

UNDERGRADUATES' MAJOR AREAS OF STUDY

SOCIAL CORRELATES OF UNDERGRADUATES' MAJOR AREAS OF STUDY

By

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Within a context of social mobility and occupational choice, this study is a preliminary investigation of the influence of aspects of social structure and cultural traditions upon the aims, decisions and achievement of college students. By means of a questionnaire mailed to the freshmen at McMaster University it was found that certain aspects of their social background are related to their choice of major area of study. The grades they achieved at high school, which are themselves related to the students' background, have the strongest relationship to their major area of study.

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## CHAPTER 1

### INTRODUCTION: EDUCATION AND THE CANADIAN SOCIAL STRUCTURE

Floud and Halsey have stated that in

...advanced countries [which] are increasingly dominated by scientific and technological innovation, education and economy become more closely geared, until the educational system occupies a strategic place as a central determinant of the economic, political, social, and cultural character of a society.<sup>1</sup>

In advanced societies modern industrial technology has transformed the scale of production, the economic setting of enterprise, and the productive and social role of labour. The increased scale and complexity of the productive unit and of the market situation have both permitted and required the growth of the tertiary sector of the economy at the expense of the primary, and have demanded greater knowledge and skills in the secondary sector. This change is reflected in the continual proliferation, following industrialization and, more particularly, the establishment of a welfare-bureaucratic state, of administrative, bureaucratic, liason, maintenance, communicative, and distributive occupations. The proportion of the labour force involved in manual work -- particularly in unskilled manual work, and in the primary industries -- has been declining, while the demand for skilled technicians, white-collar, managerial and professional workers has continued to rise.

One of the most striking features of advanced societies is the tremendous emphasis placed on scientific research and innovation, particularly in the service of economic and military growth. It is these characteristics of modern industrial societies -- the changed labour requirements of the productive system and the institutionalization of innovation -- that have made education a "central determinant...of a society" and, at the same time, have gone far to determine the nature of the educational system itself. Education has attained unprecedented importance both as a source of innovation and as a system of occupational training and recruitment, bent increasingly to the service of the labour force.

This raises the question, always a problem in a discussion of education and economy, of the nature of their mutual relations. Too often the two factors, which are distinct only for analytical purposes, are falsely treated as being wholly independent of each other, or one is considered as being wholly dependent on the other. For example, a high correlation between the level of education and the Gross National Product may be explained by asserting either that greater prosperity enabled a higher level of education to be established, or that greater education caused an increase in economic growth. Most probably both statements would be true, and even truer when taken together, for education and economy, like most other aspects of society, are interdependent. The educational system both determines and is determined by the economy. To quote Floud and Halsey again:

In modern society, the major link of education to social structure is through the economy and this is a linkage of both stimulus and response. Contemporary educational organizations stimulate economic change through research and, in turn, they respond to economic change in carrying out the function of selection and training of manpower.<sup>2</sup>

Education is making new and ever increasing demands on the economy, while the economy is making growing demands on education. In most countries this interaction is taking place in a rapidly changing social environment, where there is a growing demand for an educational structure that will give to all children the equal opportunities promised by the democratic process.

The question of equality of opportunity in education necessitates a consideration of the differential utilization of available educational facilities by different sections of the population. Even with an official ideal of equality of opportunity, there are factors within the social structure which produce differential educational achievement, and, therefore, different chances of occupational mobility.<sup>3</sup> These factors may be either social, such as financial deprivation, conflicting responsibilities, and racial discrimination, or socially derived psychological factors, such as a lack of motivation toward academic achievement, possession of values which conflict with those of the teachers, or poor linguistic development. An educational policy that ignores the social and socio-psychological obstacles to academic achievement that result from an individual's position in the social structure is merely paying lip-service to the ideal of equal opportunity

and is ignoring the real situation.<sup>4</sup> However, this is not only a question of approximation to a democratic ideal, though it would be good to think that this is always given its due importance. We must consider also the economic necessity of an educated population.

An abundant and increasing supply of highly educated people has become the absolute prerequisite of social and economic development in our world....A developed society and economy are less than fully effective if anyone is educated to less than the limit of his potential. The uneducated is fast becoming an economic liability and unproductive. Society must be an 'educated society' today -- to progress, to grow, even to survive....Educated people are the 'capital' of a developed society.<sup>5</sup>

In contrast to the emphasis of the democratic ideal of equality of opportunity, the latter view might be expressed as the capitalist ideal of economic efficiency. Whichever way one chooses to regard it, it is a remarkable fact that "for all the variety of structure and method in the educational systems of the industrial world, there is universal inefficiency in the prevention of 'wasted' ability".<sup>6</sup>

The context of this particular study is one involving higher education, aspects of social structure and cultural background, occupational choice and social mobility. More particularly the study is intended to disclose some of the relations that exist between the decisions and aspirations of a group of college freshmen and their social and cultural background, in terms of such dimensions as class, ethnicity, religious affiliation and size of hometown. The sample used consisted of all the male students who enrolled at McMaster University,

Hamilton, in the fall of 1966. The data was collected by means of a mailed questionnaire and was analyzed with the aid of a computer.<sup>7</sup>

This thesis makes no pretensions at providing a complete study of the problems mentioned above, nor is it even an exhaustive analysis of the data obtained by the questionnaire. Rather, it should be seen as a pilot investigation aimed at illuminating some of the relationships between students' social and cultural backgrounds and, by means of their decisions, achievements, and aspirations in academic life, their occupational choices and social mobility. The study must start, therefore, with an introduction to the respondents, seen in terms of their positions in the Canadian social structure.

In a heterogeneous society such as Canada or the United States no simple horizontal stratification scheme, such as one based on the relationships to property, or even a relatively sophisticated occupational class scale such as Blishen's,<sup>8</sup> is able to provide an adequate basis for a description of the social structure. Hollingshead suggests a two-dimensional scheme,

The vertically differentiating factors of race, religion, and ethnic origin, when combined with the horizontally differentiating ones of occupation and so on, produce a social structure that is highly compartmentalized.<sup>9</sup>

Similarly, Gordon wrote,

American society is 'criss-crossed' by two sets of stratification structures, one based on social status, economic power, and political power differences, regardless of ethnic background, the other a set of status and power relationships based precisely on division of the population by racial, nationality background, and religious categories...<sup>10</sup>

Later Gordon wrote that,

...each ethnic group may be thought of as being divided into sub-groups on the basis of social class, and that theoretically each ethnic group might conceivably have the whole spectrum of classes within it, although in practice, some ethnic groups will be found to contain only a partial distribution of social class and sub-groups.<sup>11</sup>

The latter is the key to an understanding of Canada's social structure. It has been pointed out that ethnic cultural differences are diminishing in the United States, leaving the main vertical distinctions to be determined by race or religious community.<sup>12</sup> In Canada, however, the continuing phenomenon of immigration, the smaller and historically divided 'host' population, and the absence of any movement parallel to that of 'Americanization' which has been stressed south of the border, has meant that the Canadian immigrants are frequently not only unassimilated structurally or identificationally but are incompletely acculturated. While Canada has shown a concern over its national identity, particularly in its Centennial Year, there is nevertheless a widespread acceptance and even pride in the varied cultural accomplishments of the different immigrant groups. Porter has suggested that,

...ethnic segregation and intense ethnic loyalties had their origins in French, Scottish, and Irish separateness from the English. In time they became the pattern for all cultural groups.<sup>13</sup>

While acculturation would not necessarily lead to structural assimilation, it can be supposed that, were structural assimilation to occur,

acculturation would follow almost inevitably.

Structural assimilation, however, in terms of the distribution of ethnic groups in the various social classes, is far from being complete in Canadian society. Blishen used an occupational class scale that took income and education into account, in an analysis of the 1951 census data. He showed how, "in practice" in Canada,

...the proportion of the British in each class generally increases from the lowest to the highest class whereas the reverse is true for the French. The Jewish group follows a pattern similar to that of the British whereas all other origins follow the French pattern.<sup>14</sup>

The major analysis of Canadian social structure so far is John Porter's The Vertical Mosaic.<sup>15</sup> From an analysis of the distribution of occupations in the 1931 census Porter is able to determine a rank order of ethnic groups in Canada:

There is little difference among the three British groups, and they and the Jews rank high. French, German, and Dutch would probably be ranked next, followed by Scandinavian, Eastern European, Italian, Japanese, 'Other Central European', Chinese and native Indian.<sup>16</sup>

By 1951 the major changes were that, within the general decline in agriculture, the European groups, German, Dutch, Scandinavian and Eastern European, rather than the British, were remaining in agriculture, and that in the non-agricultural part of the labour force, the French had declined to a relatively lower level. By 1961, writes Porter, "the relative positions of the various groups had changed very little".<sup>17</sup>

The analyses of Blishen and Porter, focussing on the proportionate representation of ethnic groups in the class system, show how necessary a two-dimensional scheme is for describing the social structure of a heterogeneous society such as Canada.

While the present study makes no pretence at using a representative sample of the Canadian college population, let alone the national population as a whole, it is of interest to compare aspects of the data obtained with other observations of the national social structure. Unfortunately the categories used have not always been the same, so any comparison must be very tentative. Rabinovitch,<sup>18</sup> in an analysis of the background of Canadian undergraduates, has used the following occupational categories:

- (a) proprietary and managerial (non-farm)
- (b) professional
- (c) commercial and financial
- (d) clerical
- (e) manufacturing and mechanical
- (f) transportation and communication
- (g) armed services
- (h) service
- (i) farming, mining, logging, fishing
- (j) others.

Combining the categories (a) and (b) as occupations of relatively high status, categories (c), (d), (e), (f) and (g) as being middle range occupations, and categories (h) and (i) as lower status occupations, we can obtain the following percentages of students whose fathers fall into one of these categories:<sup>19</sup>



TABLE 1.1

Percentage Distribution of Students' Fathers According to Occupational Status

		<u>Occupational Status</u>		
		High	Middle	Low
<u>Students'</u> <u>Fathers in:</u>	Ontario	56	29	11
	Canada	48	27	20

The national figures of distribution of occupations, using the same categories, in the whole population, obtained from the 1961 Census of Canada, are: High -- 23 per cent; Middle -- 52 per cent; Low -- 23 per cent.<sup>19</sup> It is clear from the above figures that the Canadian undergraduate population as a whole, and particularly that of Ontario, is composed disproportionately of children of fathers with relatively high status, whereas the sons of fathers with lower status occupations are severely underrepresented.

The data pertaining to occupations in the present study uses different categories:

- (a) professional -- income from fees
- (b) professional -- income from salary
- (c) proprietor or manager (including farm owners)
- (d) sales (other than sales manager or administrator)
- (e) clerical
- (f) skilled worker
- (g) semi-skilled worker
- (h) service worker
- (i) unskilled worker

These categories can be combined to produce groups similar to those outlined above: categories (a), (b) and (c) become the high status group, (d), (e), (f) and (g) the middle group, and (h) and (i) correspond to the lower status group.

TABLE 1.2

Percentage Distribution According to Occupational Status  
of the Fathers of Freshmen at McMaster University

	<u>Occupational Status</u>		
	High	Middle	Low
Fathers of McMaster freshmen	46	44	10

Bearing in mind the fact that the categories used in these studies are not identical, the conclusion, nevertheless, remains the same. The freshman class at McMaster University is drawn disproportionately from the higher occupational status groups and the lower ones are relatively neglected. In other words, the situation is parallel to that extant in other Canadian universities. Other indices of the students' socioeconomic background, such as their parents' educational attainment and annual income, were used in both Rabinovitch's and the present study. As in the case of occupations, the categories used in the studies were different but the distributions were broadly similar, and showed a similar divergence from the national figures.<sup>20</sup>

In the present study data was obtained not only in connection with the horizontal, socioeconomic dimension, but also with regard to the vertical, ethnic dimension. The McMaster freshmen were asked to indicate the ethnic background of both their fathers and their mothers (see Table 1.3). Several of the ethnic groups were too small to be utilizable in the analysis, so the nine largest were selected: British, Canadian, Central European, Dutch, German, Irish, Italian, Polish, and Ukrainian.

