the proportion of students (63 percent) who, at the time of entering high school, felt that the main reason for choosing the five year program of studies was to obtain post-secondary qualifications. The next most frequently mentioned reason for staying to Year 5 was the perceived opportunity to obtain a better job, but this reason was given by only 7 percent of the students. As can be seen from the table, a small number of students cited other reasons such as completing their course of studies, keeping options open, liking school, influence of parents and "not sure". No difference was found by sex in the main reasons given by students for staying to Year 5.

The factor analysis of the various reasons for staying on to

Year 5 (Question 26) resulted in the extraction of three factors accounting for 62 percent of the variance. These factors, not unexpectedly, are very similar to those found for the choice of the five year program of studies at the beginning of high school. The first factor measures the positive evaluations of school-enjoying school and finding school work interesting. The second factor reflects the influence of significant others - parents and friends - and the third factor measures the importance of post-high school opportunities. Again, the post-high school opportunities of wanting to get a better job and attending a post-secondary institution are combined on one factor. The only difference between the factor structures in the choice of the five year program at the start of high school, compared to the decision to stay to Year 5, is the ordering of the second and third factors and the higher proportion of the variance accounted for by the first factor in the decision to stay to Grade 13 or Year 5. Respondents were more likely to consider the third factor, post-high school opportunities as very important (39 percent) than the other two factors (30 - 31 percent). They were also somewhat less likely to consider the third factor as not important. (See Table D.7, Appendix D.).

Setting aside the reservation made earlier about recall in a cross-sectional design, the similarity of the factor structures for decisions at two points in time suggests an important continuity of the motivations that lead to the choice of the longer program through high school. In fact, the findings in Table 8.5 show that students who do not stay in the five year program of studies likely entered the program for reasons different from those of students who stayed for the fifth year of studies in high school. Students who stayed in school were far more likely to evaluate the post-secondary opportunities associated with the five year

program as very important. As noted above, the importance of post-secondary opportunities is again stressed in the decision to stay for the fifth year of high school.

Students who had changed their courses from a five year to a four year program were asked how certain they were about this change at the time they made it and how happy they are about it now. The pattern of responses reflect a similar distribution of feelings of unhappiness and uncertainty as for the choice of the programs of study. Fifty-two percent of the students who had changed programs were very certain about their decision, 32 percent had some doubts and 16 percent were very uncertain. When asked to evaluate how happy they were about the change now, 14 percent felt unhappy about it, 25 percent had no feeling either way and 61 percent were happy about the change. No significant difference by sex of the student was found in either of these evaluations.

Students were asked to indicate, again from a variety of items, what they considered to be the main reason for their decision to change their program of study (Question 11). The largest proportion, 30 percent, cited poor grades (see Table 8.11). The second and third most frequently noted reasons were: the consideration that the four year program was shorter and gave all the qualifications needed for specific vocational training. These last two reasons were also frequently given as important in originally choosing a four year rather than a five year course of studies. School performance was also an important consideration by students choosing a four year program originally but was not given as the main reason for their choice as frequently as by the students changing programs. The reasons given for the change in program reflect a shift from the more academically oriented courses to the more practically oriented, less demanding, courses

needed for the secondary school graduation certificate.

The factor analysis of the items on the decision to change programs resulted in the extraction of three factors accounting for 65 percent of the variance in Question 10. The resulting factor loadings are similar in emphasis but different in structure to the pattern of factors evaluating the importance of choosing a four year program of studies at the entrance to high school. The first factor measures the importance of getting a job and getting out of school as quickly as possible. In the analysis of the choice of the four year program, these two items appeared on separate factors. In the case of students changing from a four year program, the consideration of jobs and getting out of school as quickly as possible were more closely associated than they were for the choice of the four year program of studies where the first factor combined getting out of school as quickly as possible with conformity with peer's program choice.

Table 8.11 The Main Reasons for Changing from a Five
Year Program to a Four Year Program (Interview
Sample: Low SES, Medium and High Mental Ability)

	(percent)
Poor grades	30
To finish school as quickly as possible	18
Because of specific vocational aspirations	11
Provided practical courses	9
Provides the opportunity to obtain jobs more quickly	5
Teachers and Counsellors	5
No longer had aspirations to go to university	5
Other	17
	<hr/> 100
	(44)

The second factor is composed of items measuring the influence of parents and teachers, having difficulty with school work and wanting something more practical. This factor combines the perceived evaluations of parents and teachers with poor performance in the five year academic program. It is similar to the second factor in the evaluations of the choice of the four year program but in the case of changes in program the perceived evaluations of teachers are included. The third factor has the single loading of the importance of conforming with the program of friends. In the case of the evaluations of the choice of the four year program, the conformity with peers was not an independent factor but was combined with considerations of finishing school as quickly as possible. No difference in the evaluations of these factors was found between young men and young women.

The first factor, getting a job and getting out of school, was evaluated most frequently as very important (42 percent compared to 28 and 21 percent for the other two factors). The first factor was also the least likely to be evaluated as not important. Factor 3, conforming with friends, had the highest proportion of respondents evaluating it as not important (44 percent), although for 21 percent of the respondents who changed programs this was evaluated as very important. (See Table D.7, Appendix D.)

The decision to change to a shorter program of studies was examined in relationship to a number of other variables that described: the student's high school achievement or grades, changes in self-concept of ability, involvement in school activities, conformity to school rules and norms, attitudes to continued schooling and differences in home environments.

Young men and women were found to be equally likely to change to a shorter program of high school studies, nor were any differences found in the reasons they gave for changing. As might be expected from the reason given by the largest proportion of the students for changing to a shorter program, the student's self-reported grades were significantly associated with a change in school program (see Table 8.12). The findings in the table must be treated with some caution since the criteria for setting grade levels differ by school and by program of studies. In addition, except for Year 1, we are not sure at which point the student changed his program of studies. A student with poor grades who changes from the five year program to the four year program may show an improvement in his grades in the shorter program. In Table 8.12, lower grades would be expected to be associated with changing program; however, once large numbers of respondents have changed programs, the overall proportion of students with low grades may decline because the criteria used in grading have changed. The top panel of the table shows the relationship between grades in Year 1 and whether a student changed his program at some point in his high school career. In Year 1 all these students had started high school in a five year program of studies. As can be seen from the table, students who changed programs were particularly under-represented in the top category of students with grades of 75 percent or more. The grades of the student changing programs were over-represented in the average and below average categories.

As can be seen from Table 8.12, in Years 2, 3 and 4 students who changed programs remain under-represented in the top category and over-represented in the average and below average categories. However, they are represented in increasing proportions in the second category of grade

Table 8.12 The Percentage of Students Who Changed to a Four Year Program of Study from a Five Year Program by Their Academic Achievement for Years 1 to 4
(Interview Sample: Low SES, High and Medium Mental Ability)

	Year 1					Total	(N)
	75+	66-74	60-65	50-59	-50		
Changed to 4 Year	17	32	39	7	5	100	(41)
Did Not Change ¹	47	36	12	4	1	100	(161)
Gamma = -.558							
	Year 2					Total	(N)
	75+	66-74	60-65	50-59	-50		
Changed to 4 Year	7	42	29	20	2	100	(41)
Did Not Change	44	31	22	3	-	100	(161)
Gamma = -.5996							
	Year 3					Total	(N)
	75+	66-74	60-65	50-59	-50		
Changed to 4 Year	10	42.5	30	15	2.5	100	(40)
Did Not Change	41	40	16	3	-	100	(157)
Gamma = -.592							
	Year 4					Total	(N)
	75+	66-74	60-65	50-59	-50		
Changed to 4 Year	15	43	27	9	6	100	(33)
Did not Change	41	36	19	4	-	100	(153)
Gamma = -.444							

¹ The category of Did not Change refers to respondents who started high school in a Year 5 program and never changed to a Year 4 program.

scores 66 - 74 percent, particularly in Years 2 to 4. This is most likely the result of the change to the four year courses which have a lower degree of difficulty than many of the courses that would be taken in the honours directed program of studies.

It was hypothesized that the lower SES students who changed their program of studies, as the students who left school before completing their program would be more likely to have suffered a disproportionate drop in their self-concept of ability. Factor analysis of the self-concept of ability scale in the Porter and Blishen study⁴ showed for the Grade 10 and 12 students that the scale was actually composed of two main sub-scales measuring self-conceptions of ability to do post-secondary work and self-conceptions of present ability with respect to classmates. The portion of the scale measuring self-evaluations of ability to do post-secondary work was remeasured in the interview schedule (Questions 35 to 37) in addition to one item measuring perceived ability relative to peers in school from the other portion of the scale (Question 34).

The scores on these items were compared with the 1971 responses on the same items and used to control against the decision to change programs (see Table 8.13). As would be expected from the emphasis on poor school performance as the main reason for changing programs, not only would school performance have dropped but a concomitant drop in self-evaluations to do school work would also be expected. As can be seen from Table 8.13, students

⁴Maria Barrados, "Factor Analysis of the Items in the Self-Concept of Ability Scale", mimeo, Department of Sociology, Carleton University, 1975.

who changed their program of studies had a significant drop in their self-concept of academic ability with respect to post-secondary studies. However, from looking at responses to the single item from the self-concept scale, no significant difference was found in how the student perceived his academic ability relative to his peers for students who had changed programs against those who had not. Thirty-eight percent of the respondents who had changed programs suffered a drop in self-concept of ability to do post-secondary work of three or more points while only 11 percent of the respondents who had not changed programs suffered a drop in self-concept of that size. Of course, by choosing the shorter course of high school studies, the alternative for a direct transition from high school to many post-secondary programs is substantially reduced.

The probability of changing to a shorter program of studies was also controlled by the student's participation in school sports, school clubs and other school activities. No statistically significant relationship was found between any of these measures of integration into school activities and changing from the five year program. In fact, a discernible trend in the data suggested that greater participation in school activities was more likely to be associated with a change in school program; however, these relationships were not found to be statistically significant (tables not shown).

Another measure of integration into the school system apart from that measured by participation in social activities is the student's willingness to conform to the rules, regulations and norms of the school. Students were asked to evaluate how frequently they violated a list of norms and rules of behaviour found in most secondary schools (Question 4).

Table 8.13 The Percentage of Students Changing from the Five Year to the Four Year Program by their Change in Self-Concept of Ability to do Post-Secondary Studies from 1971 to 1976 (Interview Sample: Low SES, High and Medium Mental Ability)

	SCA In- creased (9 - 3)	(2 - 1)	No Diff- erence	(1 - 2)	SCA Dropped (3 - 7)	Total (N)
Changed to 4 Year	7	22	14	19	38	100 (42)
Did not Change	18	28	16	27	11	100 (153)
$\chi^2 = 17.97 \quad p < .01$						
Cramer's V = .303						

The student's evaluation of his conformity with these norms and rules were combined into a scale⁵ measuring conformity or lack of conformity, which can also be termed deviance, to these rules. The higher the scale score the greater the deviance from school norms and rules. Another measure of lack of conformity to school rules or deviance within the school system is the number of suspensions a student has received. Each of these measures of non-conformity or deviance were cross-classified with the proportions of students changing their school program.

As can be seen from Table 8.14, higher deviance is associated with changing from a five to a four year program. Conversely, students who do not change their programs of studies have lower deviance scores. Similarly,

⁵ Modelled on a delinquency scale developed by G. Bachman et. al. Youth in Transition, vol. III., Ann Arbor, Michigan: Institute for Social Research, 1971.

Table 8.14

The Percentage of the Students Changing from the Five Year to the Four Year Program of Studies by Degree of School Deviance and Number of Suspensions (Interview Sample: Low SES, High and Medium Mental Ability)

	Deviance Scale						
	Low	2	3	4	High	Total	(N)
Change to 4 Year	12	23	35	12	18	100	(43)
Did not Change	30	30	24	10	6	100	(162)
$\chi^2 = 12.28 \text{ } p < .01$		Gamma = $-.387$					
	Number of Suspensions						
	0	1	2 or more	Total	(N)		
Change to 4 Year	86	7	7	100	(43)		
Did not Change	96	2	2	100	(162)		
$\chi^2 = 5.41 \text{ } p < .10$		Gamma = $-.557$					

changing programs is associated with a greater number of suspensions from school. The finding that students who changed programs do less well scholastically and tend to be more deviant from school norms shows a greater lack of interest and lower commitment to school by these students, although, because of the sample design, we know that these young people have the ability to do the work required in a five year program.

In the interview, respondents were asked to evaluate a series of items to determine the importance attached to various statements assessing the costs and benefits of continued schooling (Question 44). The responses to these items were also factor analyzed. As described in Appendix D, four factors were extracted accounting for 60 percent of the

variance in the question. The first factor measures the importance of schooling as a means of improving abilities and remaining with peers. Factor 2 measures the personal restrictions associated with school, particularly in terms of reduced independence and enforced boredom. Factor 3 measures the practicality of work experience against the learning at school. This factor combines the evaluations of learning from every day experience and of continued schooling helping to get a job. Factor 4 is composed of the single item of continued schooling being a financial burden for the family.

Respondents tended to evaluate the first three factors as very important with equal frequency (29 - 31 percent). Factor 4, continued schooling as a financial burden to family, had a smaller proportion evaluate this factor as very important (15 percent), although a sizeable proportion, 61 percent, evaluated it as of average importance compared to 33 to 41 percent for Factors 1 to 3. The respondents were least likely to evaluate Factor 4 as not important. See Table D.7, Appendix D.

It was hypothesized that these measures of evaluations of the cost and benefit of continued schooling to the individual would differentiate students who changed their program of studies from students who did not change their program. Students who were more likely to emphasize the negative aspects of continued schooling would be more likely to choose to stay in school a shorter time, hence, in a shorter program. The first two factors were found to differentiate somewhat between students who changed to the shorter program of studies from those who did not. As can be seen from Table 8.15, the relationships are not strong or significant but in the expected direction. Students who stayed in the five year

program are more likely than the changers to have evaluated as very important or of average importance the factor of continued schooling as improving abilities and providing an opportunity to be with friends.

Table 8.15

The Percentage of Students Changing from the Five Year to the Four Year Program of Studies by Evaluations of Schooling (Interview Sample: Low SES, High and Medium Mental Ability)

Schooling - Improving Abilities and Being With Peers

	Very Important	Average Importance	Not Important	Total (N)
Change to 4 Year	26	35	39	100 (43)
Did not Change	33	41	26	100 (162)
$\chi^2 = 3.13 \text{ } p < .21$ Gamma = -.221				

Schooling - Personally Restricting

	Very Important	Average Importance	Not Important	Total (43)
Change to 4 Year	5	33	33	100 (43)
Did not Change	24	32	44	100 (162)
$\chi^2 = 2.86 \text{ } p < .24$ Gamma = -.231				

Students who changed to a four year program of studies, on the other hand, were much more likely to consider the benefits of longer schooling of improving abilities and being with friends as not important.

Students who changed their program of studies tend to be more likely to evaluate as important the more negative consideration of continued schooling being personally restricting. Conversely, students who do not

change programs tend to be less likely to evaluate as important that continued schooling can be personally restricting.

One of the considerations in limiting the interview sample to students whose families fell in the lower portion of the distribution of family socio-economic status was to try to isolate some of the components of family status that might further account for differences that exist within the category of lower socio-economic status families. Particularly in the multivariate analysis, where the full scale of socio-economic status was introduced into the equations, it was shown that the degree of disadvantage associated with lower socio-economic status increased the further the family's position down the scale. On this basis it would be expected that students from lower socio-economic status families that ranked near the top of the lower SES group or that have been upwardly mobile, would be relatively advantaged. Other indicators of relative advantage would be coming from a more stable home which is more supportive of studies in school by direct encouragement, better facilities for studying such as more books and a quiet place to study at home. It would be expected that the relatively advantaged lower SES family would be under less financial pressure and would be less likely to have mothers working out of financial necessity.

The decision to change programs, as well as the decision to leave school before program completion, were both examined in relationship to these more fully elaborated background factors. It was hypothesized that less advantaged lower SES students would be less likely to stay in the five year program and also more likely to leave school before the program of studies was completed.

The variables measuring relative advantage related to the inequitable distribution of status and material resources within the lower socio-economic status group were not found to significantly differentiate between students who changed from the five year program to a shorter program from those who did not. This, incidentally, is not found to be the case for students who left school before the completion of their program of studies, to be discussed in detail in the next section. Further, measures of family advantage not as directly tied to rankings within the status hierarchy are measures of family integration, more specifically whether the parents and children are living together and whether the child perceives his home as a happy one.

These two measures of family integration were found to significantly differentiate students who changed programs from those who did not. As can be seen from Table 8.16, students who live with both parents are less likely to change their program of studies than students who live with only one parent. Similarly, from Table 8.17 it can be seen that students who view their family as happy were significantly less likely to change their program of studies than students who did not consider their family to be a happy one.

Changing from the five year program of studies to the four year program of studies was found to be clearly accompanied by difficulties in school - in terms of poor grades, greater deviance and feeling restricted in school. The student who has changed his program of studies is also much more likely to have friends who are out of high school at the time of interview than the students who did not change their program of studies.

The factor analysis of the main reasons for changing to a shorter

Table 8.16 The Percentage of Students Changing from the Five Year to the Four Year Program of Studies by Family Unit Composition (Interview Sample: Low SES, High and Medium Mental Ability)

Living with.....	Mother <u>and</u> Father	Mother <u>or</u> Father	Neither	Total	(N)
Change to 4 Year	79	21	-	100	(42)
Did not Change	88	10	2	100	(162)

$$\chi^2 = 4.77 \text{ } p < .10$$

$$\text{Gamma} = -.326$$

Table 8.17 The Percentage of Students Changing from the Five Year to the Four Year Program of Studies by the Evaluation of Family Happiness (Interview Sample: Low SES, High and Medium Mental Ability)

Family	Happy	Neither	Unhappy	Total	(N)
Change to 4 Year	70	21	9	100	(43)
Did not Change	86	8	6	100	(162)

$$\chi^2 = 7.16 \text{ } p < .03$$

$$\text{Gamma} = -.433$$

program showed the importance of the influence of the significant others - parents, school personnel and friends. Particularly in the case of friends, it is not always clear what the direction of the relationship is. That is, whether the friends influence the respondent to make a specific decision or whether the respondent changes his attitude and preferences and seeks new friends in a new program of studies which he would like to take as well. In all likelihood both types of influence from friends occur.

Seventy-two percent of the respondents who had changed their program of studies as opposed to 41 percent who had not changed their

program of studies had best friends who were already out of school at the time of the interviews. When the respondents were asked about their next best friend, a similar pattern was found. Seventy-four percent of the respondents who had changed their program of studies, as opposed to 46 percent who had not changed their program of studies had their next best friend out of school.

The lower SES student who starts the five year program but does not stay in the program suffers a drop in educational expectations. In part because his commitment to the benefits of the program and his willingness to conform to school norms is not great enough, he changes from a longer, more academically oriented, program to a shorter, more practically oriented, program. The decision to change to a shorter program reflects a lower commitment to schooling but not yet a total rejection of schooling demonstrated by leaving school. The student who changes programs, however, has a much higher probability of leaving school than the student who does not change programs; 42 percent of students who had changed their program of studies left school at some time before completing the program while only 19 percent of the students who had not changed their program of studies left school before completing their program. The last section of this chapter will look in detail at the student who has left school before completing his program of studies.

Deciding to Leave School Early

In this section we look closely at the 27 percent of lower SES students of medium and superior ability who had left school before completing their program of studies to determine why they left. Some (29 percent of the school leavers) who had at one point left school before completing

their program of studies did eventually return to school. All students who at one time left school whether they returned or not are included in the analysis.

From Table 8.1 it can be seen that among the lower SES students young women are somewhat more likely than men to leave early from a five year program of studies and the young men are more likely to leave from a four year program of studies.

Respondents were asked how certain they were at the time they left school about their decision to leave and how happy they are about it now. Sixty-five percent were very certain about their decision to leave, 28 had some doubts and 7 percent were uncertain. The proportion who were very certain is comparable to the other schooling decisions although somewhat higher than the certainty felt about the choice of the four year or five year program and the certainty felt about changing programs.

Of particular interest is the difference in the certainty of the students leaving the five year program and those leaving the four year program. As can be seen from Table 8.18, the former were more certain than the latter. Eighty-six percent of the respondents leaving from the five year program were very certain of their decision while only 54 percent of the students leaving from the four year program were very certain about their decision. As can be seen from the marginals in the table, the number of cases in each cell of the table are frequently quite small.

When asked to evaluate how happy they now are about their decision to leave school, 60 percent felt happy, 16 percent neither happy nor unhappy and 24 percent unhappy about their decision. The proportions of school leavers feeling unhappy about their decision is higher than for any of the other educational decisions. This evaluation is not doubt related to the fact that over a quarter of these school leavers did, at some time,

return to high school. As can be seen from Table 8.19, it is particularly the lower SES students leaving from the four year program who tend to be unhappy about their decision to leave school. These school leavers are much less likely than the students leaving from the five year program to now feel happy about their decision.

Table 8.18 The Evaluation of the Certainty with Which the Decision to Leave School was Made by Program of Studies at the Time of Leaving (Interview Sample: Low SES, High and Medium Mental Ability)

Leaving from:	Very Certain	Some Doubts	Very Uncertain	Total (percent)	(N)
5 Year Program	86	7	7	100	(29)
4 Year Program	54	38	8	100	(50)
$\chi^2 = 9.60 \text{ } p < .001 \quad \text{Gamma} = .599$					

Table 8.19 The Evaluation of the Present Happiness with the Decision to Leave School by Program of Studies at the Time of Leaving (Interview Sample: Low SES, High and Medium Mental Ability)

Leaving from:	Happy	Neither	Unhappy	Total (percent)	(N)
5 Year Program	79	10	10	99	(29)
4 Year Program	48	20	32	100	(50)
$\chi^2 = 7.64 \text{ } p < .022 \quad \text{Gamma} = .576$					

Again, respondents were asked to evaluate what was important in their decision to leave school by evaluating the relevance of a series of items related to early school leaving (Question 21) and by providing what they considered to be the single most important reason for their decision.

(Question 22). As can be seen from Table 8.20, the single most frequently mentioned reason for leaving school was getting a job and starting to earn money (33 percent). The next most frequently mentioned reason was the feeling that school work was boring and uninteresting. A further 10 percent felt that they had enough schooling when they left high school. Other reasons mentioned with less frequency were the availability of other educational opportunities and difficulty with school work. Numerous other individual reasons (based on two or three responses) were also given as can be seen from the table. The category, Other, included responses that were unique to one individual and the 'don't know' responses.

No differences were found in the main reasons for early school leaving by sex of the student. When the main reasons for leaving school are examined by the program from which the student left, a difference is evident. Students leaving from the four year program are more likely to give as their main reason for leaving school wanting to get a job and starting to earn money, (40 percent as opposed to 17 percent of the students leaving the five year program). The students leaving from the five year program of studies, on the other hand, give as their main reason for leaving school the opportunity to take some other form of training outside of high school, (21 percent, with no students leaving from the four year program giving this response). Ten percent of students leaving the five year program left school either with the secondary school graduation or because they did not have the prerequisite courses for honours study. It should be remembered that, while many of the percentage differences appear quite large, the actual number of cases involved is often small, as can be

seen from the marginals in the tables.⁶

The early school leaver leaving from the five year program was more certain in making his decision and less likely to feel unhappy about it than students leaving from the four year program. He was also less likely to return back to school and, if he did return, it would likely be to the four year program. Of the students who changed to the four year program, 14 percent had left school and returned while only 2 percent of the students who had not changed programs left school and returned. Of the students who left school from a five year program, 10 percent left school and returned while 33 percent of the students leaving from the four year program left school and returned. As shown, particularly in the differences by program, students leaving from the five year program are more characterized by an alienation from high school studies and students leaving from a four year program more by wanting to do what they hoped their program would lead them to more quickly, namely getting jobs and salaries. The fact that more of these four year program leavers return to school suggests that the work and earning opportunities were not what they expected.

The reasons for leaving school were further analyzed by a factor analysis of the evaluations of the importance of the items in Question 21. Six factors were drawn from the items in the Question accounting for 73 percent of the variance. Factor 1 measures the importance of school

⁶See for example, Table 8.21 which presents proportions relating to the significant findings from the factor analysis of items entering into the decision to leave school.

Table 8.20

Main Reasons for Leaving High School before
Program Completion (Interview Sample: Low
SES, High and Medium Mental Ability)

	(percent)
Get a job and start earning money	33
School is boring and uninteresting	18
Satisfied with level of educational attainment	10
Other educational opportunities	10
Found studying difficult; had poor grades	6
Expelled	4
Teachers' strike	2
Parents	2
Poor relations with teachers	2
Marriage	2
Other	10
	99
	(80)

discipline problems. Factor 2 combines the items that measure a low evaluation of the perceived benefits of school. Factor 3 contains the items relating to the financial burden of staying in school. Factor 4 combines the evaluation of the importance of being satisfied with present level of schooling and finding studying difficult. Factor 5 measures the importance of starting an independent family and perceived disinterest of teachers. Factor 6 combined on a single factor the evaluations of the importance of wanting to get a job and starting to earn money.

Respondents tended to evaluate Factors 2, 4 and 6 most frequently as very important. All three tend to measure the perceived costs of staying in school. All six factors tended to have the same proportion of negative evaluations (35 to 40 percent). The greatest differences occur from the differential evaluations of very important or average importance. See Table D.7, Appendix D. The factors were examined separately by the program from which the student left school. Sex was not used as a control variable since no significant difference was found in the main reasons given for leaving school by sex of the student.

The existence of the six factors accounting for over two-thirds of the variance in the Question demonstrates the importance of such things as difficulty with school discipline and financial considerations, as well as the reasons given most frequently as the main reasons for leaving school before completing a program. The first five factors were found to be evaluated in the same way by students leaving from either the five year program or from the four year program. However, as might be expected by the previously noted finding that students leaving from a four year program gave as their main reason for leaving high school getting a job and earning money, more frequently than students leaving from the five year program, Factor 6, evaluating the importance of getting a job and starting to earn money, was found to differ significantly by the program from which the student left. As can be seen in Table 8.21, 44 percent of the students leaving the four year program felt that getting a job and starting to earn money was very important in their decision to leave school. Only 24 percent of the students leaving from the five year program assessed this to be an important consideration. Conversely, 26 percent of the students leaving from the four year program assessed getting a job and starting

to earn money as not important, while 52 percent of the students leaving from the five year program felt this was not an important consideration for them.

Students leaving the four year program tended to be less happy about their decision to leave high school and were more uncertain about the decision at the time they made it. The students leaving the four year program were also more likely to have perceived disagreement from their parents, teachers, counsellors, principal and siblings with their decision than students leaving from the five year program, see Table 8.22. No significant difference was found in the perceived evaluation of friends by the type of school program the student left.

Table 8.21 The Evaluation of the Importance of Getting a Job and Earning Money by Program of Studies Not Completed at the Time of Leaving School (Interview Sample: Low SES, High and Medium Mental Ability)

Leaving from:	Very Important	Average Importance	Not Important	Total (N) (percent)
5 Year Program	24	24	52	100 (29)
4 Year Program	44	30	26	100 (50)

$$\chi^2 = 5.63 \text{ } p < .06 \quad \text{Gamma} = -.424$$

As was the procedure in the analysis of students who changed their program of studies from the five year program to the four year program, further analysis was undertaken to determine how the early school leaver differed from the students who stayed in school. Data on the individual and background characteristics of the respondents collected in the interviews are used as control variables. Because of the important differences found to exist between the student who leaves the five year program of

studies and the student who leaves the four year program of studies, wherever possible the early school leavers will be differentiated by their high school program of studies.

Table 8.22 Perceived Disagreement with the Decision to Leave School by Significant Others by Program of Studies When Leaving School (Interview Sample: Low SES, High and Medium Mental Ability)

Leaving from:	(percent)				χ^2
	5 Year Program	(N)	4 Year Program	(N)	
Parents	52	(14)	74	(35)	2.97 p < .10
School Personnel	52	(13)	76	(28)	2.75 p < .10
Siblings	20	(3)	60	(15)	4.55 p < .03

The same set of variables used in the preceding analysis of students who changed to a shorter program of studies, that describe the student's high school achievement, changes in self-concept of ability, conformity to school discipline standards, involvement in school activities, attitudes to schooling and differences in home environment, are used to examine early school leaving more closely. Some of these hypothesized relationships, such as with school activities and differential position within the lower SES group, were not found to significantly distinguish between students who changed programs from those who did not change programs. Because a disproportionate number of students who changed programs (14 percent of those who changed compared to 2 percent who had not) also left school, it would be expected that some of the same relationships found to differentiate between students who changed programs and those who did not would also

distinguish between students who left school before completing their program of studies from those that stayed in high school. This was, in fact, found to be the case, as the following analysis will show. In addition, measures of relative advantage within the lower socio-economic status group are also found to distinguish somewhat between students who do and do not complete their program of studies.

The high school careers in the following analysis are grouped into four categories - respondents who left before completing the five year program of studies, those who left before completing the four year program of studies, those who have completed their program of studies and left school (almost all completing the four year program) and students that were still in school at the time of the follow-up (largely in Year 5). Table 8.23 presents the breakdown of self-reported school grades and career of high school studies. The multivariate analysis had shown the importance of elementary school grades on the years spent in school. In this table, the relationship between school leaving and school grades is presented for each of the grades in the first four years of high school.

Again, it should be noted that these reported grades are in no way standardized by school, level of difficulty or program. Particularly with respect to school program, the difficulty of the courses in which the students are graded can vary greatly. In the table, the first and fourth lines of each section (one section for each year) are generally based on five year courses and the second and third lines on four year courses. Of course, this distinction is somewhat qualified by students who change from the five year to the four year program at some

point⁷ and students who are in school at the time of the interview but not taking Year 5 studies.

The declining marginal totals in Table 8.23 indicate the numbers leaving school (with some fluctuation for non-response) before completing each year. The findings in Table 8.23 show a close relationship between self-reported school grades and school leaving. For each year, the students who eventually left the five year program before completing it had fewer high grades (over 75 percent) and more low grades (less than 60 percent) scores than students still in school at the time of the study. The same relationship is found for students in the shorter programs. The students who left the four year program had fewer high grade scores and more low grade scores than the students who had completed their studies.

For the students leaving the five year program before completion, the proportions of high grade scorers declined from 37 percent in Year 1 to 13 percent in Year 4 and the proportion scoring from 60 - 65 percent increased from 20 percent in Year 1 to 42 percent in Year 4. The same trend is evident for students leaving the four year program before completion. These students show a particularly high proportion of low scores in Year 3 (31 percent with grades less than 59 percent). By the end of the next year (Year 4) many of these low scorers presumably had left school.