A bivariate table can be constructed (see Table 1.4) showing the proportions of freshmen at McMaster University who come from any given "ethclass",<sup>21</sup> the latter being determined by the fathers' ethnic background and their occupational level. In this instance, as in all others following which are concerned with the occupational level, the category 'High' includes professionals with income from fees or salaries, proprietors and managers, including farm owners; the category 'Medium' consists of occupations connected with sales, other than sales manager or administrator, clerical and skilled manual occupations; the category 'Low' consists of service workers, semi-skilled, and unskilled workers.

Table 1.4 reveals a rank order of ethnic groups according to their proportionate representation in socioeconomic classes which corresponds very closely with that described by Blishen<sup>22</sup> and Porter.<sup>23</sup> In the 'High' status category the over-represented groups are the Irish, British, and Canadian. Similarly, the only under-represented groups in

the 'Low' status category are the Dutch, Canadian, Irish, and British -- all others are over-represented in this category. It must be re-emphasized that the sample used restricts the possible generality of the deductions -- but data obtained from this sample does lie in the expected directions and shows a correspondence with other, nationally obtained, results.

TABLE 1.3

Percentage Distribution of Freshmen at McMaster University According To The Ethnic Background (as Reported by the Freshmen) of Their Fathers and Mothers

<u>Ethnic Background</u>	<u>Father</u>	<u>Mother</u>
American	1	1
British	25	25
Canadian	35	33
Central European	3	3
Dutch	3	3
French	1	0
German	5	5
Greek	0	0
Irish	4	5
Italian	6	6
Jewish	2	2
Lithuanian	1	1
Oriental	2	2
Polish	4	3
Russian	0	0
Scandinavian	1	1
Ukrainian	4	5
Other	5	4
Total N	(582)	(581)

TABLE 1.4

Percentage Distribution of Freshmen at McMaster University According to the Proportion of Their Fathers' Ethnic Background Who Are in 'High', 'Medium', or 'Low' Occupational Status

<u>Father's Occupational Status</u>	<u>Father's Ethnic Background</u>										<u>Totals</u>
	<u>British</u>	<u>Canadian</u>	<u>C.Europe</u>	<u>Dutch</u>	<u>German</u>	<u>Irish</u>	<u>Italian</u>	<u>Polish</u>	<u>Ukrainian</u>	<u>Other</u>	
High	50	55	31	44	30	56	15	26	18	45	46 N=262
Medium	30	33	44	45	44	32	15	43	32	29	32 N=185
Low	19	12	25	11	26	12	70	30	50	26	22 N=125
Total N	(129)	(206)	(16)	(18)	(27)	(25)	(33)	(23)	(22)	(73)	(572)

The study of social mobility in Canada is complicated by the vertical dimension. As previously remarked, the United States has encouraged and experienced a decline in identification with ethnic origins and, as a consequence, the major vertical divisions are formed at the present by race and by religious affiliation. In Canada, however, where one's ethnic origins are valued and not proscribed by the 'establishment', and where continued immigration has enabled 'fresh blood' to reinforce the established ethnic groups, the identification of individuals with certain groups in the society on the grounds of common ethnic origin is a major factor of differentiation in the social structure. Porter points out that the entrance status of an immigrant group has always been important in the continuing status of that group. There is a strong conservative tradition in Canadian life which not only supports the high status of the British charter group but also permits other ethnic groups to maintain their identity. This is in direct contrast to the 'melting-pot' ideology which demands a radical breakdown of nationalities, old forms of stratification and ethnic culture in favour of some new synthesis.<sup>24</sup> The Canadian 'ethnic mosaic' impedes the process of social mobility as "cultural barriers at the time of entry harden into a set of historical relations tending to perpetuate entrance status".<sup>25</sup> Hence a group, such as the Italians, who come to Canada predominantly as unskilled or semi-skilled workers, are likely to remain in a low status through generations, whereas British workers who emigrate to Canada are more likely to experience upward mobility.

Qualifying Porter's view is Richmond's conclusion that,

...immigrants from the U.K. begin with a very strong advantage in so far as they had fewer language problems to overcome and their occupational qualifications were more immediately acceptable to Canadian employers. This initial advantage diminished over a time as immigrants from other countries became more acculturated.<sup>26</sup>

However, Richmond shows that British immigrants are predominantly middle-class or upper working-class, while immigrants from the European continent have a lower initial status. Thus only 12 per cent of British immigrants, compared with one third of those from other countries, were from semi-skilled or unskilled occupations. Richmond matched two samples, one from the United Kingdom and the other of non-United Kingdom immigrants. The samples consisted of males, aged from 24 to 55 years, who had been five years in Canada and who had originally intended to remain in Canada. The groups also had a similar distribution of marital status and of social class (measured by Blisshen's scale) in their country of origin. Though these immigrants had similar education and class backgrounds, a larger proportion of those from the United Kingdom rose and a smaller proportion fell in status.

Richmond's conclusion clearly begs the question: "What is meant by 'acculturated'?" If this means simply learning to speak English, and adopting some North American mannerisms, it is easily accomplished and is certainly widespread amongst the immigrants' children, but it is doubtful if some characteristics, such as religious

affiliation, will change even after several generations. The questions that must be answered are whether some aspects of the social milieu of an immigrant group are likely to remain after prolonged contact with the absorbing society and whether these aspects are likely to affect the social mobility of members of that group.

Porter also points out that,

...current immigration tends to fit the existing stratification system.... Between 1953 and 1960 British immigration made up 50 per cent of all professional immigration while the Italian contribution to this class was 1.2 per cent, <sup>27</sup>

although in 1959 and 1960 there were about 8,000 more Italian than British immigrants.

The situation must not be exaggerated -- it is not a caste system -- but it seems clear that the British charter group, through greater utilization of the existing educational facilities and through reinforcement by immigration, are maintaining their predominance in the upper strata of Canadian society. The French charter group, on the other hand, appears to be losing status, and almost all other ethnic groups are under-represented in the top socioeconomic strata. The chief key to an understanding of this phenomenon is the differential utilization of the Canadian education system.

The present sample was studied in terms of the mobility of the respondents' parents and as to whether their parents were immigrants or were born in Canada. Fifty per cent of the sample had both their parents born in Canada and 31 per cent had both parents immigrants.



Nine per cent of the respondents indicated that only their fathers were immigrants and nine per cent that only their mothers were immigrants. With regard to mobility, a change from any of the categories on the questionnaire pertaining to the father's father's occupation to one below it on the question about the father's occupation was interpreted as implying that the respondent's father had been downwardly mobile. If the father's occupation was in a category above that given for his father then he was considered to have been upwardly mobile. If the responses were in the same category for each question, the respondent's father was considered to have been occupationally stationary. This method of analysis provided the results shown in Table 1.5. When the occupational categories are combined, as described above, to provide three groups, 'High', 'Medium', and 'Low', Table 1.6 can be produced.

The results shown in these tables indicate that over half the respondents' fathers have experienced some degree of upward mobility and very few have experienced any downward mobility at all. Recalling that the sample is one of freshmen at university, it is clear that most of these students will be obtaining jobs that are above the level of their paternal grandfathers. Unfortunately it is not possible to compare this sample, highly biased as it is, with the whole population which lives in the area from which the university population is drawn.

TABLE 1.5

Percentage Distribution of Freshmen at McMaster University in Terms Of  
The Occupational Mobility of Their Fathers

1. Upwardly mobile	54
2. Stationary	28
3. Downwardly mobile	18

TABLE 1.6

Percentage Distribution of Freshmen at McMaster University According To  
The Occupational Status of Their Fathers and of Their Fathers' Fathers

<u>Father's Father's Occupational Status</u>	<u>Father's Occupational Status</u>			<u>Total</u>
	High	Medium	Low	
High	17	7	2	26
Medium	17	13	3	33
Low	11	13	16	40
Total	45	33	21	

Table 1.7 shows the difference in experience of mobility of the respondents' fathers according to whether they were immigrants or were born in Canada. Although it may be presumed that most of the immigrants were coming to what they considered to be a "land of opportunity",

and more than half of those in this sample were, in fact, upwardly mobile, those who were born in Canada were still more likely to be upwardly mobile and less likely to be stationary or downwardly mobile.

TABLE 1.7

Percentage Distribution of Occupational Mobility of the Fathers of Freshmen at McMaster University According to Whether They Were Immigrants Or Were Born in Canada

	Occupational Mobility			<u>N</u>
	<u>Upward</u>	<u>Stationary</u>	<u>Downward</u>	
Immigrant	53	29	19	220
Born in Canada	58	27	15	323
			Total	<u>543</u>

TABLE 1.8

Occupational Mobility of the Respondents' Fathers (Those who Were Immigrants Only) Related to Their Country of Origin

<u>Country of Origin</u>	Occupational Mobility			<u>N</u>
	<u>Upward</u>	<u>Stationary</u>	<u>Downward</u>	
U.K. and Ireland	59 %	26 %	14 %	69
Other	50	30	21	<u>151</u>
			Total	220

TABLE 1.9

Occupational Mobility of the Respondents' Fathers (Those Who Were Born in Canada Only) Related to Their National Identification

<u>National Identification</u>	<u>Occupational Mobility</u>			<u>N</u>
	<u>Upward</u>	<u>Stationary</u>	<u>Downward</u>	
Canadian	61 %	25 %	15 %	199
British and Irish	54	24	22	74
Other	51	41	8	49
			Total	322

One further analysis of the present data is interesting in connection with the occupational mobility and background of the respondents' fathers. The respondents' fathers who were immigrants can be studied in terms of their experience of mobility in relation to their fathers' occupations and also with regard to their country of origin. Because of the small numbers the latter has been restricted to a consideration of those from Ireland and the United Kingdom, on the one hand, and those from all other countries, on the other. Though the differences in the figures shown in Table 1.8 are not large they do lie along the lines that might be expected after a consideration of Porter's analysis -- but, of course, the sample used in this study is biased and is not intended as a sample of the national population. Nevertheless, those immigrants that came from the British Isles are more likely to have been upwardly mobile and less likely to have been stationary or downwardly mobile than those immigrants who came from other countries.

When the data pertaining to respondents' fathers who were born in Canada is analyzed (see Table 1.9) the differences again are small. Those fathers who were identified by their sons as of Canadian ethnic background were more likely to be upwardly mobile and less likely to be stationary or downwardly mobile and the reverse was true, generally speaking, for those who were identified as of British, Irish, or other ethnic background. These figures may be the result of a tendency of people of more successful background to characterize themselves as Canadian whereas those who are less successful or unsuccessful, in occupational terms, may be more likely to identify themselves with their ethnic heritage. Any conclusions in this area, at any rate, must remain highly tentative.

This chapter, then, has presented the general context of the study and has introduced the sample in terms of some of their demographic characteristics. The next stage is to relate these background characteristics, along with some others, to the academic achievement of our sample prior to their experience at university.