Lower achievement in school relative to others in the same school and program is clearly related to leaving school before the completion of

⁷ Students who left school are included in the category of their last high school program before leaving. Students still in school, regardless of program, are combined in the last category since only a small proportion (12 percent, 17 respondents) were not in Year 5 studies.

of the program. In addition to a report of actual grades, the respondents were asked to evaluate their ability to do school work in comparison to their classmates and their ability to do post-secondary studies. These self-evaluations were compared with similarly reported scores in 1971. As we have seen, students who had changed programs had suffered a significant drop in the self-evaluation of their ability to do post-secondary work but not high school work. Students who did not complete their program of studies were found to also have significantly lower self-concepts of ability to do post-secondary studies but, in addition, somewhat lower self-evaluations of ability to do high school work than they had in elementary school.

The first panel of Table 8.24 gives the change in the student's self-concept of ability in comparison to his classmates. The students who had left school before completing their program of studies have the largest proportion of scores that have decreased and the lowest proportion that remained the same. However, an examination of the table indicates that while the percentage differences are in the expected direction, the differences are not as large as found in the second panel of the table or statistically significant.

The differences between the self-concept of ability to do post-secondary work as measured in 1971 and measured in 1976 show the greatest decrease for students who left school before completing their program, particularly the four year program of studies. Conversely, a larger increase in self-concept of ability to do post-secondary work is seen for students who either completed their program of studies or stayed in high school. This drop in self-concept for early school leavers would be an obstacle which the student out of school would have to overcome if he is to consider further training.

Table 8.24 The Change in Self-Concept of Academic Ability from 1971 to 1976 by High School Careers (Interview Sample: Low SES, High and Medium Mental Ability)

Self-Concept - Comparing to Classmates (percent)					
	Increased	No Difference	Decreased	Total	(N)
Left 5 Year Program	20	37	43	100	(30)
Left 4 Year Program	26	35	39	100	(49)
Completed Program (4 Yr)	27	53	20	100	(70)
In High School	20	44	36	100	(138)

$$\chi^2 = 9.34 \text{ } p < .16 \quad \text{Cramer's } V = .128$$

Self-Concept - to do Post-Secondary Studies (percent)							
	Increased (9 - 3) (2 - 1)		No Difference	Decreased (1 - 2) (3 - 7)		Total	(N)
Left 5 Year Program	15	18	11	37	18	99	(27)
Left 4 Year Program	15	11	6	33	35	100	(46)
Completed Program (4 Yr)	26	23	18	17	16	100	(70)
In High School	19	27	17	26	11	100	(132)

$$\chi^2 = 25.89 \text{ } p < .012 \quad \text{Cramer's } V = .177$$

As was the case for students who changed their program of studies, support was found for the hypotheses linking conformity with school rules to staying in school to program completion. Limited support was found, as well, for the hypotheses linking low integration into school social activities with early school leaving. In fact, our data suggests an important qualification of the link between school leaving and participation

in school social activities.

Students who do not complete their program and who have completed the shorter program tend to have participated in a somewhat greater number of sports activities than students who were still in school at the time of the interviews. This difference is small and not statistically significant. Respondents were also asked how often they participated in such school activities as school dances, school sporting events, school plays and concerts and school fund-raising drives. When the frequencies of participation in these activities were combined in a scale it was found that school leavers, particularly from the five year program, had participated in more of these activities than other students.

As can be seen from Table 8.25, the students still in high school have the largest proportion participating in the modal category. It is the respondents who left the four year program whose participation rates are the most bimodal. The same proportion of these school leavers participate often in the school social activities as those who completed their program of studies. Yet this group also has the largest low participation rate. Frequent reference is made in the literature on early school leaving (or drop-outs) to the finding that the early school leaver does not participate in school social activities. In the case of the lower SES student who leaves the five year program, this is definitely not the case. In fact, the high participation rate in social activities may be associated with a neglect of school studies. Among the lower SES students who left the four year program of studies, however, there is a significant proportion of students who did not often participate in school activities.

Table 8.25 Participation in School Activities by High School Career of the Student (Interview Sample: Low SES, High and Medium Mental Ability)

Participation	1 Sometimes	2	3 Often	Total (percent)	(N)
Left 5 Year Program	16	37	47	100	(30)
Left 4 Year Program	36	26	38	100	(50)
Completed Program	27	34	39	100	(71)
In High School	30	45	25	100	(138)

$$\chi^2 = 11.92 \quad p < .07 \quad \text{Cramer's } V = .144$$

Student deviance is related to the student's high school careers, as can be seen from Table 8.26. Students who leave school before completing their program of studies, either the five year or the four year program, have the highest scores on the deviance scale. If the top two scale categories (4 and 5) are combined, it can be seen that the students who leave the four year program are characterized by the largest proportion not conforming to school norms, 52 percent compared to the next highest, 27 percent for the students who leave the five year program. Students still in high school at the time of the survey had the greatest proportion of students with low scores and the smallest proportion of students with high deviance scores.

The more severe forms of non-conformity in terms of school rules and norms are most likely to result in suspension of the students. Again, as can be seen in the lower panel of Table 8.26, students who left school from the four year program had the highest number of suspensions, followed by students leaving school from the five year program. The lowest number

Table 8.26 The Degree of Deviance from School Norms and Expectations by High School Career of the Student (Interview Sample: Low SES, High and Medium Mental Ability)

	Deviance Scale					(percent)	
	Low	2	3	4	High	Total	(N)
Left 5 Year Program	20	33	20	10	17	100	(30)
Left 4 Year Program	8	14	26	20	32	100	(50)
Completed Program	18	28	33	11	10	100	(71)
In High School	30	30	25	11	4	100	(138)

$$\chi^2 = 42.24 \text{ } p < .001 \quad \text{Cramer's } V = .221$$

	Number of Suspensions			(percent)	
	0	1	2 or more	Total	(N)
Left 5 Year Program	83	7	10	100	(30)
Left 4 Year Program	76	1	8	100	(50)
Completed Program	93	6	1	100	(71)
In High School	97	1	1	99	(138)

$$\chi^2 = 25.31 \text{ } p < .001 \quad \text{Cramer's } V = .210$$

of suspensions was obtained by students still in high school.

The findings in the table show that deviance from school norms and expectations is associated not only with early school leaving but also the program from which the student leaves. The lowest conformity to school

expectations is shown by students leaving the four year program of studies. It is of interest to note that the amount of deviance associated with students who have completed their programs (largely four year) is also higher than that of students still in school - largely five year programs, suggesting an overall lower commitment to conformity with school norms by students in the four year program. However, the greatest deviance is shown by students who leave school before the completion of their program. The association of high deviance with early school leaving is, in part, symptomatic of a discontent with schooling and lack of interest in remaining integrated with the expectations of the school and, in part, a cause of school leaving as in the case of severe discipline problems resulting in suspension or expulsion.

It was hypothesized that early school leavers would tend to place greater emphasis on the costs of more education than the student who stayed in school longer. The evaluations of the costs and benefits of continued education in Question 44 were factor analyzed as described on page 212. As can be seen from Table 8.27, all four factors extracted from the factor analysis of the items evaluating the importance of continued schooling vary in the evaluations given by the early school leavers, students who completed their program or studies who were still in school at the time of the interviews. Again, because of the cross-sectional nature of the interview data, the data only suggests that these differences resulted in a particular decision with respect to school leaving. The data do clearly show that a particular evaluation is associated more with one type of school career than another.

The first factor combines items that are frequently considered positive aspects of continued schooling - improving individual abilities and being with peers. Students still in high school were the most likely

Table 8.27

High School Careers of Students by the Evaluation
of the Importance of Schooling (Interview Sample:
Low SES, High and Medium Mental Ability)

Schooling - Improving Abilities and Being with Peers - Factor 1

(percent)

	Very Important	Average Importance	Not Important	Total	(N)
Left 5 Year Program	24	38	38	100	(29)
Left 4 Year Program	15	46	39	100	(46)
Completed Program	32	30	38	100	(69)
In High School	36	45	19	100	(133)

$$\chi^2 = 17.12 \text{ } p < .01 \quad \text{Cramer's } V = .176$$

Schooling - Personally Restricting - Factor 2

Left 5 Year Program	35	41	24	100	(29)
Left 4 Year Program	41	31	28	100	(46)
Completed Program	28	36	36	100	(69)
In High School	23	31	46	100	(133)

$$\chi^2 = 10.19 \text{ } p < .12 \quad \text{Cramer's } V = .136$$

Schooling - More Learning Outside of School - Factor 3

Left 5 Year Program	48	24	28	100	(29)
Left 4 Year Program	41	35	24	100	(46)
Completed Program	33	36	31	100	(69)
In High School	23	42	35	100	(133)

$$\chi^2 = 10.58 \text{ } p < .10 \quad \text{Cramer's } V = .138$$

Schooling - Financial Burden - Factor 4

Left 5 Year Program	3	66	31	100	(29)
Left 4 Year Program	15	54	31	100	(46)
Completed Program	10	59	31	100	(69)
In High School	20	62	18	100	(133)

$$\chi^2 = 10.48 \text{ } p < .11 \quad \text{Cramer's } V = .137$$

to evaluate these items as very important and the least likely to have evaluated these items as not important. The students who leave school before the completion of their program - particularly in the four year program - are the least likely to evaluate these items as very important.

Students who left school before completing their program of studies were the most likely to consider the personally restricting aspect of school to be very important in considering further schooling (second panel of Table 8.27). Conversely, they were the least likely to evaluate this item as not important. The students still in school were the most likely to evaluate as not important that continued schooling would be personally restricting. Students who left school before completing the four year program of studies were even more likely than the students who left before completing the five year program to evaluate as very important that continued schooling was personally restricting and less likely than students who left before completing the five year program to consider that school provided an opportunity to improve abilities and be with peers.

The students who left school before completing the five year program of studies are the most likely to evaluate as very important the items measuring the opportunities for learning outside high school (third panel of Table 8.24). Students leaving from the four year program were the next most likely to have evaluated this item positively. The students still in school were the least likely to have evaluated the possibility of learning outside of school as very important. In these factors evaluating continued schooling, the students who had completed their program of studies, generally the four year program, tend to fall in between the students who are still in school and the students who had left school before completing their program of studies in their evaluations. The program

of studies not only distinguished the evaluations of students who do not complete their studies but also distinguished the evaluations of students who are about to complete or have already completed their studies.

The fourth factor measures the evaluation of the importance of the financial burden of continued schooling. Contrary to what might be expected, it is the student still in school that is the most likely to evaluate this item as very important and the least likely to evaluate this item as not important. A difficulty in interpreting the responses to this item is the differential in cost for the next year of schooling depending on whether the respondent would be starting post-secondary studies or another year of high school. The students in school are most likely thinking of post-secondary studies while the other respondents are more likely thinking of more high school. For these students the greatest cost would be in foregone wages which appears to be particularly important for students not completing the four year program. This is consistent with the earlier findings that students gave as the main reason for not completing the four year program the desire to get a job and start earning money.

The data were also explored for factors that might further differentiate the lower socio-economic status families in terms of the high school careers of their young people, particularly whether they left high school before completing their program of studies. There was a tendency in the data for early school leavers to come from broken homes but this difference was not found to be statistically significant. Respondents were also asked to evaluate how well they got along with members of their family. Very few young people reported that they did not get along well with their families, resulting in too few cases to allow further analysis.

When students were asked to evaluate how happy they considered their family to be and how much encouragement they received from their family for their studies, significant differences were found by the high school careers followed by the students. Over 70 percent of the respondents evaluated their family as a happy one; however, the higher neutral evaluations and negative evaluations of family harmony are associated with early school leaving (see Table 8.28). Eighty-nine percent of the students still in high school and 90 percent of the students who had completed their studies considered their family to be happy while 72 - 73 percent of the students who had not completed their program considered their family to be happy.

As can be seen from Table 8.29, students who are in school or who have completed their program of studies are more likely to evaluate the help and encouragement they received from their family as positive. These differences as can be seen from the table are not as striking as they are for the negative evaluations. It is the lower SES student who leaves from the five year program who is the most likely to consider his family as unhelpful followed by the students who leave the four year program without completing it. It is of interest that the students who completed their program were the ones that considered their family to be the most helpful.

As was argued in the case of attempting to isolate factors that differentiated students who changed programs from those who did not, the data were examined for variation in early school leaving by factors which measured the position of relative advantage or disadvantage of a family within the lower socio-economic status group. No significant differences

Table 8.28 The Evaluation of Family Happiness by the High School Career of the Student (Interview Sample: Low SES, High and Medium Mental Ability)

Happiness of the family -	Happy	Neither	Unhappy	Total (percent)	(N)
Left 5 Year Program	73	17	10	100	(30)
Left 4 Year Program	72	22	6	100	(50)
Completed a Program	90	7	3	100	(71)
In High School	89	7	4	100	(138)

$$\chi^2 = 13.71 \text{ } p < .04 \quad \text{Cramer's } V = .154$$

Table 8.29 The Evaluation of Family Help and Encouragement with School Work by the High School Career of the Student (Interview Sample: Low SES, High and Medium Mental Ability)

	Helpful	Neither	Unhelpful	Total (percent)	(N)
Left 5 Year Program	67	16	16	99	(30)
Left 4 Year Program	69	25	6	100	(49)
Completed a Program	77	20	3	100	(71)
In High School	72	25	3	100	(138)

$$\chi^2 = 10.60 \text{ } p < .11 \quad \text{Cramer's } V = .136$$

were found in the frequency and type of early school leaving by recent occupational mobility of the father, mother's occupational status or relative position within the lower SES group. However, one measure of

relative disadvantage within the lower SES group that did distinguish, although not strongly, lower SES students who left school from the five year program was the fact that these students did not have a quiet place at home where they could do their home work undisturbed. As can be seen from Table 8.30, 30 percent of the students who left the five year program before completion did not have a quiet place to work in contrast to the 17 percent of the students still in school. It is also the early school leaver from the five year program who was the most likely to perceive his parents as not having helped or encouraged him.

Table 8.30 Presence of a Quiet Place to Study and Work at Home by the High School Career of the Student (Interview Sample: Low SES, High and Medium Mental Ability)

	Yes	No	Total (percent)	(N)
Left 5 Year Program	70	30	100	(30)
Left 4 Year Program	88	12	100	(50)
Completed a Program	76	24	100	(71)
In High School	83	17	100	(138)

$$\chi^2 = 5.205 \quad p < .16 \quad \text{Cramer's } V = .134$$

As can be seen from Table 8.30, the lack of a quiet place to study was of less importance for the four year early school leaver. This finding is consistent with the overall view of the students who left the four year program of studies. This student is less oriented to academic studies but more oriented to practical learning and work experience. This student was less certain and more likely to be unhappy about his decision to

leave school than the student who left the five year program of studies who is more oriented to taking advantage of other learning experiences. Both types of early school leavers were likely to have been doing less well in school and suffered accompanying drops in self-concept of academic ability. However, it is the student who leaves from the four year program of studies who is likely to have been more deviant in school and more likely to be more negative in his evaluations of the benefits of continued schooling. Our data also indicate that it is particularly the lower socio-economic status student who leaves from the five year program who has been most negatively influenced by a lack of encouragement at home and lack of facilities at home from study.

Summary

A sub-sample of the follow-up respondents were interviewed about critical educational career decisions made while they were in secondary school. The sample included all students from low socio-economic status families (scores of 45 or less on the Blisshen scale) who had mental ability scores in the upper two-thirds of the mental ability distribution and lived in the conurbation from Hamilton to Oshawa. Lower socio-economic status students were chosen for interviewing because they generally have lower levels of secondary school attainment.

By design, the analysis of the interview sample controlled the effects of place of residence and mental ability within the set of lower socio-economic status families. Further controls were introduced in the analysis for sex and the student's high school program. From the multivariate analysis in Chapter 6, we know that in the linear model the effects of family socio-economic status on years spent in high school operate

through the student's elementary school achievement, his parents' aspirations and choice of high school program. By restricting the interview sample only to students from lower socio-economic status families, the data provided a means of evaluating sources of variation in educational decision making within the lower socio-economic status group. Further, the interview schedule was designed to obtain data on the attributes that placed the children from lower socio-economic status families at an educational disadvantage.

The analysis in the chapter dealt with three main sections: the reason for the choice of a particular program of studies, why students changed or did not change programs and why students left school before completing their program of studies. Few respondents felt uncertain about their choice of high school program at the time they were making their choice. However, students in the five year program were more likely to be happy about their choice of program at the time of the interview than students who had chosen the four year program of studies. Young people tended to choose the five year program to obtain qualifications for further post-secondary studies while students choosing the four year program placed more importance on getting out of school as quickly as possible and getting qualifications for vocational training or work. Young people who did not finish the five year program, however, were less likely to consider the attainment of qualifications for further post-secondary studies important in their choice of the five year program than the students who stayed in school. Differences were also found between young men and women in their evaluations of the importance of factors entering into the choice of a specific program.

Students who changed their program of studies from the five year

to the four year program and students who decided to stay for five years of high school studies rather than leave at the end of four years were both asked why they had made these decisions. For the students who stayed for the fifth year of high school, the same factors found to be important in their choice of the five year program were found to be important in their decision to stay for the last year of high school - the desire to obtain post-secondary qualifications. Young people who stayed until the final year of high school studies maintained an important continuity in their motivation in choosing high school courses throughout their secondary school careers.

Students who changed to the shorter four year program were likely to have been having difficulty with school work, have significantly dropped in their self-concept of ability to do post-secondary school work, and have higher number of suspensions. These students tended to consider continued schooling as personally restricting and not particularly valuable in improving their abilities or as a means of being with friends.

Students who left school before completing their program of studies were found to vary significantly in terms of the program of studies they were in. Students who left the five year program were more certain about their decision and more happy about their decision than students leaving from the four year program. Students leaving from the five year program were found to have been active in school social activities while students leaving from the four year program were not as active. Both types of school leavers had lower grades, had significantly lower self-concepts of ability than they had in elementary school and had a greater tendency to break school rules and norms; the latter was particularly the case for students leaving from the four year program.

The students who left school from the four year program emphasized the importance of getting a job and earning money. They also evaluated negatively the importance of continued schooling in improving their abilities and being with friends. The students who left the five year program, on the other hand, saw other opportunities outside of high school which included short courses, on-the-job training and community college courses. Both types of school leaving were found to be associated with the perception of the family as unhappy and the family as unhelpful and not offering encouragement with studies. The latter effect was found to be stronger for students leaving the five year program. Students leaving from the five year program, but not the four year program, were also more likely not to complete their studies if they did not have a quiet place to work at home.

The difference by program in the students leaving school before completion is striking. While students leaving from either program were found to have factors in common such as lower grades, lower self-concepts of ability, and lack of family support, the students leaving from the four year program tended to be more deviant, less involved in school social activities and less interested in any further training than students leaving from the five year program. Students leaving from the five year program of studies were determined to leave high school but did not evaluate schooling as negatively as students leaving from the four year program. They were more negatively influenced by lack of family encouragement and lack of a quiet place to study at home than students leaving from the four year program but were leaving school, in many cases, to take advantage of some less academically oriented training opportunity, on-the-job, at a community college or other short courses.

The analysis found many factors to be significantly related to various educational decisions given the controls of the sample design and the student's program of study. However, once the student's program of studies had been controlled, few status-related variables were found to significantly differentiate between the type of educational decisions made by students within the lower status group. The lack of significant findings relating the variance in educational decisions within the lower SES group to other status-related variables controlling for student's place of residence, mental ability and program of studies, provides strong support for the multivariate model as described in Chapter 6, since the effect of social status in the model is found to be an indirect effect on the main dependent variable, years spent in school.

An implication from the lack of significant independent status effects and the support found for the multivariate model is that although the interview respondents were all from lower SES families, as defined on the Blisshen scale, the findings in the chapter are likely more broadly applicable to students from all SES families given the same controls for place of residence, mental ability and program. Given the control of these variables, students from other status groups would likely have similar reasons for choosing a particular program of studies, changing their program of studies or leaving school before the completion of their program. A study of the educational decision-making process of students from other status groups would be an interesting area for further research.

Chapter 9

Conclusion

The research reported in this dissertation was undertaken first to evaluate the extent of inequalities of educational opportunity in Ontario and secondly, to elaborate as fully as possible how these inequalities arose. As the empirical findings have demonstrated, marked inequalities resulting from disadvantaged backgrounds, particularly socio-economic status and language, are still found in the high school attainment of Ontario young people. Family background was found to influence elementary school achievement and the development of educational plans most directly. Socio-economic status continued to be an important influence in secondary school largely as a consequence of its influence on elementary school experiences and learning.

The Ontario Department of Education had made extensive changes in the structure of secondary school programs in an attempt to reduce the rigidities of the program structure and to increase individual opportunities. A formal structure of school programs does not now exist in Ontario schools. However, as the data have shown, students made clear distinctions in their choice of high school courses with the result that high school programs were effectively differentiated in relationship to qualification for Year 5 secondary school studies.

Choices with respect to high school courses are made from the beginning of high school. As was shown in the data analysis, young people who start secondary school with clear post-secondary school expectations are the most likely to stay to do the fifth year of secondary school studies. It is the child from the lower class family who is more likely to have no

the research instrument and the empirical analysis, particularly the ordering of the variables in the multivariate model.

At the end of each chapter presenting the data analysis, is a summary of the main findings reported in the chapter. The main findings of these chapters are not repeated here. However, support was found for the general propositions that linked the circumstances of background and different learning environments with different behaviour in school, formation of different educational plans and finally, differences in choice of high school program and length of time spent in high school. Together these findings provide an understanding of the process of secondary school attainment in Ontario.

The data that were collected form a two part panel. The first time the respondents were surveyed, they were in elementary school. The second time they were surveyed they were completing secondary school. The transition from elementary school to secondary school is a particularly important one for many young people. As the data analysis bears out, the learning that takes place at home and in elementary school continues to have important consequences for schooling decisions in the more structured secondary school.

Most panel studies of educational attainment primarily carried out in the United States, tend to use secondary school students in both parts of the panel. By using elementary school students, the present study has the advantage of insuring a representative sample of all Ontario young people of the same age in 1971 as well as being able to empirically evaluate the importance of the experiences in elementary school on secondary school decisions. Data on a representative sample of young people have allowed the evaluation of the full range of secondary school

plans for post-secondary schooling and more likely not to stay to the end of secondary school. This finding and others with respect to shifts to shorter programs, for example, suggest that the lower class child does not have available to him detailed information on post-secondary opportunities, as well as sufficient encouragement to allow him to more fully maximize on his opportunities.

The provision of more information to young people in elementary school on high school courses and the consequences that would result are functions that could be made part of the elementary school program. Also with a greater awareness on the part of educators of the type of inequalities that result from lack of encouragement and support to youngsters who do not get this at home, the school personnel could make a greater effort to provide more encouragement and support.

In the analysis of the process of educational attainment, the related literature was examined for work that might provide a theoretical basis for the study of educational attainment as well as specific examples of studies that have been carried out in the past. The latter were largely empirical studies that developed empirical models with very little consideration of more general theoretical relationships. The theoretical work of the social interaction theorists was found to be particularly relevant to the study of educational attainment since they present theoretical arguments linking an individual's experiences with the development of attitudes and values leading to behaviour.

From the work of the social interaction theorists, propositions were derived which combined with previous empirical studies of educational attainment, provided the basis for the empirical work carried out in the dissertation. The general propositions served as a guide in structuring

attainment - from the respondents who did not even complete the first year of high school to students who had already completed Year 5 of secondary school studies at the time of the follow-up study.

The sample of students were all residents of Ontario in 1971. The study of this cohort of students is of particular interest since extensive changes in high school programs were made in the late 60's and early 70's. The students sampled in the follow-up study were the first to have spent their entire secondary school careers under the reorganized program structure. As was shown in the data analysis Ontario students in the follow-up sample did stay in school longer particularly to Year 4 than previous cohorts of students. However, as also noted, considerable inequalities were still found to exist by family background and language of instruction.

In the multivariate model of educational attainment a variable not generally included in these models, describing a student's program of studies was included in the analysis. The program variable relates directly to the organization of the courses of studies in Ontario secondary schools. As was shown in the multivariate models, this structural variable is particularly important in understanding the process through which learning at home and in elementary school results in different types of educational decision making that is predictive of the length of time spent in secondary school.

The sample design included more detailed interviews with lower socio-economic status, average and above average mental ability respondents living in the conurbation from Hamilton to Oshawa. These students were interviewed by trained interviewers using both structured and unstructured questions. A great deal more information was obtained from these young people on why they made the particular educational decisions that they did.

The single most striking finding from these interviews, given the

controls for mental ability, residence and program of studies is the consistency that the conclusions drawn from the interviews have with the general multivariate model. A great deal more detail was obtained from the interview sample but few distinctly status related variables were found to be significantly related to secondary school decision making. In addition, given the built-in controls in the sample and the control for program of studies, no differences were found by relative position within the lower class, again consistent with the multivariate analysis. The findings underline the importance of the elementary school experience, particularly for the lower SES students, and the influence this experience continues to have on other educational decision making. 7

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Appendix A

Mail Questionnaire with Covering Letter and
Interview Schedule

OTTAWA CANADA
K1S 5B6

CARLETON UNIVERSITY

DEPARTMENT OF SOCIOLOGY
AND ANTHROPOLOGY

Dear Sir or Madam,

You may recall that when you were in Grade 8 you took part in a study of the occupational and educational plans of Ontario students. We were very grateful for your co-operation at that time and ask you to take a few minutes to help us further.

In the earlier study we asked you about your plans for further schooling. Under a grant from the Ministry of Education we are now trying to study the school careers of Ontario young people. We would like you to help us to determine, by answering these questions, how long Ontario students actually stay in school, the types of school programs they participate in and what their present educational plans are.

We have provided three post-paid questionnaire cards of which we would like you to answer one. If you are still in high school (full or part-time), please answer the green card. If you are taking some other form of schooling or training (full or part-time), please answer the yellow card. If you are now not taking any form of schooling or training, please answer the blue card. You can throw away the questionnaire cards you do not use.

We would appreciate it if you took a few minutes of your time to complete the appropriate questionnaire. Your answers will be kept in the strictest confidence and will never be released so that you can be identified. The number on the questionnaire is to allow us to keep track of our responses and match this response with your earlier response. If you have any questions, please address them to the Research Group, Department of Sociology, Carleton University and we will be happy to answer them.

Thank you very much.

Sincerely,

M. Barrados

M. Barrados, John Porter
and B.R. Blishen.

Note: Parents, if your son or daughter is not at home and cannot be reached by forwarding, would you please fill out the appropriate card for him or her? Thank you.

PLEASE ANSWER THIS CARD IF YOU ARE TAKING NO FURTHER SCHOOLING OR TRAINING

1. What year did you start High School? 197_____

2. When did you last leave High School? _____
month year

3. Did you ever withdraw from High School and re-enroll?

Yes_____ No_____

If yes, when did you leave? _____
month year

When did you re-enroll? _____
month year

4. What was your program of studies before leaving High School?

(e.g. 5 year advanced or general, 4 year general or vocational, 2 year general, vocational or remedial)

5. Did you complete this program of studies? Yes_____ No_____

6. When you left High School, how many credits did you have? _____

7. What grade level have you completed? _____
(9, 10, 11, 12, 13)

8. After you left High School, did you take any further training? Yes_____ No_____

If yes,

What did you study? _____

For how long? _____

What certification did you get? _____

9. What are you doing now? (answer 1 or 2)

1. Working: what kind of work?

(e.g. selling shoes, motor vehicle repairing, metal machining, clerical work, secretarial work)

In what kind of business, industry or service?

(e.g. retail shoe store, armed forces, machine parts manufacturing, medical clinic)

2. Other, please specify. _____

10. Do you plan to take further studies?

Yes_____ No_____

If yes,

When would you start? _____
month year

What would you study? _____

At what school? _____

Completed by:

_____ former student, _____ parent, _____ other

THANK YOU FOR YOUR ASSISTANCE

BUSINESS REPLY CARD
No postage necessary if mailed in Canada
Postage will be paid by

Research Group,
Department of Sociology and Anthropology
Carleton University
Ottawa, Ontario
K1S 5B6

BLUE

PLEASE ANSWER THIS CARD IF YOU ARE TAKING TRAINING OR SCHOOLING NOT IN HIGH SCHOOL.

What year did you start High School? 197_____

When did you last leave High School? _____
month year

Did you ever withdraw from High School and re-enroll?

Yes_____ No_____

If yes, when did you leave? _____
month year

When did you re-enroll? _____
month year

What was your program of studies before leaving High School?

p. 5 year advanced or general 4 year general or vocational,
year general, vocational or remedial)

Did you complete this program of studies? Yes_____ No_____

When you left High School, how many credits did you have? _____

What grade level have you completed? _____
(9, 10, 11, 12, 13)

What are you studying now? _____

How long is this program? _____

Where is this program given?

(name of school or business)

When will you be finished? _____
month year

9. Did you start the above program right after leaving High School?

Yes_____ No_____

If no, what did you do before starting your present studies?

For how long? _____

10. What do you expect to do after you have finished your studies? (answer 1 or 2)

1. Go to work: what kind of work?

(e.g. motor vehicle repairing, metal machining, secretarial work)

In what kind of business, industry or service?

(e.g. armed forces, machine parts manufacturing, medical clinic)

2. Other, please specify _____

11. If you are a part-time student, how much instruction do you have? _____
(hours per week)

Completed by:

_____ student, _____ parent, _____ other

THANK YOU FOR YOUR ASSISTANCE

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Carleton University
Ottawa, Ontario
K1S 5B6

YES

EASE ANSWER THIS CARD IF YOU ARE STILL IN HIGH SCHOOL

What year did you start High School? 197_____

What is the name of the school you would most likely attend?

What is your present grade level? _____
(9, 10, 11, 12 or 13)

Did you ever withdraw from High School?

Yes_____ No_____

If yes, when did you leave? _____
month year

When did you re-enroll? _____
month year

What is your present program of studies?

(e.g. 5 year advanced or general, 4 year general or vocational,
year general, vocational or remedial)

When do you expect to complete
this program of studies? _____
month year

How many course credits do you now have? _____

Do you expect to take further studies after High School?

Yes_____ No_____

When do you expect to start? _____
month year

What would you study? _____

How long would this course be? _____
(years)

8. What do you expect to do after you have completed
all your studies? (answer 1 or 2)

1. Go to work: what kind of work?

(e.g. motor vehicle repairing, secretarial work, work as a lawyer)

In what kind of business, industry or service?