## FOOTNOTES TO CHAPTER 1

1. Jean Floud and A. H. Halsey, Introduction to Education, Economy and Society, ed. by A. H. Halsey, Jean Floud, and C. Arnold Anderson; New York: Free Press, 1961, p. 3.
2. Ibid., p. 12.
3. The relation between education and social mobility is well documented. See, for instance, Edmund de S. Brunner and Sloan Wayland, "Occupation, Labour Force Status and Education", Journal of Educational Sociology, 32, 1 (1958), 8-20; R. Centers, "Education and Occupational Mobility", American Sociological Review, 14 (1949), 143-144; Otis Dudley Duncan and Robert W. Hodge, "Education and Occupational Mobility: A Regression Analysis", American Journal of Sociology, 68 (1963), 629-644; Bruce K. Eckland, "Academic Ability, Higher Education, and Occupational Mobility", American Sociological Review, 30 (Oct. 1965), 735-746; D. V. Glass (ed.), Social Mobility in Britain, London: Routledge and Kegan Paul, 1954; Robert J. Havighurst, "Education, Social Mobility and Social Change in Four Societies", International Review of Education, 4, 2 (1958); Seymour Martin Lipset and Reinhard Bendix, Social Mobility in Industrial Society, University of California Press, 1959; Pitirim A. Sorokin, Social and Cultural Mobility, New York: Free Press, 1959. Of interest as a qualification of much of the work on education and social mobility -- "education is but one of many factors influencing mobility and it may be far from a dominant factor" -- is C. Arnold Anderson's "A Skeptical Note on the Relation of Vertical Mobility to Education", American Journal of Sociology, 66 (1961), 560-570.
4. Turner, in his distinction between contest mobility and sponsored mobility, represented by the United States and the United Kingdom respectively, makes a useful distinction between two ideal types, but, being too strongly influenced by American values, lacking knowledge of the British systems of education (see A. H. Halsey's critique of Turner's hypothesis in the American Sociological Review, 26, 3 (1961), 454-456), and being overenthusiastic about the dramatic parallel with a sporting event (pace Veblen!) he indicates that the contest system is the more 'democratic'. "Contest mobility tends to delay the final award as long as practicable, to permit a fair race; sponsored mobility tends to place the selection point as early in life as practicable, to ensure control over selection and training". What this amounts to in practice is that the contest system enables the advantages and disadvantages inherent in one's social position to have the maximum effect over a maximum period

of time, while the sponsored system at least makes an attempt to select people early according to their ability, and then to hold social factors as constant as possible. (Ralph H. Turner, "Sponsored and Contest Mobility and the School System", American Sociological Review, 25, (Dec. 1960), 855-867).

5. Peter F. Drucker, Landmarks of Tomorrow, New York: Harper Bros., 1959, p. 114.
6. Floud and Halsey, op.cit., p. 6.
7. Further information with regard to the sample, the data collection, the questionnaire, and the methods of analysis used in this study, are provided in the Appendix.
8. Bernard R. Blishen, "The Construction and Use of an Occupational Class Scale", Canadian Journal of Economics and Political Science, 24, 6 (Nov. 1958), 521-531.
9. August B. Hollingshead, "Trends in Social Stratification: A Case Study", American Sociological Review, 17, 6 (Dec. 1952), 679-686.
10. Milton M. Gordon, "A System of Social Class Analysis", Drew University Studies, 2 (Aug. 1951), 15-18.
11. Milton M. Gordon, Assimilation in American Life, New York: Oxford University Press, 1964, p. 48.
12. See, for instance, the description of the three major religious communities as a "triple melting pot" in the United States, in Will Herberg's Protestant, Catholic, Jew, New York: Doubleday, 1955.
13. John Porter, The Vertical Mosaic, University of Toronto Press, 1965.
14. Blishen, op.cit., p. 524.
15. Porter, op.cit.
16. Ibid., p. 81.
17. Ibid., p. 86.
18. Robert Rabinovitch, An Analysis of the Canadian Post Secondary Student Population. Part I: A Report on Canadian Undergraduate Students, Ottawa: Canadian Union of Students Secretariat, 1966, p. 44.

19. In both tables the summing of percentages does not reach 100 due to the occupations which were categorized as "other". The ranking of "High", "Middle", and "Low" groups was made in terms of the average level of education required and the average level of income obtained by people in the occupations grouped into these categories. The distinction between the groups was made solely on the grounds of finding groups from Rabinovitch's data that would be at all comparable with groups formed from the categories used in the present study.
20. Details of the figures pertaining to all these indices are provided in the Appendix.
21. "Ethclass" is the word Milton M. Gordon uses to refer to the "subsociety created by intersection of the vertical stratifications of ethnicity with the horizontal stratifications of social class", Gordon, op. cit., p. 51.
22. Blishen, op.cit., p. 524.
23. Porter, op. cit., p. 73, f.
24. In fact, in the United States the process of Americanization has meant primarily a demand for Anglo-conformity, rather than a melting into a new synthesis. See Gordon, op. cit., for a clear analysis of the three ideologies of assimilation: the melting pot, cultural pluralism, and Anglo-conformity.
25. Porter, op. cit., p. 69.
26. A. H. Richmond, "Social Mobility of Immigrants in Canada", Population Studies, 18, 1 (1964), 53-69.
27. Porter, op. cit., p. 91.



## CHAPTER 2

### SOCIAL BACKGROUND CHARACTERISTICS AND THEIR RELATION TO THE HIGH SCHOOL GRADES OF FRESHMEN AT MCMASTER UNIVERSITY

An expanding industrial society is characterized by a growth in the proportion of higher occupations, increased educational requirements for these occupations, and, generally, the greater availability of education. The importance of educational achievement for social mobility in this context is frequently stressed,<sup>1</sup> and the literature concerned with effects of social and psychological variables upon the academic achievement and the aspirations of high school students is vast. Lipset and Bendix point out that,

...by merging the sociological and psychological approaches to the study of social mobility we may be able to advance the study of the mechanisms by which individuals and groups reach their positions in the stratification structure.<sup>2</sup>

It is intended to discuss in this chapter both the sociological and the psychological variables involved in the aspirations and achievement of college entrants, though the analysis of results of this particular study will concentrate on the sociological variables.

Wolfle divides the factors which determine who goes to college into two categories, "those which are essentially related to school progress and those which are related, but not in any essential way".<sup>3</sup>

The first category consists of four factors: intellectual ability as measured by standardized tests, a record of satisfactory previous school work, money for college expenses, and the desire to go to college. Among the related but non-essential factors are sex, cultural background, geographic location, and ethnic and religious background. Of course, this distinction is relatively arbitrary as all the factors are interrelated (for instance, the record of school work will itself be influenced by social and cultural background factors) but it does provide some sort of structure for a discussion of these factors.

The difficulty involved in discussing intelligence as a factor lies in the impossibility of differentiating the part played by 'native ability' from that played by various environmental factors. Wolfle's study of students in the United States<sup>4</sup> shows the higher average intelligence, as measured by the Army General Classification Test,<sup>5</sup> exhibited by students as they move up the educational ladder. The following averages show the amount of selection at successive levels:

The average of the total population is 100.

The average of those who enter high school is 105.

The average of those who graduate from high school is 110.

The average of those who enter college is 115.

The average of those who graduate from college is 121.<sub>6</sub>

Wolfle comments that factors other than intelligence "seem to be more important in determining which high school graduates do and which do not go on to college".<sup>7</sup> This conclusion is in general agreement with that of Lipset and Bendix:

Although intelligence is important, parental social status provides more motivation for high school students to attend a university.... When one compares parental background, motivation, and I.Q., with the actual enrollment in college, it appears that intelligence does not necessarily determine who, among those motivated to do so, will actually go to college.<sup>8</sup>

A study of Wisconsin high school seniors indicated that,

...values specific to different status positions are important influences on levels of educational and occupational aspiration. This does not deny the importance of intelligence to educational and occupational aspirations, but suggests that status makes an independent contribution to these aspirations.<sup>9</sup>

Kahl, in a study of Boston high school students, found that,

The I.Q. scores of the boys and the occupations of their fathers turned out to be of practically equal utility as predictors of the boys' educational ambitions. Most boys with high intelligence or from high status homes planned a college career, whereas most boys with low intelligence or from low status homes did not aspire to higher education.... Although prediction was good at the extremes, it was not good in the middle of the distribution.... If a boy had high intelligence and came from the most populous part of the status range -- its lower middle section -- one could not well predict his aspiration.... An intelligent common man boy was not college oriented in high school unless he had a very special reason for so being. Behind all the reasons stood one pre-eminent force: parental pressure.<sup>10</sup>

A good deal of psychologically oriented work has been done in connection with the relation of measured intelligence to college plans and occupational aspirations,<sup>11</sup> but until the concept 'intelligence'

can be subdivided into components according to their source, whether 'natural' or 'social', 'ascribed' or 'achieved', any conclusions as to the influence of native ability as a factor must remain vague and tentative. For example, it may be hypothesized that lower status children may be better able to adopt the norms held by the school teachers if they have high intelligence. While a general relationship could be demonstrated in this connection, it would not be possible to test conclusively the part played by native ability, as opposed to some environmentally induced aptitude. In this context, it is felt that no apology is called for by reason of the fact that the present study made no attempt to measure the intelligence of respondents. Leaving the differentiation of the natural and environmental aspects of 'intelligence' to psychologists, we forego any investigation of the part played by this doubtfully defined factor in our study, whilst recognizing that academic achievement, as measured by high school grades, is a product of some combination of inherent and learned abilities. In any case, high school grades are better predictors of, for instance, college entrance, and, quite probably, success at college, than are intelligence tests.<sup>12</sup>

Pupils who earn good grades are more likely to become high school graduates, and high school graduates with good scholastic records are more likely to enter college than are their classmates with poorer records.<sup>13</sup>

This much appears self-evident. What we really need to know is why some people achieve better grades at high school than others. As well

as such psychological factors as intelligence and motivation, one must investigate the relationship of sociological variables such as socioeconomic status, rural-urban residence, and cultural background. All these factors are so interrelated that it is difficult to isolate the influence of any one factor alone. Take, for example, the part played by motivation in academic achievement in high school, or in college aspirations. Once again, Wolfle's comment is self-evident: "Unless a person wants to go to college the existence of other favourable circumstances is unlikely to get him there."<sup>14</sup> But as to why some children have the desire to go to college, or to do well at high school, while other children lack such motivation, is probably the result of many contributing factors.

Without doubt, one of the most important factors connected with motivation and influencing academic achievement and aspirations, is socioeconomic status. It is well established that motivation varies in social classes and that this is an important factor in the explanation of the disproportionate educational success of children in different classes.

Educational achievement not only depends upon intelligence and the financial resources of the family, but also upon a strong motivation to succeed in the school system. Students who come from well-to-do families will identify quite closely with the prevailing values of the school culture, partly because of parental urging and partly because parents, students, and teachers share the same middle-class values, and such sharing facilitates teacher-student communication. Students who come from lower-class families do not possess this cultural advantage...<sup>15</sup>

The simplest measure of socioeconomic status is the father's occupation.

Over and above differences in ability, the financial, educational, and cultural differences which are indicated by the occupation of the father clearly play an important role in determining which high school graduates enter college.<sup>16</sup>

TABLE 2.1

The Relation between Father's Occupation and the Probability that an American High School Graduate Will Enter College

<u>Father's Occupation</u>	<u>Percentage of High School Graduates Who Enter College</u>
Professional and semi-professional	67
Managerial	50
White Collar (clerical, sales, service)	48
Farmer	24
Factory, craftsmen, unskilled, etc.	26

(Source: Dael Wolfle, America's Resources of Specialized Talent, New York: Harper Bros., 1954, p. 160)

The socioeconomic status of the student's family can be influential at different times in the student's life. As already indicated, an effect may be felt while the student is at school according to whether his family's values and norms coincide with those of the teachers and the school system. Kahl<sup>17</sup> has shown how "parental pressure" is of vital importance in motivating lower class children towards college. He has indicated how both parents and peer groups influence the student's motivation and aspirations toward college.