(e.g. armed forces, medical clinic, large law firm)

2. Other, please specify _____

9. If you are a part-time student how
many courses are you taking? _____

Completed by:

_____ student _____ parent _____ other

THANK YOU FOR YOUR ASSISTANCE

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K1S 5B6

GREEN

CARLETON UNIVERSITY

TAWA CANADA
K1S 5B6

MENT OF SOCIOLOGY
ANTHROPOLOGY

Monsieur/ Madame/ Mademoiselle,

Vous vous souviendrez peut-être que, à la fin de votre cours primaire, en 8e année, vous avez pris part à une étude portant sur les projets scolaires et professionnels des étudiants ontariens. Votre coopération nous avait alors été très utile et vous nous rendriez de nouveau service en nous consacrant quelques minutes de votre temps.

Lors de l'étude précédente, nous vous demandions quels étaient vos projets scolaires. Maintenant, à l'aide d'une subvention du Ministère de l'Éducation, nous étudions les carrières scolaires des jeunes ontariens. Nous aimerions que vous nous aidiez, en répondant à un questionnaire, à déterminer combien de temps les étudiants ontariens restent aujourd'hui aux études, les types de programmes scolaires auxquels ils se consacrent et, enfin, quelles études ils entendent poursuivre.

Nous aimerions que vous répondiez à l'un des trois questionnaires ci-joints. Celui de couleur verte, si vous êtes encore à l'école secondaire (à plein temps ou à temps partiel). Ce-lui de couleur jaune, si vous poursuivez un autre type d'études ou de formation (à plein temps ou à temps partiel). Celui de couleur bleu, si vous ne poursuivez plus d'études ni aucun autre type de formation. Veuillez nous retourner le questionnaire auquel vous aurez répondu dans l'enveloppe ci-jointe qui est déjà affranchie et adressée. Vous pouvez vous débarrasser des deux autres questionnaires.

Nous apprécierions beaucoup que vous preniez quelques minutes pour répondre au questionnaire approprié. Vos réponses seront traitées confidentiellement et de telle sorte que, advenant qu'elles entrent dans le cadre d'une publication scientifique, l'on ne puisse vous identifier. Comme lors de l'étude précédente, les questionnaires portent un numéro d'identification; les mêmes numéros ont été attribués aux mêmes individus, ce qui nous permettra d'assortir les réponses. Si vous avez des questions, veuillez contacter le Groupe de recherche, département de sociologie, Carleton University: nous nous ferons un plaisir d'y répondre.

Merci beaucoup de votre coopération.

Très sincèrement,

M. Barrados

M. Barrados, John Porter
and B.R. Blishen

Note aux parents: si votre fils ou votre fille n'est pas à la maison et ne peut être rejoint en faisant suivre, auriez-vous l'obligeance de répondre à sa place au questionnaire approprié? Merci.

1. En quelle année avez-vous commencé l'école secondaire? 197__

2. Quand avez-vous quitté l'école
secondaire pour la dernière fois?

(mois, année)

3. Quelle année aviez-vous complétée?

(9e, 10e, 11e, 12e, 13e)

4. Quelle langue d'instruction employait-on plus souvent à
votre école secondaire?

français, _____ anglais, _____ les deux également

5. Avez-vous déjà interrompu, puis
repris vos études secondaires? _____ oui, _____ non
SI OUI Quand avez-vous laissé l'école? _____
(mois, année)

Quand vous êtes-vous ré-inscrit? _____
(mois, année)

6. Quel était votre programme d'études au moment où vous avez
quitté l'école secondaire?

(par exemple, 5 ans d'études avancées ou générales, 4 ans
d'études générales ou métiers, 2 ans d'études générales ou
métiers.)

7. Avez-vous terminé ce programme d'études? _____ oui, _____ non

8. Quand vous avez quitté l'école
secondaire, combien de crédits aviez-vous? _____

9. Après avoir quitté l'école secondaire,
avez-vous poursuivi d'autres études? _____ oui, _____ non

SI OUI Qu'avez-vous étudié? _____
Pendant combien de temps? _____

Quelle attestation avez-vous obtenue? _____

10. Que faites-vous maintenant? (répondre à 1 ou à 2)

1. Travail: Quel genre de travail?

(par exemple, vente de chaussures, réparation de
voitures, travail des métaux, secrétariat)

Dans quel genre d'entreprise, industrie ou service
travaillez-vous?

(par exemple, magasin de chaussures, forces armées,
usine de pièces de machinerie, clinique médicale),

2. Autre. Veuillez spécifier: _____

11. Avez-vous l'intention de
poursuivre d'autres études? _____ oui, _____ non
SI OUI Quand commenceriez-vous? _____
(mois, année)

Qu'est-ce que vous étudieriez? _____

À quelle école? _____

Questionnaire rempli par: _____
ancien étudiant, _____ parent, _____ autre

MERCI DE VOTRE COLLABORATION

BLUE

1. En quelle année avez-vous commencé l'école secondaire? 197__

2. Quand avez-vous quitté l'école secondaire pour la dernière fois? ____
(mois, année)

3. Quelle année aviez-vous complétée? ____
(9e, 10e, 11e, 12e, 13e)

4. Quelle langue d'instruction employait-on plus souvent à votre école secondaire?

____ français, ____ anglais, ____ les deux également

5. Avez-vous déjà interrompu, puis repris vos études secondaires? ____ oui, ____ non

SI OUI Quand avez-vous laissé l'école? ____
(mois, année)

Quand vous êtes-vous ré-inscrit? ____
(mois, année)

6. Quel était votre programme d'études au moment où vous avez quitté l'école secondaire?

(par exemple, 5 ans d'études avancées ou générales, 4 ans d'études générales ou métiers, 2 ans d'études générales ou métiers.)

7. Avez-vous terminé ce programme d'études? ____ oui, ____ non

8. Quand vous avez quitté l'école secondaire, combien de crédits aviez-vous? ____

9. Qu'est-ce que vous étudiez maintenant? ____

Quelle est la durée de ce programme d'études? ____

Où se donne-t-il? ____
(nom de l'école ou de l'entreprise)

Quand aurez-vous terminé? ____
(mois, année)

10. Avez-vous commencé ce programme d'études immédiatement après avoir quitté l'école secondaire?

____ oui, ____ non

SI NON Qu'avez-vous fait avant d'entreprendre vos études actuelles? ____

Pendant combien de temps? ____

11. Que comptez-vous faire à la fin de vos études?
(Répondre à 1 ou à 2)

1. Travaillez: Quel genre de travail?

(par exemple, réparation de voitures, travail des métaux, secrétariat)

Dans quel genre d'entreprise, industrie ou service?

(par exemple, force armée, usine de pièces de machinerie, clinique médicale)

2. Autre. Veuillez spécifier: ____

12. Si vous étudiez à temps partiel, combien d'heures de cours avez-vous par semaine? ____

Questionnaire rempli par: ____

____ étudiant, ____ parent, ____ autre

MERCI DE VOTRE COLLABORATION

YELLOW

1. En quelle année avez-vous commencé l'école secondaire? 197__

2. En quelle année êtes-vous maintenant? _____

(9c, 10c, 11c, 12c, 13c)

3. Quelle langue d'instruction emploie-t-on plus souvent à votre école secondaire? _____

____ français, _____ anglais, _____ les deux également

4. Avez-vous déjà interrompu vos études secondaires? _____ oui, _____ non

SI OUI, Quand avez-vous laissé l'école? _____

(mois, année)

Quand vous êtes-vous ré-inscrit? _____

(mois, année)

5. Quel est votre programme actuel d'études? _____

(par exemple, 5 ans d'études avancées ou générales, 4 ans d'études générales ou métiers, 2 ans d'études générales ou métiers.)

6. Quand prévoyez-vous terminer ce programme d'études? _____

(mois, année)

7. Combien de crédits avez-vous maintenant? _____

8. Comptez-vous entreprendre d'autres études après l'école secondaire? _____

____ oui, _____ non

SI OUI, Quand comptiez-vous commencer? _____

(mois, année)

Quelles seraient ces études? _____

Quelle en serait la durée? _____

(année)

Quel est le nom de l'école où, selon toutes probabilités, vous poursuivriez ces études? _____

9. Que comptez-vous faire après avoir terminé toutes vos études? (Répondre à 1 ou à 2)

1. Travailler: Quel genre de travail?

(par exemple, réparation de voitures, secrétariat, pratique du droit)

Dans quel genre d'entreprise, industrie ou service?

(par exemple, force armées, clinique médicale, grande firme légale)

2. Autre. Veuillez spécifier: _____

10. Si vous étudiez à temps partiel, combien de cours suivez-vous? _____

Questionnaire remplie par: _____

____ étudiant, _____ parent, _____ autre

MERCI DE VOTRE COLLABORATION

GREEN

June, 1976

PROJECT #189

This is the second phase of a study on the school careers of Ontario young people. The study is being carried out under a grant from the Ontario Ministry of Education by Bernard Blisshen at York University and John Porter and Maria Barrados at Carleton University. Within the past few months we have sent you a short questionnaire by mail asking you about your studies at school and your plans after school.

MAIL QUESTIONNAIRE _____	RECEIVED GO TO A
_____	NOT RECEIVED GO TO B

- A. We very much appreciated your help with our study by having completed the mail questionnaire. At this time we would like to ask you some further questions about the educational choices you made in high school and how you feel about them. Your answers will be kept in the strictest confidence.
- B. Most of these questionnaires have been returned to us; however, we have not yet received yours. It may have been lost or may not have been processed yet. To keep our records complete we would appreciate it if it were completed again for us. I would like to complete it with you and ask you some further questions about the educational choices you made in high school and how you feel about them. Your answers will be kept in the strictest confidence.

RECORD OF CALLS				
	DAY	MONTH	TIME	RESULTS
1				
2				
3				
4				
5				

LENGTH OF INTERVIEW: _____

INTERVIEWER: _____

I.D. Code

1. Are you presently...

... in high school..... 1

... out o high school.....2

2. What is your birthdate?

day, month, year

3. Thinking back to when you first entered high school, what was your program of high school studies...

...a 5 year program of largely advanced courses intended
to take you to Grade 13 graduation. GO TO 4 1

...a 4 year program of largely general courses intended
to take you to Grade 12 graduation. GO TO 14..... 2

...a shorter program of studies; please specify:

GO TO 14..... 3

4. Again thinking back to when you entered high school, were you placed in the 5 year program by your school or did you have the opportunity to choose your own program? Did you have...

... no opportunity to choose.GO TO 8.....1

... some opportunity to choose.....2

... a great deal of opportunity to choose.3

5. How important were the following reasons for your decision to take the 5 year program rather than the 4 year program: were they very important, fairly important, not very important, not important at all?

V.IMP. F.IMP. N.V.IMP. N.IMP.AT ALL

a. You wanted a program that would provide
better opportunities for a good job..... 1 2 3 4

b. Your parents wanted you to take a 5 year
program..... 1 2 3 4

c. You did well in your elementary school
work..... 1 2 3 4

d. You wanted courses that would qualify
you for post-secondary studies..... 1 2 3 4

e. Most of your friends were taking a
5 year program..... 1 2 3 4

f. You liked school..... 1 2 3 4

6. What was the main reason you took the 5 year program rather than a shorter program when you started high school?

7. Thinking back to this decision you made to take a 5 year program, how certain were you at that time about the decision you were making? Would you say you...

...were very certain.....1

...had some doubts.....2

...were very uncertain.....3

8. At the present time do you feel happy or unhappy about starting high school in a 5 year program?

Happy about it.....1

Neither happy nor unhappy...2

Unhappy about it.....3

9. As you progressed through high school did you choose your courses so that you changed your program from a 5 year program to a 4 year program of studies?

Yes..GO TO 10....1

No.. GO TO 20....2

10. How important were the following reasons for your decision to change from a 5 year program of studies to a 4 year program of studies? Were they very important, fairly important, not very important, not important at all?

V.IMP. F.IMP. N.V.IMP. N.IMP.AT ALL

a. Your teacher strongly advised you to change your program..... 1 2 3 4

b. You wanted a program that would more quickly qualify you for a job..... 1 2 3 4

c. Your parents wanted you to take the 4 year program..... 1 2 3 4

d. You were having difficulty with school work..... 1 2 3 4

e. You wanted something more practical..... 1 2 3 4

f. Most of your friends were taking the 4 year program..... 1 2 3 4

g. You wanted to get through high school as quickly as possible..... 1 2 3 4

11. What was the main reason you decided to change to a 4 year program of studies?

2. Thinking back to this decision to change to a 4 year program, how certain were you at that time about the decision you were making? Would you say you...

...were very certain.....1
 ...had some doubts.....2
 ...were very uncertain.....3

13. At the present time do you feel happy or unhappy about your decision to change to a 4 year program?

Happy about it.....1
 Neither happy nor unhappy...2
 Unhappy about it.....3

INTERVIEWER GO TO 19

14. Again thinking back to when you entered high school, were you placed in the (4/3/2) year program by your school or did you have the opportunity to choose your own program? Did you have...

...no opportunity to choose..GO TO 18..... 1
 ...some opportunity to choose..... 2
 ...a great deal of opportunity to choose... 3

15. How important were the following reasons for your decision to take the (4/3/2) year program rather than the 5 year program? Were they very important, fairly important, not very important, not important at all?

V.IMP. F.IMP. N.V.IMP. N.IMP.AT ALL

a. You wanted a program that would most quickly qualify you for a job.....	1	2	3	4
b. Your parents wanted you to take the (4/3/2) year program.....	1	2	3	4
c. You were having difficulty with school work in elementary(public) school.....	1	2	3	4
d. You wanted something practical.....	1	2	3	4
e. Most of your friends were taking the (4/3/2) year program.....	1	2	3	4
f. You wanted to get through high school as quickly as possible.....	1	2	3	4

6. What was the main reason you took a (4/3/2) year program rather than the 5 year program when you started high school?

Thinking back to this decision you made to take a (4/3/2) year program, how certain were you at that time about the decision you were making? Would you say you...

...were very certain.....1
...had some doubts.....2
...were very uncertain.....3

At the present time do you feel happy or unhappy about being in a (4/3/2) year program?

Happy about it.....1
Neither happy nor unhappy...2
Unhappy about it.....3

Did you leave high school before completing your program of studies?

Yes...GO TO 21.....1
No....GO TO 30.....2

Did you leave high school before completing your 5 year program of studies?

Yes...GO TO 21.....1
No....GO TO 26.....2

How important were the following reasons in your decision to leave high school when you did? Were they important, fairly important, not very important, not important at all?

V.IMP. F.IMP. N.V.IMP. N.IMP.AT ALL

a. You wanted to get a job and start earning money as soon as possible.....	1	2	3	4
b. You found school work boring and uninteresting.....	1	2	3	4
c. Your teachers were not interested in you as a person.....	1	2	3	4
d. Your parents did not want you to continue..	1	2	3	4
e. You found studying very difficult.....	1	2	3	4
f. You wanted to do what your friends were doing.....	1	2	3	4
g. School was not teaching you anything useful.....	1	2	3	4
h. Your family could not afford to keep supporting you while you went to school....	1	2	3	4
i. You had trouble getting along with your teachers.....	1	2	3	4
j. You found school too strict.....	1	2	3	4

(continue to next page)

4 OF 4

V.IMP. F.IMP. N.V.IMP. N.IMP. AT ALL

- k. You were satisfied with the amount of schooling you had..... 1 2 3 4
- l. You planned to get married or set up your own household..... 1 2 3 4

m. What was the main reason you left school when you did?

n. Thinking back to this decision to leave school, how certain were you at that time about the decision you were making? Would you say that you...