He stresses four motivational factors: a high self-conception; the family's reward/punishment for work; the importance of hobbies relative to homework; and the conviction of the importance of school-work for a career. These factors are differentially distributed amongst social classes and so motivation towards college is different. Kahl emphasizes the view that "common man" parents will only pressure their children toward educational achievement if they are dissatisfied with their own lot, and not otherwise.

Krauss<sup>18</sup> reveals sources of educational aspirations among working class youths in conditions in the family, the nature of the student's peer associations and his participation in school activities. Status discrepancies in the family -- where the working class mother has a non-manual job, where she has had higher education than her husband, or where there is a history of downward mobility in the family -- favour college aspirations in the children. A working class student is more likely to have college aspirations if family members or friends of the family have had college experience. If the father has completed high school and has high occupational status within the working class then his offspring are more likely to aspire to college. Krauss also found that college-oriented working class students were very likely to have acquaintances who also have college aspirations. They tended to be very active in extra-curricular activities and were more likely to be attending a predominantly middle class rather than a predominantly working class school.

Though motivation differs among students at high school, some of its origins may lie even earlier than the school attendance period. Several studies have shown the relationship between aspects of socialization and attitudes towards achievement. Of prime importance in this connection is the work done by McClelland and his associates on the need for achievement.<sup>19</sup> Winterbottom,<sup>20</sup> for example, found that mothers of sons with high n Achievement tended to expect "self-reliant mastery" at earlier ages than mothers of sons with low n Achievement. To the extent that child-rearing practices differ between social classes, these classes will probably experience different degrees of n Achievement.<sup>21</sup> But this is also true of different ethnic or religious groups and of different geographic locations or residence contexts, to the extent that the cultural values inherent in these groups affect socialization. Rosen<sup>22</sup> found differences in n Achievement that resulted from aspects of socialization in a study of six ethnic groups of varying social status in the United States. He studied three components of orientation towards achievement: achievement motivation, achievement values, and educational-occupational aspirations. His conclusions were that,

Social class and ethnicity interact in influencing motivation, values and aspirations; neither can predict an individual's score. Ethnic differences persist when social class is controlled, but some of the differences between ethnic groups in motivations, values and aspirations are probably also a function of their class composition.<sup>23</sup>



McClelland has shown in a cross-cultural investigation how cultural values, transmitted by the mother, affect n Achievement in the children. He suggests there is an "optimum average expected age for self-reliant mastery (as far as n Achievement is concerned) around 8 years of age."<sup>24</sup> This was the age expected by the average Japanese mother, whereas Brazilians generally expected mastery earlier and Germans later. This interpretation is supported by the fact that Japanese boys have higher n Achievement scores than either German or Brazilian boys.

In opposition to too simplistic a view of the origins of n Achievement, Rosen, in his conclusions to another study, suggests,

...it is exceedingly unwise to single out any one demographic factor as an explanation of achievement motivation...the effects of social class and family size, as well as the impact of birth order and mother's age, can only be properly understood in a large context in which all of these variables (and others, undoubtedly) interact.<sup>25</sup>

Strodtbeck attempts to clarify the concept of achievement motivation by specifying some of the factors associated with it in one cultural context. He suggests attention should be focussed on,

...the structural requirements for achievement; values associated with achievement; power relationships in the family, in school, and in peer groups during early adolescence,<sup>26</sup>

in order to discover the factors associated with achievement. He finds three values that are important for achievement in the United States; firstly, "a belief that the world is orderly and amenable to rational

mastery; that, therefore, a person can and should make plans which will control his destiny"; secondly, "a willingness to leave home to make one's way in life"; and thirdly, "a preference for individual rather than collective credit for work done".<sup>27</sup> Also of importance is the value placed on "the perfectability of man". Finally, by viewing the family as a "power system" Strodbeck shows how important the power relationships experienced by the child at home will be in affecting its achievement.<sup>28</sup> Most interesting of all is that Strodbeck found in a comparison of two differentially achieving groups in the United States -- Italians and Jews -- differences with respect to the above-mentioned values and power relationships. Though he is careful to point out that differences in values and family interaction seem to disappear as the groups are assimilated into American life, his study does show how, if only in the short term, some aspects of the social milieu of an immigrant group, transmitted through socialization in the family, can affect the aspirations and the mobility of members of that group in the absorbing society.

McClelland has stated that,

...exposure to partial educational influences which might increase n Achievement do not appear to be very effective when they are unsupported by 'ideological conversion' of the total group in which the experience occurs.... Social influences may raise n Achievement level if they are accompanied by 'ideological conversion' but lower it if they lead to mixed or confused loyalties.<sup>29</sup>

It would be interesting to know why a need for achievement should manifest itself in economic rather than other forms of activities (it may be better to talk specifically about 'capitalistic motives' rather than the more vague 'achievement') but McClelland generally disregards the problem of the influence of different social settings on the building of an Achievement into different types of social activities (such as college plans or occupational aspirations), as well as of the conditions under which such activities may become institutionalized. However, his analysis of the origin of an Achievement, as rooted in the development of certain types of religious or ideological orientations within certain marginal and secondary elite groups, and transmitted through changing educational practices within the family, is very suggestive, and is useful in that it succeeds in involving such aspects of society as religion and the family in the discussion of the transmission or creation of values. Having briefly discussed the influence of social class, ethnic background, and family structure upon motivation, we turn now to the influence of religious orientation.

The locus classicus for a consideration of the influence of religious orientation upon motivation to succeed in an economic context is the work of Max Weber, particularly The Protestant Ethic and the Spirit of Capitalism.<sup>30</sup> Weber's study was intended to be historically specific, however; he was intent on discovering the origins of the spirit of capitalism, not the orientations involved in attaining success within an on-going capitalist system. In a

review of recent studies made in the United States, Germany, England, and Holland, there were found "no significant differences between the mobility of Catholics and Protestants."<sup>31</sup> It has also been suggested that ,

...whatever influence these two religious sub-cultures (i.e., Protestantism and Catholicism) have upon their adherents in our society, so far as the Weberian thesis is concerned, is overridden by the general ethos.... There is no evidence in these data that the Protestant ethic is participated in any less by Catholics than by Protestants in contemporary United States.<sup>32</sup>

This suggests that the Protestant ethic, which may be understood to be a spirit of dedication and commitment to work, has become secularized and is part of the general ethos of the society.

The above conclusions have been criticized by Lenski.<sup>33</sup> He points out that Lipset and Bendix failed to control for the size of community in which the respondents were raised. Since Catholics came more from the big cities than did Protestants, and the people raised in cities are more likely to be upwardly mobile, the Protestants in the sample were handicapped by this factor. Moreover, Lenski shows that a more careful analysis of the data of Mack, Murphy and Yellin shows that, in fact, Protestants were upwardly mobile more often than Catholics. Though he agrees that,

Catholics and Protestants alike have assimilated the materialistic values of contemporary society to the point where they equally value a good job with high income, and are equally likely to aspire to such a position,

Lenski stresses that,

Catholics seem to be at a disadvantage in the competition because of a series of values to which they apparently become committed as a result of their involvement in the Catholic Church and subcommunity.<sup>34</sup>

Lenski supports the Weberian thesis that a religion has a distinctive orientation toward all the major spheres of human activity and thus exercises an influence on the development of other major institutional systems in society such as economic, educational, political, and kinship institutions. Further, Lenski's findings, obtained in Detroit, support several specific Weberian hypotheses on Protestant-Catholic differences in economic behaviour: Protestants view work differently from Catholics, they are more likely to rise in the economic system than Catholics, and they are more inclined to adopt a rationalistic orientation, while Catholics are more inclined to adopt a traditionalistic orientation. Lenski claims, as a result of his findings, that

...socio-religious group membership is a variable comparable in importance to class, both with respect to its potency and with respect to the range, or extent, of its influence.<sup>35</sup>

Unfortunately, Lenski failed to control for ethnic differences, which may have accounted for some of his results. In North America the study of the relationship of religious affiliation and educational or occupational achievement is complicated by the ethnic differences between Catholics and Protestants. Catholics generally comprise a much larger proportion of recent immigrants than do Protestants and

since Dalton<sup>36</sup> has suggested that foreign-born workers are less oriented toward occupational achievement than their native-born colleagues, one should distinguish the effects of recent immigration from those of religious affiliation.

Sex is another factor that has been found to be related to educational and occupational aspirations, with boys having higher aspirations than girls. Wolfle states that "More girls than boys graduate from high school" but "of high school graduates, the percentage of boys entering college is larger than the percentage of girls."<sup>37</sup> Since the sample used in the present study consisted entirely of males a discussion of this factor is not entirely relevant here.

Recently a number of studies have been concerned with the influence of peer groups within the educational system.<sup>38</sup> It has been shown that a student's position in the subculture of the school, as well as the educational plans of his best friends, exerts an influence on his own aspirations. Pavalko and Bishop, for example, controlled for such factors as intelligence, sex, and socioeconomic status and found that generally "the post-high school educational plans of young people are greatly influenced by the plans of their friends", though their findings suggest that "peer influence on educational aspirations may not operate uniformly across all socioeconomic status and sex groups."<sup>39</sup>

Other studies concerned with the influence on educational aspirations of the social environments or contexts in which the students

live have investigated such variables as rural-urban residence, the socioeconomic composition of the high schools, and the socioeconomic composition of the community or neighbourhood.<sup>40</sup> Sewell and Armer<sup>41</sup> suggest that the importance of the neighbourhood context in the development of college plans has been exaggerated. The large differences they found in the aspirations of students from neighbourhoods classified according to occupational composition largely disappeared when sex, intelligence and the socioeconomic status of the family were simultaneously controlled. On the other hand, community of residence in a wider context has been found to be strongly related to educational aspirations and to social mobility.<sup>42</sup> A number of studies have indicated that, as one moves from the rural to the urban end of the continuum, the proportion of youth with high educational and occupational aspirations increases.

A major difficulty encountered in reviewing the work published in connection with the variables associated with educational aspirations and achievement is that so little has been done in the Canadian scene. Though many aspects of American and Canadian society are similar, some of the differences, such as the influence of the different present immigration patterns and the different status of ethnic groups in the two countries, require that one's comparisons and generalizations remain cautious and inconclusive. This qualification is of particular importance in connection with the different financial support available to college students and the influence financial factors have upon

college plans. Rabinovitch's study of Canadian undergraduates indicates that a shortage of money "has not had much effect on the postponement or curtailment of education for those persons presently at university".<sup>43</sup> Unfortunately he is not able to say anything about those people who are not taking higher education as a result of financial difficulties. Porter writes that,

...the magnitude of the financial problem for those who drop out of the educational stream is difficult to gauge from the evidence available, though there is little doubt that the difficulties of meeting the costs continue to be a considerable burden for many Canadians who do manage to get to University.<sup>44</sup>

He writes also of the "formidable cost of university education for either middle or lower income families",<sup>45</sup> in the Canadian system which lacks both the inexpensive state college system of the United States and the universal and automatic granting of awards to able students in the United Kingdom.

Factors affecting utilization of educational facilities, other than the financial and motivational, include the diffusion of knowledge of opportunities and the ability to use the required language. The former is certainly relatively limited among rural and lower class families who do not come into so much contact with many of the occupations which become available through higher education and who lack also the knowledge of the variety of channels that exist through which the required education may be obtained. Probably some ethnic groups, particularly those which are more inward-looking and



stress ethnic self-sufficiency,<sup>46</sup> will suffer from this same lack of knowledge.