- ...were very certain.....1
- ...had some doubts.....2
- ...were very uncertain.....3

o. At the present time do you feel happy or unhappy about your decision to leave high school?

- Happy about it.....1
- Neither happy nor unhappy...2
- Unhappy about it.....3

p. How did the following people feel about your decision to leave high school before completion? Did they strongly agree, agree, disagree or strongly disagree?

	Strongly Agree	Agree	Disagree	Strongly Disagree	Inapp
Father.....	1	2	3	4	5
Mother.....	1	2	3	4	5
Teachers.....	1	2	3	4	5
School principal or vice-principal.....	1	2	3	4	5
School guidance counsellor	1	2	3	4	5
Close friends.....	1	2	3	4	5
Brothers or sisters.....	1	2	3	4	5

q. Were there any others whose opinions were important to you? Who were they?

r. How did they feel about your decision?

Who would you say influenced you the most in your decision to leave high school?
(If self, probe: any other person?)

INTERVIEWER GO TO 30

6. You could (have left/leave) school with a secondary school graduation diploma after finishing Grade 12. How important (were/are) the following reasons in your decision to continue to Grade 13 and work for an honours graduation diploma? Were they very important, fairly important, not very important, not important at all?

V.IMP. F.IMP. N.V.IMP. N.IMP.AT ALL

a. You found school work interesting.....	1	2	3	4
b. Most of your friends stayed to Grade 13....	1	2	3	4
c. Your parents wanted you to continue.....	1	2	3	4
d. You wanted to go to university or other post-secondary training that required Grade 13.....	1	2	3	4
e. You thought you would have better opportunities for a good job.....	1	2	3	4
f. You enjoyed school and did not want to leave.....	1	2	3	4
g. You wanted to complete your course of studies.....	1	2	3	4
h. You were encouraged to continue to Grade 13 by your teachers.....	1	2	3	4

7. What was the main reason you continued to Grade 13 rather than leaving high school at the end of Grade 12?

8. Thinking back to this decision you made to continue to Grade 13, how certain were you at that time about the decision you were making? Would you say you...

...were very certain.....1
 ...had some doubts.....2
 ...were very uncertain.....3

9. At the present time do you feel happy or unhappy about your decision to continue to Grade 13?

Happy about it.....1
 Neither happy nor unhappy....2
 Unhappy about it.....3

ASK EVERYONE:

How do/did the following people feel about your choice of high school program?
Did they strongly agree, agree, disagree or strongly disagree?

	Strongly Agree	Agree	Disagree	Strongly Disagree	Inapp.
Father.....	1	2	3	4	5
Mother.....	1	2	3	4	5
Teachers.....	1	2	3	4	5
School principal or vice-principal...	1	2	3	4	5
School guidance counsellor.....	1	2	3	4	5
Close friends.....	1	2	3	4	5
Brothers or sisters.....	1	2	3	4	5

1a. Were there any others whose opinions were important to you? Who were they?

1b. How did they feel about your decision?

Who would you say influenced you the most in your choice of high school program?
(If self, probe: any other person?)

3. Can you remember what most of your marks or grades were in your last year of elementary school and in each of your high school years?

- Mostly 75% and over or A's and B's or 1's and 2's.....1
- Mostly 66%-74% or B's and C's or 2's and 3's.....2
- Mostly 60%-65% or C's and D's or 3's and 4's.....3
- Mostly 50%-59% or D's and E's or 4's and 5's.....4
- Mostly under 50% or E's or 5's.....5

Year of School	Grades or Marks
Grade 8	
1st year of high school (grade 9)	
2nd year of high school (grade 10)	
3rd year of high school (grade 11)	
4th year of high school (grade 12)	
5th year of high school (grade 13) (to present)	

Forget how others have graded your school work. In your opinion, how good do you think your school work is now/was in your last year in high school?...

- ...my work is/was excellent.....1
- ...my work is/was good.....2
- ...my work is/was average.....3
- ...my work is/was below average.....4
- ...my work is/was much below average..5

Do you think you have the ability to complete university now?...

- ...yes, definitely.....1
- ...yes, probably.....2
- ...not sure either way..... 3
- ...probably not.....4
- ...no.....5

Where do you think you would rank in your class at university?...

- ...among the best.....1
- ...above average.....2
- ...average.....3
- ...below average.....4
- ...among the poorest.....5

In order to become a doctor, lawyer or university professor, work beyond four years of university is necessary. How likely do you think it is that you could complete such advanced work?...

- ...very likely.....1
- ...somewhat likely.....2
- ...not sure either way.....3
- ...unlikely.....4
- ...most unlikely.....5

How many high school sports activities such as football, basketball and others did you participate in (this year)/(in your last year of school)?

How many high school clubs and activities such as the school newspaper, glee club and others did you participate in (this year)/ (in your last year of school)?.....

10. (In this year)/(In your last year) of high school did you participate often, sometimes or never in the following school activities?...

	Often	Sometimes	Never
...school dances.....	1	2	3
...school sporting events.....	1	2	3
...school plays and concerts.....	1	2	3
...helping the school raise money (e.g. selling chocolate bars, carwashes, etc.).....	1	2	3

11. Schools make many rules about how students should behave. Students do not always find these rules easy to obey, particularly in the earlier grades. We are interested in how you did. Would you tell me whether you did the following things in your high school years, almost always, often, sometimes, seldom, never.

	Almost Always	Often	Some- times	Seldom	Never
a. Arrived late at school.....	1	2	3	4	5
b. Skipped classes.....	1	2	3	4	5
c. Turned in sloppy or incomplete assignments.....	1	2	3	4	5
d. Gooled-off in class.....	1	2	3	4	5
e. Did you best work in school.....	1	2	3	4	5
f. Came to class unprepared.....	1	2	3	4	5
g. Did things that you know would make the teacher angry.....	1	2	3	4	5
h. Smoked in unauthorized places.....	1	2	3	4	5
i. Skipped a day in school without a real excuse.....	1	2	3	4	5
j. Got detentions.....	1	2	3	4	5
k. Got extra work or assignments from your teachers as punishment.....	1	2	3	4	5
l. Been asked to bring your parents to school because of your behaviour.....	1	2	3	4	5

12. Have you ever been suspended from school?

No.....0

Yes.....1 How many times?

How helpful did you find the guidance counsellor at your school in making your educational plans?...

...very helpful.....1

...helpful.....2

...very little help.....3

...no help at all.....4

Various factors influence an individual's decision about the length of time he/she plans to spend in schools such as high schools, community colleges or universities. In thinking about your decision about the length of time you/ would stay/stayed/ in schools, how do the following statements represent your thoughts about the positive and negative aspects of staying in school. Would you say you strongly agree, agree, disagree or strongly disagree?

Strongly Agree Agree Disagree Strongly Disagree

a. More schooling would make it possible to learn more about things you think are important.....1

2 3 4

b. More schooling would give you a chance to be with people your own age and do a lot of things that are fun.....1

2 3 4

c. Everyday experiences would teach you more about understanding people than more schooling would.....1

2 3 4

d. More time in school would reduce your independence.....1

2 3 4

e. More schooling would make it easier to get a good job.....1

2 3 4

f. More schooling would be boring.....1

2 3 4

g. More schooling would be a waste of time since the things you learn outside of school are more useful than the things you learn in school.....1

2 3 4

h. More schooling would be a financial burden for your family.....1

2 3 4

i. More schooling would give you a chance to improve your abilities to think and solve problems.....1

2 3 4

j. You can learn more from a very good job, that you could get now, than you could from more schooling.....1

2 3 4

.. What (did/do) you personally like most about your time in high school?

5. What (did/do) you personally dislike most about your time in high school?

NOW SOME QUESTIONS ABOUT HOW YOU GET/GOT ALONG WITH YOUR FAMILY AND FRIENDS (WHEN YOU WERE IN HIGH SCHOOL)

7. (Are you now)/(When you were in high school were you) living with...

...both father and mother.....1

...mother but not father.....2

...father but not mother.....3

...neither father nor mother.....4

8. (When you were in high school) Would you say that you personally get on very well, well, or not at all well with other members of your family?...

Very Well Well Not well Inapp.

...how about your father?.....1 2 3 4

...how about your mother?.....1 2 3 4

...your brother(s)?.....1 2 3 4

...your sister(s)?.....1 2 3 4

9. (When you were in high school) How happy would you say your family is/was? Would you say your family is/was...

...very happy.....1

...happy.....2

...neither happy or unhappy...3

...unhappy.....4

...very unhappy.....5

7. Some people find that their families encourage them to do well at school and help them to develop their abilities to do school work. Others find their families discourage them and are not very helpful. How helpful and encouraging has your family been in developing your school abilities? Would you say they have been...

...very helpful.....1
...helpful.....2
...neither helpful nor unhelpful....3
...unhelpful.....4
...very unhelpful.....5

1. (When you were in high school, was there)/(Is there) a quiet place in your home where you could do your studying and homework undisturbed?

Yes.....1

No.....2

2. How many books are there in your home? (Parents' home if respondent is living away.)...

...a few (0-25).....1
...one bookcase full (26-100).....2
...two bookcases full (100-250)....3
...three or more bookcases full
(251+).....4

3. Is your father...

...presently employed?.....1
...temporarily unemployed?.....2
...retired?.....3
...not living?.....4
...I don't know.....5

4. What is (was) your father's job or occupation? (If he is unemployed, has retired or is deceased, record what he used to do.)

What does (did) he do?

(e.g. he operates a punch press)

In what kind of business industry of service?

(e.g. in a metal shop)

During most of your high school years did your mother have a job outside the home?

...Yes, full-time job.....1
...Yes, part-time job.....2
...No, not working..GO TO 57...3

5. What kind of work did she do? _____
(e.g. keypunch operator)

In what kind of business, industry or service? _____
(e.g. in a bank)

NOW ABOUT YOUR FRIENDS

7. Thinking of your two best friends, how far have they gone in high school?

	First friend	Second friend
Still in high school at Grade _____	 Grade _____	GO TO 58
(record grade)		
Left high school after completing..... Grade _____	 Grade _____	GO TO 59
(record grade)		

8. What would they like to do after high school? (code one choice for each friend)

	First friend	Second friend
Go to work.....	1	1
Go into apprenticeship or to a private commercial, business or trade school.....	2	2
Go to a community college.....	3	3
Go to university.....	4	4
Other, please specify _____		

INTERVIEWER GO TO 60

9. What are they doing now?

	First friend	Second friend
Working, with no further training after high school.....	1	1
Working, after having taken some training after high school.....	2	2
Taking further training at a community college.....	3	3
Going to university.....	4	4
Unemployed.....	5	5
Looking after a household.....	6	6

10. INTERVIEWER: IF IN SCHOOL, TERMINATE THE INTERVIEW
IF OUT OF SCHOOL, CONTINUE

Are you at present...

- ...working full-time.....1
- ...working part-time.....2
- ...looking for work...GO TO 63.....3
- ...other, specify GO TO END

1. What sort of work do you do? _____

In what kind of business, industry or service? _____

2. On the whole would you say that your job is...

- ...really interesting and enjoyable.....1
- ...all right but not very interesting.....2
- ...dull and monotonous.....3

INTERVIEWER TERMINATE INTERVIEW

3. What sort of work are you looking for? _____

In what kind of business, industry or service? _____

THANK YOU VERY MUCH

Appendix B Types of Response and Non-Response to the
Follow-Up Study

Because all the sample students in the 1976 follow-up study had completed a lengthy questionnaire in 1971, it is possible to evaluate the differences in respondents to the various waves of response appeal (first mailing of the questionnaires, second mailing of the questionnaires and telephone or interview contacts). Furthermore, it is possible to evaluate whether the respondents to the follow-up study are representative of the original sample of students.

In most cases, a lack of response to any of the appeals is the result of being unable to contact the student or his parents. A great deal of effort was devoted to locating the 1976 addresses of sample students. Numerous checks were made of telephone and city directories to obtain current addresses and for some student addresses that were clearly outdated, schools were asked for assistance. It is difficult to clearly distinguish the various types of non-response to the mail questionnaire. Non-response could be the result of a lack of interest, possible refusal or non-contact. Non-contacts could not be distinguished from non-responses since our mailings took place shortly after a rather lengthy postal strike; mail that did not reach its destination was not consistently returned.

The final effort to obtain responses by telephone involved many attempts to contact students or their parents over a six-week period of time at different times of the day. The number of refusals to the telephone appeal was negligible (less than ten) and the students or their parents for whom we did not obtain responses could not be contacted by telephone at that time. Students slated for interviewing who had not completed the

mail questionnaire were asked to complete it at the time of the interview.

In an evaluation of the possible biases that can occur in a panel study, Sobol¹ gives the following main sources of bias: 1) particular groups of people are more likely to drop-out of the sample than other, selective "panel mortality", 2) repeated surveying may result in changes in attitude, "repeated interviewing effects", 3) particular changes in attitude may result in dropping-out of the study, a form of "panel mortality" that cannot be distinguished from "repeated interviewing effects", 4) repeated surveying with the same interviewer may result in changes because of the interviewer, "interviewer effect".

Since the members of our panel were only contacted two times over a period of five years with only a small proportion contacted personally by an interviewer, changes in attitudes resulting from repeated surveying or from contact by the same interviewer are not likely a source of bias for the Grade 8 follow-up. Bias in the follow-up sample is more likely to have occurred because of selective panel mortality.

In a review of studies that have evaluated the earlier respondents of a panel study who have left the panel, Sobol (1959) concludes that there is a greater tendency for people who originally were uncertain in their responses and who were not interested in the subject matter to leave the panel. In his own evaluation of a panel of 1,358 urban addresses interviewed five times over two years and eight months, Sobol found that the final sample differed little in demographic characteristics (such as

¹Marion Gross Sobol, "Panel Mortality and Panel Bias", Journal of the American Statistical Association, 54, pps. 52-68, 1959.

place of residence, age, education and occupation) since changes in these characteristics occur in an offsetting manner. The final panel was found to differ significantly on interest and information on the subject matter of the survey, in this case, consumer durable goods purchases and knowledge about current economic happenings.

Evaluations of the two previous follow-up studies at Carleton University of the Blishen Porter Education² Study of the Grade 12 students surveyed in 1971 and recontacted in 1972-3 and the Grade 10 students surveyed in 1971 and recontacted in 1973-4, showed that there was a significant difference in the characteristics of the students responding to different questionnaire waves of appeal but little difference between respondents and non-respondents. For the Grade 12 follow-up no significant differences were found between respondents and non-respondents and for the Grade 10 follow-up some significant differences were found reflecting extremely low associations (Cramer's V ranging from .0 to .02).

Differences in Wave of Response

The individual's decision to respond to the first or second mailing of a questionnaire or provide similar information on the telephone can

² Barbara Lane, "Notes on Responses and Non-Responses to the Follow-up Study", Appendix C in Hugh A. McRoberts, "Follow-up of Grade 12 Students from the Blishen-Porter Study of Educational Aspirations: A Report to the Council of Ontario Universities", mimeographed, Carleton University, 1973; Barbara Lane, "Notes on Response and Non-Response to the Grade 10 Follow-up Study", Appendix to Maria Barrados, "A Preliminary Report of Some Findings from the Follow-up of the Grade 10 Blishen-Porter Cohort of Ontario High School Students", mimeographed, Department of Sociology, Carleton University, 1974.

involve factors related to the content of the questionnaire, the style of the questionnaire, style of approach or an individual's reactions to the sponsoring agency. None of these sources of response variation or respondent bias can be evaluated with our data. Our data does provide, however, a means for testing the relationship between wave of response and respondent interest and commitment to schooling and background characteristics.

In the previous evaluations of respondent variation, it was found that characteristics that are indicative of increased knowledge, identification or commitment to schooling were associated with a greater likelihood of response to earlier waves of appeal.³ A current involvement with some form of schooling at the time of the questionnaire response was also found to be related to an earlier response. For both follow-ups, little significant association was found between the respondent's background characteristics and response to questionnaire wave of appeal.

The specific variables used to test these differences were the background variables of student's sex, age, mental ability, place of residence (urban or rural), family's socio-economic status, and parents' education and the school related variables of student academic achievement, self-concept of academic ability, expected future achievement, school program, level of educational aspirations and level of educational expectations. All these variables had been measured in 1971.

For the Grade 8 follow-up a similar test for the relationship between type of questionnaire response and selected background and individual characteristics show that not only are variables indicating interest in

³Lane, op.cit.

schooling significantly related to type of response but also the variables indicating differences in background vary significantly by type of response. For previous follow-ups the tested relationships found to be significant were weak (Cramer's $V \leq .05$), the same variables for the Grade 8 sample were related much more strongly (Cramer's V from .03 to .241).

Table B.1 summarizes the tests for statistical significance and strength of association between selected characteristics and type of response for the English and French samples of the Grade 8 follow-up. Because of the difference in French and English sample size, a level of significance of .001 was used for the English sample and .05 for the French sample, an examination of the contingency tables shows a trend in the French sample tables similar to the statistically significant relationships for the English sample. It would appear that the smaller number of statistically significant findings for the French sample in relationship to the English sample is, in part, an artifact of sample size rather than a basic difference in the type of responses obtained from the two samples.

Table B.1 provides the results of the Chi-Square test of statistical significance between wave of response appeal and the selected background or individual characteristics and the measure of the strength of association found between the two variables. Since all the tables generated to calculate the statistics for Table B.1 are of the same form, only one sample table has been presented in full, see Table B.2.

Table B.2 presents the distribution of the sample students' Grade 7 grades for each of the three waves of appeal for each of the two samples. An examination of the table shows that students with high early academic achievement (75 percent and over) in the French and English samples were most likely to respond to the first mailing of the questionnaire. This

Table B.1

The Association between Wave of Response
Appeal and Selected Background and
Individual Characteristics

Selected Variables	ENGLISH Type of Response ¹		FRENCH Type of Response	
	X ²	Cramer's V (p ≤ .001)	X ²	Cramer's V (p ≤ .05)
1. Sex	+	.110	+	.213
2. Age	+	.123	+	.191
3. Mental Ability	+	.080	0	
4. Urban Rural	0		0	
5. Father's Occup. (71 Blishen)	+	.092	0	
6. Father's Education	+	.091	0	
7. Mother's Education	+	.085	0	
8. Grade 7 Ac. Achieve- ment (school reported)	+	.185	+	.239
9. Grade 8 Expected Achievement	+	.145	0	
10. Self-Concept of Ac. Ability	+	.102	+	.137
11. Expected High School Program	+	.103	0	
12. Desired Grade to Leave School	+	.128		.199
13. Aspirations after School	+	.116	0	
14. Expected Grade to Leave School	+	.131	0	
15. Expectations after School	+	.109	+	.195
16. Actual Program	+	.180	+	.158
17. Grade Completed	+	.241	+	.300
18. Type of 1976 Activity	+	.235	+	.275

+ X² indicates a significant X²; 0 X² indicates a non-significant X².

¹Type of response refers to the responses obtained through the first mailing, the second mailing or telephone calls and interviews. The partial information received from the schools is not included.

Table B.2

Grade 7 Academic Achievement (School Reported)
by Wave of Response Appeal

	ENGLISH (percent)		
	1st Mailing	2nd Mailing	Phone & Interviews
75+	46	32	19
66 - 74	28	32	32
60 - 65	18	24	30
50 - 59	7	12	16
- 50	1	-	3
	<hr/> 100	<hr/> 100	<hr/> 100
	(1037)	(455)	(698)

$\chi^2 = 144.28$ with 8 degrees of freedom
significant at less than .0001

Cramer's V = .18535

	FRENCH (percent)		
	1st Mailing	2nd Mailing	Phone & Interviews
75 +	55	34	25
66 - 74	7	14	10
60 - 65	27	29	26
50 - 59	7	15	26
- 50	4	8	13
	<hr/> 100	<hr/> 100	<hr/> 100
	(105)	(59)	(88)

$\chi^2 = 28.68$ with 8 degrees of freedom
significant at less than .0004

Cramer's V = .23855

same group was also more likely to reply to the second mailing of the questionnaire with the result that a lower proportion of these responses were collected by telephone. The lower early achievement students (less than 65 percent for the French sample) were least likely to respond to the first mailing of the questionnaire, somewhat more likely to reply to the second mailing of the questionnaire but were the group whose responses were disproportionately obtained by telephone.

Not only does the table demonstrate a significant difference for the academic achievement groups across the three waves of appeal but also a marked relationship between the three waves of appeal. A high proportion of responses on the first wave is associated with a somewhat lower proportion of responses on the second and the lowest proportion of responses on the third wave. The converse also holds, a low proportion of responses on the first wave is associated with a somewhat higher proportion of responses on the second wave and the highest proportion of responses on the third wave. The χ^2 statistics demonstrate that this association is statistically significant at less than the .0001 level for the English sample and at less than the .0004 probability level for the French sample with an associated measure of strength of association of .185 for the English sample and .239 for the French sample.

The relationship between the background and individual characteristics and response wave and the relationships between response waves were found for all the statistically significant relationships listed in Table B.1. Some elaboration is needed on the direction of the relationships summarized Table B.1. School related variables were hypothesized to be positively related to wave of response appeal, a high interest, commitment or involvement in schooling would be associated with an early response.

For the English sample, the summary statistics support the presence of positive relationships between early academic achievement, expected academic achievement, academic self-concept, high school program (five-four year), desired grade to leave school, aspirations after school (work, other post-secondary, university), expected grade to leave school, expectations after school (work, other post-secondary, university), actual high school program (five-four year), grade completed and present activity (work, high school, post-secondary studies) and wave of response to support the hypothesis.

For the French sample only a subset of these variables were found to be statistically significant in relationship to response wave. Significant relationships were found with Grade 7 achievement self-concept of academic ability, desired grade to leave school, actual program, grade completed and type of 1976 activity. The French sample shows a similar trend with respect to response wave as the English sample but because of sample size many of these relationships are not statistically significant.

For the background variables, those characteristics traditionally associated with a greater interest, knowledge or commitment to schooling, these were hypothesized to be positively associated with an early response. In terms of the specific variables that were used to test this hypothesis, females would be more likely to provide an early response as would younger students (more likely to be high achievers), high mental ability students, students from urban as opposed to rural schools, students from higher socioeconomic status families and students whose parents had higher levels of education. The statistics in Table B.1 support this hypotheses for the English sample for all the above background characteristics but urban-rural school. For the French sample, only the relationships between response

wave and sex and response wave and age were found to be statistically significant.

Response and Non-Response

While an analysis of the variations in response to different response waves has substantial methodological interest, particularly as it justifies the additional cost and effort in undertaking several response appeals, the potential response bias arising out of the difference between respondents and non-respondents is of the most direct consequence to the interpretation of the follow-up results.

In general, the analysis of response bias to mail questionnaires has demonstrated that mail questionnaires without some form of interview follow-up usually result in a biased sample.⁴ These reports in the literature and the experience of two other Carleton follow-up studies resulted in the incorporation of a telephone wave of appeal after the mailing of questionnaires to non-respondents to attempt to avoid a biased response. Based on the same general propositions used to evaluate variation in response to different waves of appeal, the difference between respondents and non-respondents is tested in Table B.3. In this case, we clearly do not have data available on the current activities and educational attainment.

Unlike the findings from the previous follow-ups of the Grade 12's and 10's, which showed little significant difference between respondents and non-respondents in background and school related characteristics, the

⁴ Leslie Kish, Survey Sampling, New York: John Wiley and Sons, Inc., 1969.

differences between respondents and non-respondents for the Grade 8 follow-up are particularly significant for a subset of the variables. As can be seen from Table B.3, only a few background characteristics significantly distinguish between respondents and non-respondents - higher age being significantly associated with non-response for the English sample and higher age and lower socio-economic status being significantly associated with non-response for the French sample. However, the school related variables are more consistently related to non-response, particularly for the English sample. As had been previously hypothesized for type of response, a positive orientation or involvement in school increased the likelihood of a response as opposed to a non-response. For the French sample, the same general support is found for the hypothesis with five out of the eight school variables demonstrating a statistically significant relationship with a response as opposed to a non-response.

The minimal extent of the response bias in terms of the background characteristics is consistent with previous experience and findings in the literature that "panel mortality" effects cancel each other out on demographic variables. The presence of a marked response bias in terms of school related characteristics was somewhat surprising since the previous two follow-ups did not find this type of bias and our non-respondents are, in effect, non-contactables who despite persistent attempts at telephone follow-up could not be contacted or located. Lack of coverage on the follow-up then is found to be associated with lower levels of interest and commitment to schooling.

The findings from Table B.1 indicated that responses obtained in the telephone appeal were also more likely to reflect a lower commitment and

Table B.3 The Association between Response and Non-Response
and Selected Background and Individual Characteristics

Selected Variables	ENGLISH		FRENCH	
	Response/Non-Response		Response/Non-Response	
	χ^2	Cramer's V	χ^2	Cramer's V
	(p	.001)	(p	.05)
1. Sex	0		0	
2. Age	+	.15	+	.19
3. Mental Ability	0		0	
4. Urban-Rural	0		0	
5. Father's Occup. (71 Blishen)	0		+	.21
6. Father's Educ.	0		0	
7. Mother's Educ.	0		0	
8. Grade 7 Ac. Achieve- ment (school reported)	+	.16	+	.17
9. Grade 8 Expected Achievement	+	.14	+	.18
10. Self-Concept of Academic Ability	+	.13	+	.16
11. Expected High School Program	+	.12	0	
12. Desired Grade to Leave School	+	.13	+	.20
13. Aspirations after School	+	.13	0	
14. Expected Grade to Leave School	+	.17	+	.17
15. Expectations after School	+	.13	0	

+ χ^2 indicates a statistically significant χ^2 ; 0 χ^2 indicates a χ^2 found not to be statistically significant.

interest to school. If lack of coverage is similarly related to interest in schooling, an important consideration in evaluating the results of the follow-up survey is whether the non-respondents are significantly different in terms of background and school related characteristics from the respondents who completed the questionnaire by telephone or by interview.

Table B.4 examines the difference between respondents who were surveyed by telephone or by interviewers and non-respondents on the same background and school related characteristics examined in Tables B.1 and B.3. With one exception, expected Grade 8 achievement for the French sample, no statistically significant differences were found between the telephone and interview respondents and the non-respondents (see Table B.4).

Concluding Remarks

In the examination of findings from an unadjusted form of the follow-up sample, it must always be remembered that the sample is biased towards a more positive school interest and commitment, particularly as measured by academic performance, educational attainment, aspirations and expectations. The fact that the class of respondents who replied to the questionnaire by telephone or at the time of the interview is statistically similar to the non-respondents provides a relatively straightforward basis for correcting the bias in the sample.

In the English sample, 626 responses were obtained by telephone or at the time of the interview and 520 responses were not obtained. A weighting factor of 1.83, applied to the telephone respondents, should effectively eliminate the observed sample bias for the English sample. Similarly, for the French sample, 88 responses were obtained by telephone and 82 responses were

Table B.4 The Association between Telephone and Interview¹
 Respondents and Non-Respondents with Selected
 Background and Individual Characteristics

Selected Variables	ENGLISH		FRENCH	
	Telephone & Interview X^2 (p	Cramer's V .001)	Telephone & Interview X^2 (p	Cramer's V .05)
1. Sex	0		0	
2. Age	0		0	
3. Mental Ability	0		0	
4. Urban-Rural	0		0	
5. Father's Occup. (71 Blisshen)	0		0	
6. Father's Ed.	0		0	
7. Mother's Ed.	0		0	
8. Grade 7 Ac. Achievement (school reported)	0		0	
9. Grade 8 Expected Achievement	0		+	.26
10. Self-Concept of Academic Ability	0		0	
11. Expected High School Program	0		0	
12. Desired Grade to Leave School	0		0	
13. Aspirations after School	0		0	
14. Expected Grade to Leave School	0		0	
15. Expectations after School	0		0	

+ X^2 indicates a statistically significant X^2 ; 0 X^2 indicates a X^2 found not to be statistically significant.

¹ Refers to those respondents who completed the mail questionnaire at the time of the interview because they had not responded to either of the two mailings.

not obtained. A weight factor of 1.93 can also be applied to the telephone respondents to remove the observed bias.

Appendix C The Scaling of Occupations for 1976 Interview Sample:
A Methodological Note.

The sample for interviewing was obtained by selecting all students who had lower socio-economic status scores (less than 45 on the 1961 Blishen scale), were in the upper two-thirds of the distribution of mental ability scores and lived in the conurbation from Oshawa to Hamilton. The sample, of course, was further restricted to those students who could be located in 1971 and were willing to be interviewed. On the basis of these criteria, 289 interviews were obtained.

For the 1971 survey the parental occupations of the respondent were coded on the four digit CCDO scale (The Canadian Classification and Dictionary of Occupations) and the 1961 Blishen scale. The Blishen scale¹ assigns each occupation an occupational status score based on the mean education and income of incumbents of the occupation and prestige ranking of the occupation. The mean education and income scores were obtained from Census data. At the time of the 1971 survey only a 1961 Blishen scale was available. By the time of the follow-up survey, the 1971 scale had been constructed and the survey CCDO scores were converted to 1971 Blishen scores.²

¹B.R. Blishen, "A Socio-economic Index for Occupations in Canada", Canadian Review of Sociology and Anthropology, 4 (1), 41-53, 1967.

²The Blishen scale is calculated using Census data. The 1961 scale used 1961 Census data and the 1971 scale, 1971 data. Since the father's occupation of our respondents was first measured in 1971 and again in 1976 for the interview sample, it was felt the more recent scale based on 1971 data was more appropriate. Details of the 1971 scale can be found in: B.R. Blishen and Hugh A. McRoberts, "A Revised Socio-Economic Index for Occupations in Canada", Canadian Review of Sociology and Anthropology, 13:1, 71-79, Feb. 1976.

Although a high correlation was found between the two scales,³ some occupations moved several points between scales largely because of disproportionately higher wage settlements obtained by some occupational groups. Firefighters, for example, were scored 35 in 1961 and 51 in 1971. Furthermore, some broad occupational categories such as managerial groups had a range of 1961 scores (from 40 to 64) which were only scored the higher score in 1971.

The interview sample was specifically defined as lower socio-economic status in 1971 by the 1961 Blishen scale. It is important to distinguish the effects this change in scale has on the operationalization of socio-economic status.

Table C.1 provides the breakdown of the occupation of the respondents as scored on the 1961 Blishen and the 1971 Blishen scale. Twenty-one respondents who had not given a father's occupation were included in the sample if other indicators, such as mother's occupation, mother's education or father's education, showed lower socio-economic status affiliation. When the 1961 Blishen score is compared to the 1971 score 75 percent of the father's occupations scored 45 or less on the 1961 scale and the 1971 scale. A further 12 percent scored outside the lower status group but by less than five points.