The relation of linguistic development and social class to educational achievement has been extensively examined by Bernstein, who draws attention to "the relationship between linguistic processing, the type of self-regulation it induces, and the general level of social and educational competence."<sup>47</sup> Lower classes, and, doubtless, non-English-speaking ethnic groups in Canada, suffer from a "retardation" of linguistic development, in the sense that their language is not so well suited to success in the education system as is the language of the English-speaking middle and upper classes.

Another factor that influences the educational experiences a student will undergo is the differences in the level and quality of education available in the country, region, or community in which he lives. Wolfle<sup>48</sup> has drawn attention to the inequalities in the availability of colleges across the United States and Porter<sup>49</sup> and Rabinovitch<sup>50</sup> have shown that differences exist within Canada with respect to both secondary and post-secondary education. The proportion of students who go on to higher education is usually greater in communities with colleges than in communities without. This can be explained, partly, by the financial advantage of being able to stay with one's parents while studying, but also by the fact that when higher education is observable in one's home town, it is more familiar and attractive and appears more easily attainable.

Though the literature in connection with the factors that influence a student's educational experience is vast, we feel obliged to summarize this brief survey before reporting some of the results of the present study. Apart from the 'native ability' of the student his experience in the educational system is likely to be influenced by differential access to educational facilities according to his socio-economic status, his ethnic origins (and in some countries, race), and his religious affiliation, by differences in his motivations, values, and attitudes, by differences in the availability of particular levels and standards of education in the area in which he lives, and by differences in the willingness and ability of his parents, and other significant people, to provide both financial and psychological supports. These factors are influential early in a student's career but they become of particular relevance with regard to the question of whether or not the student will complete high school, will enter college, or will graduate from college. It has been well summarized by Havighurst and Rodgers:

The probability that a given boy or girl will go to college depends on the following factors: mental ability; social expectation, or what the family and the society expects of him; individual motivation, or his own life goals; financial ability, in relation to the cost of continued education; propinquity to an educational institution.<sup>51</sup>

In no country do these factors produce a situation in which the country's youthful talent potentials are even approximately maximized.

Even the United States, which prides itself on the unique availability of higher education exhibited by its system, fails to educate the majority of students who would benefit by such education.

TABLE 2.2

Possible College Selection Levels Among High School Graduates  
Related to the Percentage of Those who Later Graduate From College  
--in the United States

<u>Selected Upper Percentage of High School Graduates</u>	<u>Percentage Who Later Graduate from College</u>
Top 2 %	62 %
Top 7 %	54
Top 16 %	47
Top 27 %	42
Top 35 %	38
Top 48 %	34

(Source: Dael Wolfle, America's Resources of Specialized Talent,  
New York: Harper Bros., 1954, p. 179)

The United States "has a poor record: giving a college education to only half of the potentially most promising 7 per cent of the nation's youth constitutes a gross underutilization of some of its highest talent".<sup>52</sup> The situation is no better in Canada where a smaller proportion of the population goes to college than in the United States. Fleming, in his study of Ontario Grade 13 students, pointed out that 28 per cent of those who did not go to university had better records than 47 per cent of those who did go. He concluded: "The pool of

good academic material not being attracted to the universities would appear to be very large".<sup>53</sup>

Although the present sample consists of boys who had actually enrolled at University it was considered worthwhile to analyse this group in terms of their high school grade averages and of various background characteristics. This analysis is not to be considered exhaustive -- its purpose is simply to characterize the freshmen in relation to their academic experience prior to university. At this point it may be assumed that the final high school grades are central in the selection process at university so it is interesting to know what other characteristics of the students are related to their school record.<sup>54</sup>

TABLE 2.3

The Relation of Final High School Grade to the Age of the Student in his First Year at McMaster University

<u>Age</u>	<u>High School Grade</u>		<u>N</u>
	65% and Below	66% and Above	
19 or younger	33 %	67 %	324
20 or older	51	49	248
		Total	572

Table 2.3: The younger students at McMaster University are more likely to have obtained higher grades at high school than the older freshmen.

Possibly those who do not have such a high average are more uncertain about entering university and will do so later than the students who have already proven to themselves, and to other significant people, that they are good at academic work.

TABLE 2.4

The Relation of Final High School Grade to the Occupational Status of Fathers of Freshmen at McMaster University

Father's Occupational Status	High School Grade		N
	65% and Below	66% and Above	
High	38 %	62 %	257
Medium	43	57	187
Low	43	57	124
		Total	568

Table 2.4: Freshmen at McMaster University who are the sons of professionals, proprietors, or managers are more likely to have obtained higher grades at high school than the sons of any other occupational category.

TABLE 2.5

The Relation of Final High School Grade to the Level of Education Attained by the Fathers of Freshmen at McMaster University

Father's Educational Level	High School Grade		N
	65% and Below	66% and Above	
8th grade or less	45 %	55 %	133
Part high school	41	59	188
High school graduate	37	63	121
College experience	41	59	131
		Total	573

TABLE 2.6

The Relation of Final High School Grade to the Level of Education Attained by the Mothers of Freshmen at McMaster University

<u>Mother's Educational Level</u>	<u>High School Grade</u>		<u>N</u>
	65% and Below	66% and Above	
8th grade or less	50 %	50 %	136
Part High School	46	54	204
High school graduate	35	65	155
College experience	28	72	78
		Total	<u>573</u>

Table 2.5 and Table 2.6: Generally Table 2.5 indicates that the higher the education of the father, the higher the high school grades obtained by his son. The high school grade obtained by freshmen who are at McMaster University varies in direct proportion with the educational level attained by their mothers. (It would appear, then, that the mother's educational level has greater predictive value than the father's educational level, when one is considering the academic achievement of their children.)

TABLE 2.7

The Relation of Final High School Grade to the Annual Income of the Parental Family of Freshmen at McMaster University

<u>Family Income</u>	<u>High School Grade</u>			<u>N</u>
	65% and Below	66% to 74%	75% and Above	
Less than \$7,999	39 %	39 %	22 %	285
\$8,000 and more	42	41	17	288
			Total	<u>573</u>

Table 2.7: There would appear to be no relationship between the high school grade of freshmen at McMaster University and their parental family's annual income, except for the highest grades, 75 per cent and above, when the lower income students tend to get higher grades.

(This may be the result of people who have high incomes sending their sons away to a more prestigious college if their grades are particularly high, or possibly if the parents have money the boys do not need the grades.)

TABLE 2.8

The Relation of Final High School Grade to the Size of the Hometown of the Freshmen at McMaster University

<u>Population of Hometown</u>	<u>High School Grade</u>		<u>N</u>
	<u>65% and Below</u>	<u>66% and Above</u>	
Less than 100,000	38 %	62 %	258
More than 100,000	42	58	314
		Total	572

TABLE 2.9

The Relation of Final High School Grade to the Size of the Hometown of Freshmen at McMaster University, Whilst Controlling for the Annual Income of Their Parental Family

<u>Population of Hometown</u>	<u>Family Income</u>				<u>N</u>	
	<u>Less than \$7,999</u>		<u>\$8,000 and More</u>			
	<u>High School Grade</u>	<u>High School Grade</u>	<u>High School Grade</u>	<u>High School Grade</u>		
	<u>65% and Below</u>	<u>66% and Above</u>	<u>65% and Below</u>	<u>66% and Above</u>		
Less than 100,000	40%	60%	133	37%	63%	125
More than 100,000	39	61	152	45	55	162
Total N=572						

Table 2.8 and Table 2.9: It would appear from Table 2.8 that the students from smaller hometowns and open country have higher grades than those from larger towns and cities. However, when family income is controlled, as in Table 2.9, we see that it is the sons of high-income, small-town families who do better than average, and better than their high-income big-city counterparts. This agrees with Lipset and Bendix's statement that "the male offspring of small-town middle-class families usually obtain a higher education than their large-city compeers."<sup>55</sup>

TABLE 2.10

The Relation of Final High School Grade to the Religious Affiliation of Freshmen at McMaster University

Religious Affiliation	High School Grade		N
	65% and Below	66% and Above	
Protestant	40 %	60 %	308
Catholic	42	58	136
None	43	57	67
		Total	511

Table 2.10: There is very little relation between the religious affiliation of the freshmen at McMaster University and the grades they obtained at high school, though what difference there is lies in favour of the Protestants.



TABLE 2.11

The Relation of Final High School Grade to the Ethnic Background of  
The Fathers of Freshmen at McMaster University

<u>Father's Ethnic Background</u>	<u>High School Grade</u>		<u>N</u>
	65% and Below	66% and Above	
British	43 %	57 %	127
Canadian	43	57	205
Central European	43	57	17
Dutch	21	79	19
German	43	57	27
Irish	34	66	26
Italian	35	65	33
Polish	30	70	23
Ukrainian	53	47	23
		Total	500

TABLE 2.12

The Relation of Final High School Grade to the Ethnic Background of  
The Mothers of Freshmen at McMaster University

<u>Mother's Ethnic Background</u>	<u>High School Grade</u>		<u>N</u>
	65% and Below	66% and Above	
British	45 %	55 %	146
Canadian	42	58	186
Central European	42	58	17
Dutch	27	73	19
German	30	70	30
Irish	43	57	30
Italian	30	70	33
Polish	45	55	19
Ukrainian	53	47	29
		Total	509

Table 2.11 and Table 2.12: Any conclusions drawn about the relationship of the students' high school grades to their parents' ethnic background must be very tentative because of the small groups that are involved. However, it would seem that the boys of German, Irish, Italian, Polish, and, particularly, Dutch, descent tend to have better high school grades than those who consider their parents to be of British, Canadian, or Central European background. The boys of Ukrainian descent appear to have the poorest high school records. What this may mean is that a Ukrainian family is more likely to encourage their son to go to university even if his high school grades were unexceptional, whereas an Italian family may feel that their son should be encouraged to continue his education only if he has shown that he is academically exceptional. However, such an explanation is highly speculative in view of the paucity of information concerning the values of ethnic groups vis-a-vis education.

TABLE 2.13

The Relation of Final High School Grade to the Immigrant/Canadian-Born Status of the Parents of Freshmen at McMaster University

	High School Grade		N
	65% and Below	66% and Above	
Both parents born in Canada	45 %	55 %	282
One parent born in Canada	35	65	106
Both parents immigrants	40	60	171
		Total	559

Table 2.13: The sons of people born in Canada are less likely to have high grades than the sons of immigrants, but those with the highest grades have one parent born in Canada and one an immigrant. This is possibly the result of motivation: the immigrants may tend to push their sons ahead more than the Canadians. On the other hand, they are less likely to know of available opportunities than the Canadians, who will encourage their children, even if they have proved academically unexceptional, to take advantage of the educational facilities that are available. (The data with regard to ethnic background and immigrant status is connected, by reason of the fact that some ethnic groups consist more of recent immigrants than others.)

TABLE 2.14

The Relation of Final High School Grade to the Circumstances in Which The Freshmen at McMaster University Made Decisions with Regard to their Careers

Circumstances of Making Decisions with Regard to Careers	High School Grade		N
	65% and Below	66% and Above	
At School	30 %	70 %	173
At Home	38	62	71
At University	50	50	121
No plans yet	37	63	81
		Total	446

Table 2.14: Those freshmen who have made decisions with regard to their careers while in their first year at University tend to have lower high school grades than those who made decisions at home or have made no career decisions. Students who made decisions with regard to their careers at school tended to be the most successful academically at that level. On the one hand, it is possible that students who are getting on well at high school will be encouraged by their teachers to channel their thoughts towards a particular career. On the other hand, it may be that those students who have decided fairly early what they intend to do have an advantage in their school work over others who have less sense of purpose. Most likely these factors, which are interdependent, will have interacted.

TABLE 2.15

The Relation of Final High School Grades to the Number of Close Friends of Freshmen at McMaster University Who Also Went to University

Number of Close Friends Going to University	High School Grade		N
	65% and Below	66% and Above	
0 to 3	44%	56%	291
4 or 5	36	64	278
		Total	569

Table 2.15: The high school grades obtained by freshmen at McMaster University tend to vary in relation to the number of their best friends who went to university. It would seem, therefore, that

peer influence can be positive<sup>56</sup> --- if all one's best friends are thinking of going to college one tends to be more successful academically at high school than if some are going but others not.

To summarize this data it may be said that the freshmen at McMaster University who obtained relatively high final grades at high school (i.e., 66 per cent or more) tend to be younger, to have fathers who are professionals, proprietors, or managers, and mothers who have a higher than average level of education, and to come from a small town if their income was above average. One or both of their parents were likely to be immigrants, they were more likely to have been influenced at school with regard to their career decisions, and most of their best friends have also gone to university. In this simple analysis we are not intending to determine why the freshmen with high grades had these characteristics though the discussion of the literature carried out in this chapter contains most of the relevant factors. The next stage of investigation in this study is to examine the aims and aspirations of the freshmen with regard to their higher education and future occupations, and to see how these aspirations are related to their high school grades.

FOOTNOTES TO CHAPTER 2

1. See Chapter 1, Footnote 3, for references.
2. Seymour Martin Lipset and Reinhard Bendix, Social Mobility in Industrial Society, University of California Press, 1959, p. 259.
3. Dael Wolfle, America's Resources of Specialized Talent, New York: Harper Bros., 1954, p. 140.
4. Ibid., p. 144.
5. The average score on the Army General Classification Test is the same as on the Intelligence Quotient scale and the spread of scores is much the same on both. However, the standard deviation on the IQ (as determined by the Stanford Binet Test) is 16 whereas the AGCT scale has a standard deviation of 20. In other words, an AGCT score of 120 is equivalent to a score of 116 on the more familiar IQ scale.
6. Wolfle, op. cit., p. 146.
7. Ibid., p. 146.
8. Lipset and Bendix, op. cit., pp. 230-231.
9. William H. Sewell, Archie O. Haller, and Murray A. Straus, "Social Status and Educational and Occupational Aspiration", American Sociological Review, 22, 1 (Feb. 1957), p. 72.
10. Joseph A. Kahl, "Educational and Occupational Aspirations of 'Common Man' Boys", Harvard Educational Review, 23, 3 (Summer, 1953), 186-203.
11. See, for instance, William Arthur Bradley, Jr., "Correlates of Vocational Preferences", Genetic Psychology Monographs, 28 (1943), 99-169; T. E. Livesay, "Test Intelligence and College Expectation of High School Seniors in Hawaii", Journal of Educational Research, 35 (Jan. 1942), 334-337; Joseph Stubbins, "The Relationship Between Level of Vocational Aspiration and Certain Personal Data", Genetic Psychology Monographs, 41 (1950), 327-408.

12. "High school grades predict which pupils enter college better than do scores on tests of academic aptitude": Wolfle, op. cit., p. 151. Wolfle cites in explanation of this that college admissions officers and the high school students themselves will accept that good grades at high school demonstrate an ability to do academic work.
13. Ibid., p. 149.
14. Ibid., p. 158.
15. Lipset and Bendix, op. cit., p. 228.
16. Wolfle, op. cit., p. 160.
17. Kahl, op. cit.
18. Irving Krauss, "Educational Aspirations among Working-Class Youth", American Sociological Review, 29, 6 (Dec. 1964), 867-879.
19. See, for example, David C. McClelland, et al., Talent and Society, Princeton: Van Nostrand, 1958; and David C. McClelland, The Achieving Society, Princeton: Van Nostrand, 1961.
20. M. R. Winterbottom, "The Relation of Need for Achievement to Learning Experiences in Independence and Mastery" in J. W. Atkinson, (ed.), Motives in Fantasy, Action and Society, Princeton: Van Nostrand, 1958.
21. See, for example, Bernard C. Rosen and Roy d'Andrade, "The Psychosocial Origins of Achievement Motivation", Sociometry, 22, (1959), 185-218; and Herbert H. Hyman, "The Value Systems of Different Classes: A Social Psychological Contribution to the Analysis of Stratification", in Reinhard Bendix and Seymour M. Lipset, (eds.), Class, Status and Power: A Reader in Social Stratification, Glencoe: Free Press, 1953.
22. Bernard C. Rosen, "Race, Ethnicity and the Achievement Syndrome", American Sociological Review, 24 (1959), 47-60.
23. Ibid., p. 60.
24. David C. McClelland, The Achieving Society, Princeton: Van Nostrand, 1961, p. 347.
25. Bernard C. Rosen, "Family Structure and Achievement Motivation", American Sociological Review, 26, 4 (Aug. 1961), 584.

26. Fred L. Strodbeck, "Family Interaction, Values, and Achievement" in David C. McClelland, et al., Talent and Society, Princeton: Van Nostrand, 1958, p. 191.
27. Ibid., pp. 186-87.
28. See Russell R. Dynes, Alfred C. Clarke and Simon Dinitz, "Levels of Occupational Aspiration: Some Aspects of Family Experience as a Variable", American Sociological Review, 21 (1956), 212-215. Dynes, et al., found that "unsatisfactory interpersonal relationships in the family of orientation were significantly related to high aspirational levels and satisfactory relationships were related to lower aspirational levels".  
  
Glen H. Elder, "Family Structure and Educational Attainment: A Cross-National Analysis", American Sociological Review, 30, 1 (Feb. 1965), 81-96, showed that, while religion, social class, and size of birthplace were associated with educational achievement, parental dominance had a negative effect, that persisted even when the other variables were controlled, upon the desire to achieve and upon actual academic success.
29. McClelland, op. cit., pp. 416-17.
30. Max Weber, The Protestant Ethic and the Spirit of Capitalism, trans. by Talcott Parsons, New York: Charles Scribner's Sons, 1958.
31. Lipset and Bendix, op. cit., p. 54.
32. Raymond W. Mack, Raymond Murphy, and Seymour Yellin, "The Protestant Ethic, Level of Aspiration, and Social Mobility: An Empirical Test", American Sociological Review, 21 (1956), 295-300.
33. Gerhard Lenski, The Religious Factor, New York: Doubleday, 1961, pp. 83-84.
34. Ibid., p. 345.
35. Ibid., p. 326.
36. Melville Dalton, "Worker Response and Social Background", Journal of Political Economy, 55 (1947), 323-332.
37. Wolfle, op. cit., p. 163.



38. C. Norman Alexander, Jr. and Ernest Q. Campbell, "Peer Influences on Adolescent Educational Aspirations and Attainments", American Sociological Review, 29 (Aug. 1964), 568-575; A. O. Haller and C. E. Butterworth, "Peer Influences on Levels of Occupational and Educational Aspiration", Social Forces, 38 (May 1960), 289-295; Edward L. McDill and James Coleman, "High School Social Status, College Plans, and Interest in Academic Achievement: A Panel Analysis", American Sociological Review, 28 (Dec. 1963), 905-918; Edward L. McDill and James Coleman, "Family and Peer Influences in College Plans of High School Students", Sociology of Education, 38 (1965), 112-126; Ronald M. Pavalko and David R. Bishop, "Peer Influences on the College Plans of Canadian High School Students", Canadian Review of Sociology and Anthropology, 3, 4 (Nov. 1966), 191-200; Walter L. Wallace, "Peer Influences and Undergraduates' Aspirations for Graduate Study", Sociology of Education, 38 (Fall 1965), 375-392.
39. Pavalko and Bishop, op. cit., p. 199.
40. In connection with the influence of the neighbourhood of residence upon educational plans see: John A. Michael, "High School Climates and Plans for Entering College", Public Opinion Quarterly, 24 (1961), 585-595; Natalie Rogoff, "Local Social Structure and Educational Selection" in A. H. Halsey, Jean Floud, and C. Arnold Anderson (eds.), Education, Economy, and Society, Glencoe: Free Press, 1961, 241-251; William H. Sewell and J. Michael Armer, "Neighbourhood Context and College Plans", American Sociological Review, 31, 2 (April 1966), 159-168; Alan B. Wilson, "Residential Segregation of Social Classes and Aspirations of High School Boys", American Sociological Review, 24 (Dec. 1959), 836-845.
41. Sewell and Armer, op. cit.
42. See, for instance, Glen H. Elder, Jr., "Achievement Orientations and Career Patterns of Rural Youth", Sociology of Education, 37 (Fall 1963), 30-58; Lipset and Bendix, op. cit.; William H. Sewell, "Community of Residence and College Plans", American Sociological Review, 29 (Feb. 1964), 24-38. (A footnote in the latter article provides 24 references to research on this topic.)
43. Robert Rabinovitch, An Analysis of the Canadian Post Secondary Student Population. Part I: A Report on Canadian Undergraduate Students, Ottawa: Canadian Union of Students Secretariat, 1966.
44. John Porter, The Vertical Mosaic, University of Toronto Press, 1965, p. 193.

45. Ibid., p. 194.
46. See Raymond Breton, "Institutional Completeness of Ethnic Communities and the Personal Relations of Immigrants", American Journal of Sociology, 70 (Sept. 1964), 193-205.
47. Basil Bernstein, "Some Sociological Determinants of Perception", British Journal of Sociology, 9 (June 1958), 159-174.
48. Wolfle, op. cit., p. 164, f.
49. Porter, op. cit., p. 173, f.
50. Rabinovitch, op. cit.
51. Robert J. Havighurst and Robert R. Rodgers, "The Role of Motivation in Attendance at Post-High-School Educational Institutions" in Byron S. Hollinshead, Who Should Go To College, New York: Columbia University Press, 1952, p. 137.
52. Wolfle, op. cit., p. 184.
53. W. G. Fleming, Background and Personality Factors Associated With Educational and Occupational Plans and Careers of Ontario Grade 13 Students, Toronto: O. E. E., 1957, p. 22.
54. Details of the categories used in the questionnaire and of the analytic treatment of the variables are available in the Appendix.
55. Lipset and Bendix, op. cit., p. 206.
56. See Pavalko and Bishop, op. cit., p. 199.

### CHAPTER 3

#### THE RELATION OF THE AIMS AND DECISIONS OF FRESHMEN AT MCMASTER UNIVERSITY TO THEIR HIGH SCHOOL GRADES

A number of studies that relate academic achievement at high school and college plans of high school students to various aspects of their environment have been briefly summarized in the previous chapter. Though academic performance and drop-out rates in high schools vary according to the background of the students, the free education provided in public schools and the prescription of a legally permissible school-leaving age have produced an almost universal pattern of primary and secondary education in industrial societies. The critical point beyond which,

...further education is a privilege of some rather than a right of all individuals whose intellectual capabilities qualify them for continued education <sup>1</sup>

appears to be at graduation from high school. This has been indicated by the studies previously cited which have reported that many students of high intelligence are unlikely to aspire to college or to attend college if they come from deprived backgrounds -- whether deprivation is the result of low socioeconomic status, rural residence, or membership of a disadvantaged ethnic or racial minority. While studies of college plans and college attendance have frequently focussed upon these

social factors, many of those concerned with college graduation have emphasized the influence of ability. Thus Wolfle concludes that,

The probability of enrolling in college decreases more sharply as one goes down the ability scale for children from economically and socially less favoured homes than it does for children from more favoured homes. After entering college, the situation changes. The student who gets into college has already overcome most of whatever handicaps his home environment offered; once there, his chances of graduating are much more dependent upon his ability and much less upon his family background than were his chances of getting into college in the first place.<sup>2</sup>

More recently Eckland, in a follow-up study which took into account those students who entered a college, dropped out, enrolled in another college, and eventually graduated, found that social class and college graduation are significantly related, especially among the college entrants who were only average students at high school.