For the 37 respondents or 13 percent of the sample, the change in scale made a substantial change in the definition of socio-economic status. The coding of one occupational group, 1149 - other managers and administrators accounts for half of the discrepancy (14 out of 37). In the 1961 Blishen scale,

³ Blishen and McRoberts, op.cit.

Table C.1

1961 Blishen Scores Compared to 1971
Blishen Scores for Father's Occupation
in 1971 (Interview Sample)

		(percent)
87.1	75	67.8 1961 low SES ¹ , 1971 scores also low SES
		6.9 Missing data in 1961 and 1971 ²
		.3 Missing data in 1961, low SES in 1971
		12.1 1961 low SES, 1971 out of low SES but moved up by less than five points
		12.8 1961 low SES, 1971 out of low SES by more than five points (scale effect)
		99.9
		(289)

¹Low SES, refers to all scores 45 or less.

²These cases were included because other indicators such as the father's education, mother's occupation or mother's education were low.

Blishen scores from 40 to 62 were associated with this general title. In the 1971 scale, all the different occupations in the one group were given the same Blishen score of 64.

The other codes resulting in a change in score that resulted in non-lower socio-economic group status by more than five points on the Blishen scale were the following:

- 1142 service managers (3 cases)
- 1116 government inspectors (1 case)
- 4139 book-keeping and accounting (1)
- 4151 production clerks (3)
- 4190 clerical (1)
- 5179 sales (1)

6111 firefighter (3)
6112 policeman (1)
8311 tool and die maker (1)
8310 foreman, metal machinery (3)
8730 foreman, electrical (2)
9190 foreman, other transport (1)
9510 foreman, printing and related occupations
9531 power station operator (1)

Job categories 1142, 1116, 5179 and 8310 all included more specific job titles with high and low Blishen scores. As was the case for job titles in category 1149, all the job titles were combined and given the higher Blishen scores on the 1971 scale. The remaining titles listed above received higher 1971 Blishen scale scores because of overall increases in education or income components of the scale.

The Blishen scale as used in this study ranks family socio-economic status according to father's occupation. Since the division of the scale into "classes" or socio-economic status groups involves using somewhat arbitrary cut-off points on a continuous scale, not too much significance can be attached to a shift out of the lower class by less than five points on the scale.

The case of the 37 respondents that have shifted more than five points on the Blishen scale present a greater methodological concern. For 22 out of 37 cases, the change in scale score is an artifact of collapsing occupations with separate 1961 scores on the 1971 scale. There is no evidence to suggest that the collapsed lower scoring occupations no longer exist or that they have changed substantially in terms of education, income

or prestige. However, 15 occupations clearly received higher 1971 Blisshen scores because of increases in status as measured by the scale.

The purpose of the interviews was to examine in greater detail the characteristics that distinguish lower SES students with high educational aspirations and attainment. For those students whose family SES had changed because of collective improvement of the status position of the occupation in 1971, changes in the students' high school attainment, high school program and early educational aspirations were also examined. No consistent difference between students whose fathers' SES was redefined on the 1971 scale and the remainder of the sample was found. Students whose fathers experienced "scale mobility" (i.e. held the same job but have the job's SES position relatively redefined) were less likely to have taken a five year program of studies, had lower high school attainment but had higher early aspiration in comparison to the rest of the interview sample. Since higher SES status is associated with higher scores on all these variables, these students would be expected to be in five year programs with higher secondary school attainment. Since the students of the "scale mobile" families are not more like the higher status groups and, in fact, score lower than the interview sample as a whole on two out of three of the education variables, they have been kept in the interview sample as defined by the 1961 Blisshen scale for further analysis.

Appendix D Factor Analysis of Questions on the Interview Schedule

Principal component factor analysis with no iterations was used to reduce the data collected in the multiple response questions on the interview schedule. The responses to Questions 5, 10, 15, 21, 26 and 44 were each factor analyzed. The number of factors extracted, unless otherwise indicated, was determined by setting a minimum eigen value of 1 so that all factors associated with eigen values less than 1 were deleted. The factor structures were simplified by using an orthogonal rotation designed to simplify the rows of the factor matrix (Varimax). The resulting factors are used in the analysis of the interview data in Chapter 7. The following discussion describes the structure of each of the factors.

Choice of a Five Year Program

Three factors were extracted from items a. to f. in Question 5 that account for 63.8 percent of the variance in the Question. Factor 1 accounts for 25.7 percent, factor 2 - 20.7 percent and factor 3 - 17.5 percent. As can be seen from the rotated factor loadings in Table D.1, three distinct factors result. The first factor is composed of two items describing a positive orientation to schooling: c. (did well in elementary school) and f. (liked school). Factor 2 describes post-high school opportunities of a. (improving opportunities for a good job) and d. (wanting to be qualified for post-secondary studies). It is of interest that both these questionnaire items load on factor 2. The loadings on factor 3 reflect the influence of significant others: b. (parental influence) and e. (taking the same program as most of their friends).

Table D.1

Choice of a Five Year Program: Varimax
Rotated Factor Matrix and Communalities

	Factor 1	Factor 2	Factor 3	Communality
Question 5 a.	-.046	.809	.046	.659
b.	-.016	.195	.749	.600
c.	.814	.073	.078	.674
d.	.183	.719	.027	.551
e.	.029	-.107	.803	.657
f.	.825	.058	-.064	.688

Table D.2

Change to a Four Year Program: Varimax
Rotated Factor Matrix and Communalities

Question 10 a.	-.310	.767	.011	.685
b.	.866	-.073	-.049	.758
c.	.245	.660	.156	.520
d.	-.318	.445	-.493	.543
e.	.560	.551	-.109	.629
f.	-.075	.178	.914	.873
g.	.700	.004	.121	.504

Change to a Four Year Program

Three factors were extracted in the factor analysis of items a. to g. in Question 10 accounting for 64.5 percent of the variance in the Question. Factor 1 accounts for 26.2 percent of the variance, factor 2 - 22.3 percent, and factor 3 - 16.0 percent. As can be seen from the factor loadings in Table D.2, two of the items d. (having difficulty with school work) and e. (wanting something more practical) are related to more than one factor

even after the rotation. The loadings on factor 1 reflect an emphasis on getting out of school as quickly as possible and getting work - items b., e. and g. The loadings on factor 2 are the strongest from items a. (teacher's advice) and b. (Parents' advice) with lower loadings from item d. (having difficulty with school work) and item e. (wanting something more practical). This factor reflects the influence of significant others (parents and teachers) and a possible reason for the direction of their influence. The strongest loading on factor 3 is item f. (evaluating conformity with peers) with a negative loading from item d. (having difficulty with school work).

Choice of the Four Year Program

Three factors were extracted in the factor analysis of items a. to f. in Question 15 accounting for 68 percent of the variance in the Question. The first factor accounts for 28 percent of the variance, the second 21 percent and the third 19 percent. Table D.3' provides the factor loadings on the three factors after rotation. As can be seen from the table, item d. (you wanted something more practical) tends to correlate primarily with factor 3 but also with factor 1. The main items loading on factor 1 are items f. (wanting to get through high school as quickly as possible) and e. (most of your friends were taking the program). The combination of these two items suggests a conformity with peers who also wanted to finish high school as quickly as possible. The main loadings on factor 2 are items b. (parents wanted you to take the four year program) and c. (having difficulty with elementary school work). Again, this factor combines the influence of significant others, in this case, parents, with an item suggesting a possible reason for their influence. Factor 3 is most strongly associated with item a. (wanting a program that would most quickly qualify you for a job) and

item d. (wanting something more practical), reflecting an orientation to the job and work.

Leaving High School Before Program Completion

The factor analysis of items a. to l. in Question 21 resulted in the extraction of six factors accounting for 73.0 percent of the variance. In this case, the eigen value limit was lowered to .96 to include factor 6. The inclusion of the sixth factor resulted in a more readily interpretable factor structure. The first factor accounts for 19.4 percent of the variance in all the items, the second 15.3 percent, the third 11.2 percent, the fourth 10.3 percent, the fifth 8.5 percent and the sixth 8.1 percent. After rotation two items in particular, items c. (teachers not interested) and item l. (wanted to do what friends are doing) tend to be correlated with more than one factor.

As can be seen from Table D.4, factor 1 is correlated with two items, i. (trouble with your teachers) and j. (school too strict) reflecting school discipline problems. Factor 2 measures negative evaluations of schooling as shown by the correlations of items b. (school work boring and uninteresting) and g. (school not teaching anything useful) with the factor. Factor 3 has almost equal loadings from item h. (family could not afford to keep supporting you while in school) and item d. (parents did not want you to continue). The influence of limited family finances and negative family influence are combined on this factor. Factor 4 shows the strongest correlations with item e. (found studying difficult) and item k. (satisfied with schooling), both items show no further aspirations to study. Factor 5 is most strongly correlated with item l. (planned to get married) and less strongly correlated with item c. (teachers not interested). Factor 6 has a single loading from item a. (wanted to get a job and start earning money).

Table D.3

Choice of a Four Year Program: Varimax Rotated Factor Matrix and Communalities

	Factor 1	Factor 2	Factor 3	Communality
Question 15 a.	-.060	.011	.859	.742
b.	-.275	.800	.209	.759
c.	.297	.775	-.181	.722
d.	.469	.012	.651	.644
e.	.678	.076	.098	.476
f.	.854	-.077	.007	.736

Table D.4

Leaving High School Before Program Completion: Varimax Rotated Factor Matrix and Communalities

	Fctr.1	Fctr.2	Fctr.3	Fctr.4	Fctr.5	Fctr.6	Communality
Question a.	-.018	.091	.003	.046	.115	.925	.879
b.	.213	.789	-.070	.194	-.182	.208	.787
c.	.536	.258	.006	-.059	.583	-.040	.699
d.	.037	.061	.856	.031	.196	-.213	.824
e.	.160	.004	.087	.755	-.103	.220	.663
f.	.472	-.275	.302	.180	-.132	.185	.474
g.	.027	.892	-.008	.034	.156	-.047	.824
h.	.016	-.117	.842	-.098	-.055	.198	.775
i.	.866	.026	.084	.071	.039	-.003	.765
j.	.727	.190	-.092	.020	-.029	-.046	.576
k.	-.029	.164	-.140	.780	.101	-.144	.687
l.	-.096	-.063	.094	.023	.873	.123	.800

Staying to Year 5

Three factors were extracted from items a. to h. in Question 26 that account for 61.9 percent of the variance in the Question. Factor 1 accounts for the largest portion of this variance, 30.2 percent, factor 2 - 17.0 percent and factor 3 - 14.6 percent. The last two items, g. (wanting to complete your studies) and h. (encouraged to continue by your teachers) did not clearly load on any of the three factors.

As can be seen from Table D.5, factor 1 is associated with two items measuring enjoyment of school - a. (found school work interesting) and f. (enjoyed school work). Factor 2 is correlated with significant others - b. (most of my friends stayed to Grade 13) and c. (parents wanted you to continue) with a lower correlation from h. (encouragement with teachers). The loadings on factor 3 are associated with items measuring post-high school opportunities - d. (want to go to a post-secondary institution) and e. (have better opportunities for a job).

Continued Schooling

The factor analysis of items a. to j. in Question 44 resulted in the extraction of four factors accounting for 60 percent of the variance in the Question. The eigen value limit was lowered to .949 to allow the extraction of the fourth factor. Factor 1 accounts for 28.3 percent of the variance, factor 2 - 12.3 percent, factor 3 - 10.3 percent and factor 4 - 9.5 percent. In the rotated factor solution, item g. (more schooling a waste of time - things learned outside of school are more useful) was correlated with the first three factors reflecting, in part, the structure of the actual Question which contains more than one part.

As can be seen from Table D.6, factor 1 is most strongly correlated

with item b. (more schooling gives a chance to be with people your own age do a lot of things that are fun) and less strongly correlated with item i. (more schooling gives a chance to improve your abilities to think and solve problems). The factor combines positive orientations to the social and studying aspect of school. Factor 2 is correlated with item d. (more time in school would reduce your independence) and item f. (school would be boring), two negative evaluations of the personal restrictions of further schooling. Factor 3 is associated with three questionnaire items, positively with c. (everyday experience would teach you more), negatively with e. (schooling would make it easier to get a job) and positively with j. (you can learn more from a very good job). Factor 4 is strongly correlated with the single item h. (more schooling would be a financial burden to your family).

Marginal Distributions of the Factors

The factor scores described above were used to create twenty-two new variables which were merged into the existing data file. The evaluations measured by each new variable were recoded from their interval form into three categories measuring evaluations that were very important, of average importance and not important. Table D.7 presents the marginal distributions of the new variables.

Table D.5 Staying to Year 5: Varimax Rotated Factor Matrix and Communalities

	Factor 1	Factor 2	Factor 3	Communality
Question 26 a.	.856	.091	-.138	.759
b.	.144	.789	-.005	.643
c.	-.048	.801	-.000	.644
d.	.194	-.155	.708	.562
e.	-.045	.215	.784	.664
f.	.864	.153	.130	.786
g.	.634	-.052	.321	.508
h.	.340	.411	.313	.382

Table D.6 Continued Schooling: Varimax Rotated Factor Matrix and Communalities

	Factor 1	Factor 2	Factor 3	Factor 4	Communality
Question 44 a.	.496	-.216	-.348	.189	.450
b.	.805	-.037	.145	-.029	.671
c.	.245	.270	.622	.032	.521
d.	.075	.774	.037	-.084	.613
e.	.279	.183	-.701	.048	.605
f.	-.230	.690	.134	.098	.557
g.	-.336	.542	.443	-.020	.604
h.	.011	.000	-.015	.980	.961
i.	.639	-.103	-.401	-.046	.583
j.	-.120	.279	.601	-.009	.454

Table D.7

Marginal Distributions of the Measures
of Evaluations of Educational Decisions
as Produced by Factor Analysis

Choice of the Five Year Program (percent)			
	Factor 1	Factor 2	Factor 3
Very Important	31	32	25
Average Importance	39	41	47
Not Important	30	27	27
	<u>100</u>	<u>100</u>	<u>100</u>
	(186)	(186)	(186)

Change to Four Year Program (percent)			
	Factor 1	Factor 2	Factor 3
Very Important	42	28	21
Average Importance	30	39	35
Not Important	28	33	44
	<u>100</u>	<u>100</u>	<u>100</u>
	(43)	(43)	(43)

Choice of a Four Year Program (percent)			
	Factor 1	Factor 2	Factor 3
Very Important	35	25	34
Average Importance	27.5	39	34
Not Important	37.5	36	32
	<u>100</u>	<u>100</u>	<u>100</u>

Table D.7 (Continued)

Leaving High School Before Program Completion (percent)						
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Very Important	22.5	32	25	32.5	21	36
Average Importance	40	34	35	32.5	41	28
Not Important	37.5	34	40	35	38	36
	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>
	(80)	(80)	(80)	(80)	(80)	(80)

Staying to Year 5 (percent)			
	Factor 1	Factor 2	Factor 3
Very Important	31	30	39
Average Importance	39	37	35
Not Important	30	33	26
	<u>100</u>	<u>100</u>	<u>100</u>
	(134)	(134)	(134)

Continued Schooling (percent)				
	Factor 1	Factor 2	Factor 3	Factor 4
Very Important	30	29	31	15
Average Importance	41	33	38	61
Not Important	29	38	31	24
	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>
	(277)	(277)	(277)	(277)

END

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