Social class is an important determinant of college graduation for students from the lower rank of their high-school classes but relatively unimportant for those from the higher rank.... Students who did well academically in high school had already displayed a level of skill and motivation which normally would carry them through college to graduation. Since it has been suggested that motivation is the primary link between social class and college performance, it is not likely that class differences will significantly influence graduation rates in a group previously characterized as academic achievers. Performance levels are so high that nearly all graduate, irrespective of class origins.<sup>3</sup>

Sewell and Shah's conclusions are similar to those of Wolfle and Eckland:

Intelligence is much more important than socioeconomic status in determining who will eventually graduate. Prior socioeconomic selection has already exerted much of its influence on who attends college. After this point intelligence, probably as it is reflected in performance, is more important. However, even among this group socioeconomic status continues to exert an influence that is independent of intelligence in determining college graduation for both sexes.<sup>4</sup>

These studies examine the influence of ability and socioeconomic status upon college graduation only, not considering the influence these, and other factors, may have upon aspects of a college career that will affect the students' occupational choice. In the present study, which is primarily concerned with the relation of social background to decisions and aspirations of college freshmen which affect their occupational choice, it is proposed to treat high school performance, as measured by the final high school grade, as an intervening variable, since it is both a product of the students' background and an influence upon their future. The circumstances in which the students made decisions with regard to their careers will also be treated as an intervening variable in this context. In the previous chapter the relation of the final high school grades of the sample of McMaster freshmen to various aspects of their background was investigated. Now their final high school grades, as well as the circumstances of their career decisions, will be examined in relation

to their choice of major area of study, their intentions with regard to post-graduate study, the type of activity they anticipate being involved with in their careers, and the "level" of occupation to which they aspire.

TABLE 3.1

The Relation of Final High School Grade to the Choice of Major Area of Study of Freshmen at McMaster University

Choice of Major Area of Study	Final High School Grade	
	69% and Below	70% and Above
Engineering	15 %	27 %
Physical sciences or mathematics	10	24
Psychology, pre-medical or biological sciences	15	19
Economics and commerce	18	5
Other social sciences	31	16
Humanities and divinity	11	9
	N (356)	(229)
Total	N 585	

Table 3.1 indicates that the natural sciences attract more of the academic achievers, as measured by their final high school grade, than do the social sciences or humanities. This result is similar to that of Bereiter and Freedman:

The average intelligence test scores of major groups regularly fall into an order with the physical sciences, engineering, and mathematics at the top, followed by literature and the social sciences, with the applied fields, agriculture, business, home economics, and education at the bottom.<sup>5</sup>

This order may be explained either by the varying difficulty of the subjects as they are taught at the undergraduate level and the consequent different demands made for admission by the departments, or it may be that, for men at any rate, students of higher ability are more attracted to the natural sciences. We have no way of determining the cause of this ranking in a conclusive manner, but the results should be of concern, not only to college departments, but also to the professions which draw their members from these areas of study. The fields of economics and commerce, for example, while they contained 13 per cent of our sample, drew only 5 per cent of those freshmen who had obtained final high school grades of 70 per cent or more.

TABLE 3.2

The Relation of Final High School Grade to the Intentions of Freshmen at McMaster University with Regard to Post-Graduate Study

	Final High School Grade	
	69% and Below	70% and Above
No intention to study further	11 %	10 %
No definite plans	46	38
To work for a while prior to further study	16	16
To start graduate or professional studies immediately	27	36
Total	N (352)	(227)
	N 579	

Table 3.2 shows that high school achievement is not a very good predictor of who will go on to graduate study. Though the students who got higher grades at high school are somewhat more likely to want to start further studies as soon as they graduate from university than are those who got lower grades, there is still almost half of the group who got 70 per cent or more at high school who have no definite plans or who do not intend to study further. Of course, the sample is a freshman group which cannot be expected to have very definite plans as yet and they may have found that academic success at university is more stringently judged than at high school. Almost half of the respondents intended to go on to graduate work, even if they would work for a while first. The aims of a senior class may well have been more realistic in this context. Although there seems to be only an even chance that a freshman with high grades will intend to go on to graduate study, either immediately or postponed, he is more likely to plan on such study than a freshman who got lower grades at high school. Nevertheless, these results also show that, for the freshman class, there must be factors that influence their intentions with regard to post-graduate study, other than their previous academic record. This is in agreement with Davis' conclusion:

Social factors did affect plans for postgraduate study, independent of the control variables of sex, Academic Performance Index, and career type. Yet these differences were limited in scope.<sup>6</sup>



TABLE 3.3

The Relation of Final High School Grade to the Type of Activity  
Freshmen at McMaster University Anticipate They Will be Chiefly Involved  
With in Their Careers

Type of Activity in Anticipated Careers	Final High School Grade	
	69% and Below	70% and Above
Teaching	34 %	29 %
Research	13	25
Engineering	15	26
Business	21	6
Service to patients or clients	17	15
	N (281)	(199)
Total	N 480	

Table 3.3 indicates that research, as would be expected, tends to attract more of the students who have achieved higher grades at high school. Engineering also attracts a disproportionate number of "brighter" students, while teaching and particularly business attract fewer of these high school achievers. (A possible explanation of this will be given in the next chapter when the influence of various social background characteristics, as well as high school records, upon the choice of major area of study will be considered.)

Table 3.4 shows that students who had obtained higher high school grades are more likely to aspire to the "higher" occupations, such as medicine, law, architecture, and engineering, than to the "lower" occupations, such as school teaching, social work, business, or government service. This result reflects the fact that the "higher"

TABLE 3.4

The Relation of Final High School Grade to the Level of Occupation\*  
Aspired to by Freshmen at McMaster University

<u>Occupational Level Aspired To</u>	<u>Final High School Grade</u>	
	69% and Below	70% and Above
High	47 %	69 %
Low	43	22
Undecided	10	9
	N (341)	(223)
	Total N 564	

\* (As measured by Blishen's Scale<sup>7</sup>)

occupations mostly require more education, so a record of academic achievement is likely to be encouraging to the aspiring student. At the same time, however, it must be emphasized that school achievement is associated with social class. In the previous chapter it was shown that the high achievers at high school tend to be sons of professionals -- so, to some extent, professionals beget professionals. We have seen in Chapter 1 how university students tend to be drawn from families of professional or managerial status, but the "education for the higher professions is even more a privilege of upper income classes".<sup>8</sup> A good deal of this privilege is probably directly financial -- only a family with a very high income can readily afford to support their son through the long years of education necessary for his becoming a doctor or lawyer.

To summarize some of the results presented above, it may be

said that boys who obtained higher grades, 70 per cent or more, at high school are more likely to choose a natural science for their major area of study, to want to start further study as soon as they graduate, to be interested in doing engineering or research, and to be aspiring to a "higher" occupation, than those boys who obtained 69 per cent or less in their final high school grade.

Table 3.5 shows that boys opting for engineering had mostly decided on a career quite early and were more likely to have been influenced at home. The boys choosing physical sciences or mathematics were influenced at school rather than at home, but those who earned higher grades at high school were more likely to wait until university before deciding on a career. Students in psychology, pre-medical, and biological sciences also tend to make their decisions later, unless their grades at high school were in the lower category. The boys attracted by economics and commerce tended to be less influenced at school and later in making their plans than students choosing any other area of study. Students of the other social sciences also tend to make their decisions late or to have no plans at this stage of their studies. Humanities students show only small differences, tending to be influenced at home a little more if their grades were low than if they were high.

TABLE 3.5

The Relation of the Circumstances in Which Freshmen at McMaster University Made Decisions Regarding Their Careers, to Their Choice of Major Area of Study, While Controlling For Their Final High School Grade

MAJOR AREA OF STUDY	FINAL HIGH SCHOOL GRADE							
	69% and Below				70% and Above			
	Circumstances of Making Decisions With Regard To a Career							
	At School	At Home	At University	No Plans	At School	At Home	At University	No Plans
Engineering	17 %	25 %	7 %	7 %	32 %	43 %	14 %	11 %
Physical Sciences or Mathematics	14	9	11	9	24	11	39	28
Psychology, Pre- medical, or bio- logical sciences	18	20	23	7	14	14	31	22
Economics or Commerce	7	9	18	26	2	14	3	3
Other Social Sciences	32	23	31	43	15	11	11	25
Humanities and Divinity	12	14	9	9	12	7	3	11
N	(92)	(44)	(87)	(46)	(84)	(28)	(36)	(36)
Total N=453								

TABLE 3.6

The Relation of the Circumstances in Which Freshmen at McMaster University Made Decisions Regarding Their Careers to Their Intentions With Regard to Post-Graduate Study

	<u>Circumstances of Career Decisions</u>			
	At School	At Home	At University	No Plans
No intention to study further	9 %	11 %	8 %	14 %
No definite plans	40	37	45	63
To work for a while prior to further study	20	13	13	7
To start graduate or professional studies immediately	32	39	34	16
	N (174)	(71)	(124)	(81)
Total N = 450				

Table 3.6 shows that students who have no intention to study further or have no definite plans in this connection are less likely to have made career plans than the students who do intend to study beyond the bachelor level. Those who do intend to do post-graduate study, whether immediate or postponed, are more settled on their career plans already, contrary to the notion that people carry on studying because they do not know what else to do. Thirteen per cent of the students have no career plans and either no intention to study further or no definite plans for further study, but as they are freshmen they are quite likely to make up their minds before they leave university.

TABLE 3.7

The Relation of the Circumstances in Which Freshmen at McMaster University Made Decisions Regarding Their Careers to The Type Of Activity They Anticipate They Will Be Chiefly Involved With In Their Careers

<u>Type of Activity In Anticipated Careers</u>	<u>Circumstances of Career Decisions</u>			
	<u>At School</u>	<u>At Home</u>	<u>At University</u>	<u>No Plans</u>
Teaching	41 %	27 %	31 %	24 %
Research	18	11	24	28
Engineering	22	30	9	9
Business	6	12	15	26
Service to patients or clients	13	20	21	13
	N (157)	(66)	(103)	(54)
Total	N = 380			

Table 3.7 confirms some of the previous results: prospective engineers tend to make their minds up early, whereas students thinking of business are unlikely to have plans until quite late. Students intending to become teachers are rather more likely to have been influenced at school, while those who are thinking of research either have no definite plans or have usually made them at university, thus reflecting their late contact with this prestigious activity.

Table 3.8 indicates that students aspiring to "higher" occupations tend to be more influenced by the home, whereas those opting for "lower" occupations are more likely to have made their decisions at school. This may reflect the situation previously

described: the sons of professionals being made more aware of occupational opportunities by their fathers, while the sons of fathers in "lower" occupations rely more upon guidance at school for knowledge of the opportunities that would be available with a college education.

TABLE 3.8

The Relation of the Circumstances in Which Freshmen at McMaster University Made Decisions Regarding Their Careers To the Level Of Occupation\* To Which They Aspire

Occupational Level Aspired To	Circumstances of Career Decisions			
	At School	At Home	At University	No Plans
High	57 %	65 %	60 %	43 %
Low	41	34	31	18
Undecided	3	1	9	39
	N (172)	(68)	(120)	(79)
Total	N = 439			

\* (As measured by Blishen's Scale)

The results pertaining to the circumstances in which the freshmen made decisions with regard to their careers appear to indicate (though the results are certainly not conclusive) that boys who are influenced at home, a minority of the sample, tend to opt for the more remunerative occupations, or those requiring further training, such as business, engineering, and service to patients or clients, whereas boys intending to do teaching or research are more likely, for obvious reasons, to have made their decisions at school or at

university. The boys who have chosen to major in the social sciences are the most uncertain about their careers, particularly if their high school grades were low, so it is worth seeing what sort of activity they, and the students majoring in other fields, expect to be chiefly involved with in their careers.

Table 3.9 shows that a large proportion of the boys majoring in the social sciences, other than economics and commerce expect to be involved in teaching in their careers. It would seem from this and the other results reported above that many of these boys are in a rather marginal position and may be drifting into teaching because they can see little else they can do. On the other hand, a number of them expect to be doing research. Of the other subjects, teaching is the predominant future for boys in humanities, while a considerable proportion of the physical science or mathematics students who got high grades at school are expecting to teach eventually. A high proportion of the physical science and mathematics students, however, and more particularly those who had high grades at school, see their future in research. Students taking psychology, pre-medical and biological sciences appear from these results to be going chiefly into service to patients or clients, while those with higher high school grades are more likely to enter research than teaching, which is attractive to the lower achievers.



TABLE 3.9

The Relation of the Choice of Major Area of Study of Freshmen at McMaster University To The Type of Activity They Anticipate They Will Be Chiefly Involved With In Their Careers, While Controlling For Their Final High School Grades

MAJOR AREA OF STUDY	FINAL HIGH SCHOOL GRADE									
	69% and Below					70% and Above				
	Type of Activity Involved With in Anticipated Careers *									
	Teach	Research	Eng	Bus	Serv	Teach	Research	Eng	Bus	Serv
Engineering	1%	5%	98%	9%	4%	2%	12%	96%	17%	7%
Physical Sciences or Mathematics	9	32	2	10	4	32	53	2	25	0
Psychology, Pre-Medical or Biological Sciences	19	19	0	7	47	9	24	0	17	57
Economics or Commerce	4	3	0	62	11	5	0	0	25	10
Other Social Sciences	46	38	0	12	19	30	8	2	17	17
Humanities or Divinity	21	3	0	0	15	23	2	0	0	10
N	(96)	(37)	(43)	(58)	(47)	(57)	(49)	(51)	(12)	(30)

Total N = 480

- \* teach = teaching
- eng = engineering
- bus = business
- serv = service to patients or clients

TABLE 3.10

The Relation of The Choice of Major Area of Study of Freshmen at McMaster University To Their Intentions With Regard to Post-Graduate Study, While Controlling For Their Final High School Grade

MAJOR AREA OF STUDY	FINAL HIGH SCHOOL GRADE									
	69% and Below					70% and Above				
	Intentions With Regard to Post-Graduate Study									
	No More Study	Indefinite Plans	Work to Study	Prior to More Study	Immediate Graduate Study	No More Study	Indefinite Plans	Work to Study	Prior to More Study	Immediate Graduate Study
Engineering	24%	18%	16%		6%	36%	34%	35%		13%
Physical Sciences or Mathematics	18	12	2		7	9	26	14		29
Psychology, Pre-Medical or Biological Sciences	3	13	19		22	14	14	16		27
Economics or Commerce	21	18	17		17	9	6	5		5
Other Social Sciences	34	29	31		32	18	14	16		17
Humanities or Divinity	0	9	16		15	14	7	14		9
	N (38)	(163)	(58)		(94)	(22)	(88)	(37)		(82)

Total N = 582

Finally Table 3.10 indicates that students majoring in engineering are the least likely to plan on immediate post-graduate study. They may perceive that graduate work is not so vital for a high income in this field, or a number of them may consider it is useful to work for a while, to gain practical experience possibly, prior to further study. Students of physical sciences or mathematics are unlikely to plan on graduate work unless their previous academic achievement has been high. This is probably a result of the high demands that students in these subjects know are required of them for graduate work. In psychology, pre-medical and biological sciences, however, a high proportion of the boys intend to study further, either immediately or postponed, and almost irrespective of their high school grades. Students of economics and commerce are less likely to take further study than boys majoring in other social sciences or in humanities and divinity.

Rather than look simply at the relation of ability to college graduation, we have in this chapter seen how two variables, high school grade and the circumstances in which decisions regarding a career were made, are related to some of the aims and decisions of students at university. In addition, the relationship between some of these aims and decisions has been considered. However, these two variables are themselves influenced by various aspects of the social background of the students, so, instead of focussing solely on the influence of ability in a student's career, it is necessary to

investigate the part played by more fundamental factors. In the final chapter, therefore, the relationship of such social factors as ethnicity, socioeconomic status, size of hometown, parents' educational level, and religious affiliation, to the students' choice of major area of study will be investigated, while high school grades are controlled.

### FOOTNOTES TO CHAPTER 3

1. William H. Sewell and Vimal P. Shah, "Socioeconomic Status, Intelligence, and the Attainment of Higher Education", Paper for the Research Group on the Sociology of Education at the Sixth World Congress of the International Sociological Association, Evian, France, September 1966, p. 2.
2. Dael Wolfle, America's Resources of Specialized Talent, New York: Harper Bros., 1954, p. 163.
3. Bruce K. Eckland, "Social Class and College Graduation: Some Misconceptions Corrected", American Journal of Sociology, 70 (July 1964), p. 48. See also Eckland's "Academic Ability, Higher Education and Occupational Mobility", American Sociological Review, 30, 5 (Oct. 1965), 735-746, in which he shows that the achievement of dropouts after college continued to be affected by class but not by ability, while graduates' achievement was not altered by either variable, once the intervening effects of postgraduate education and fields of study had been removed.
4. Sewell and Shah, op. cit., p. 30.
5. Carl Bereiter and Mervin B. Freedman, "Fields of Study and the People in Them", in Nevitt Sanford, (ed.), The American College, New York: John Wiley and Sons, 1962, p. 564.
6. James A. Davis, Great Aspirations, Chicago: Aldine Publishing Co., 1964, p. 100. Davis also found (see p. 80) that the chief reason for students not planning to go on for advanced study immediately was lack of motivation, whereas financial barriers constituted the major external obstacle. Academic deficiency was considered an obstacle by very few of the students. These conclusions compare favourably with the results of this study, as seen in the Appendix.
7. For an explanation of the construction of the "High" and "Low" categories used in this and other tables concerned with the level of occupation aspired to, see the Appendix.
8. John Porter, The Vertical Mosaic, University of Toronto Press, 1965, p. 183.

## CHAPTER 4

### SOCIAL BACKGROUND CHARACTERISTICS AND THEIR RELATION TO THE CHOICE OF MAJOR AREA OF STUDY OF FRESHMEN AT MCMASTER UNIVERSITY

The demands of an industrial society upon its educational institutions are very different from those of an agricultural society. When an agricultural society becomes industrialized the education system must be prepared to equip the population with the knowledge and skills required by the nature of the new society. Porter emphasizes the importance of the Quebec education system in the determination of the place of French-Canadians in the wider society.

The French have their own professional class which has been educated within the refined traditions of the classical college. In the main, French-Canadian education was never geared to the provision of industrial skills at the managerial or technical level. The education system was inappropriate for the kind of society that by 1950 Quebec was becoming. It was an outstanding example of institutional failure.<sup>1</sup>

But the problem is even wider than that: given an industrialized society the controversy over what kind of industrial society is desired will still rage, and will probably focus upon the nature of the education system. For example, the stress placed by Wilson's Government in Great Britain upon the need for more emphasis upon technological education has been frequently lamented by people who

want a more leisure-oriented, that is "cultured", society. Changes in an education system are important for the whole society, for the various fields of academic study, and not least for the students themselves.

Educators are concerned with helping individuals find fields of study that are suitable for them and also with finding people who will benefit the fields of study they enter.<sup>2</sup>

It is of concern to educators whether they are inspired by an ideal of broad cultural development or one of economic efficiency. On either count it is important that potential talent be maximized, and this entails individuals working in the field that best suits them. The way in which students select their major area of study is connected with the area of occupational choice. Though "the correspondence between the fields in which college students major and the fields in which they are later employed is far from perfect"<sup>3</sup> there is clearly some relation between the major subject chosen by a student at college and the type of activity he will be involved with in his career. This relationship, and the way it varies from one field of study to another, is shown in Table 3.9. The choice of major area of study is also related to the probability of the students intending to study beyond the graduate level, as can be seen in Table 3.10. The choice that a boy makes with regard to his college major is important, therefore, in its effect upon his future career and, more broadly, the types of students in the various fields of study are important not only for the

disciplines themselves but also for the nature of the society itself.

In this context it would be interesting to know what sort of boys choose the various fields of study that are available at university. Typical of the work done in this field is that of Bereiter and Freedman<sup>4</sup> who use a psychological approach to characterize the students in the several areas of study. They relate differences in mental abilities, in attitudes, and in personality to the academic fields of specialization. For example, they report that some fields, particularly the social sciences, appear to be more attractive to liberal-minded people, while others, particularly engineering and agriculture, seem to be attractive to conservative-minded people. While these psychological correlates are of interest they do not tell us why the students opt for particular fields of study or where, in sociological terms, the students in any field are most likely to come from.

Wolfe, in considering the characteristics of students entering specialized fields, is concerned largely with such factors as sex, intellectual ability, and academic grades, though he also looks at socioeconomic background. Although generally,

...the occupations of the fathers of students who received degrees in any particular field showed only small discrepancies from the over-all distribution of father's occupations,<sup>5</sup>

there were some exceptions.

Majors in the humanities and arts were more likely than were other students to have fathers in the professional and managerial categories and less



likely to have fathers in the skilled trades. Social science majors came with relatively high frequency from homes in which the father was in a managerial position. Engineering students were considerably more likely than most groups to have fathers employed in the skilled trades. So were the earth scientists. Students in applied biology were more likely than were other students to have fathers who were farmers or who were engaged in skilled trades.<sup>6</sup>

The strongest relationship appeared when Wolfle considered the students who were in liberal arts or sciences, on the one hand, and those in vocational fields, on the other.

As one runs down the list of fathers' occupations from professional to labour, the percentage of students taking degrees in the liberal arts and sciences steadily decreases. Conversely, the percentage taking degrees in vocational subjects steadily increases. The higher the socioeconomic level of the home, the greater the likelihood that the child will earn a degree in a liberal arts or science field.<sup>7</sup>

In explanation Wolfle suggests first that professional men are more likely to send their daughters to college than are labouring men, and more women major in liberal arts fields than in vocational fields. Secondly, he suggests the sons of professionals are more likely to enter law or medicine, where an arts or science degree is a frequent preliminary, than are the sons of labouring men. Finally, Wolfle remarks there are probably,

...some fairly specific determiners associated with upward social mobility: the farmer sends his son to agricultural school to learn to be a better farmer; the skilled craftsman sends his son to college to become an engineer.<sup>8</sup>

Although there is some relationship between the students' field of specialization and their socioeconomic background, and also their mental ability and high school grades, there is much overlapping. Students of major areas of study can be differentiated in terms of these variables, but the differences, according to Wolfle, are not large.

Parents influence their children in many ways, and many aspects of a boy's upbringing are likely to be influential on his career choice. It is suggested that the cultural traditions, the attitudes and aspirations, as well as the socioeconomic level, which the parents represent will influence their sons' career plans. In this study we attempt a broad view to show the relation of other aspects of the students' backgrounds, as well as their academic records and socioeconomic status, to the decisions they make relevant to occupational choice. We have already considered the relation of social background to high school grades and the relation of high school grades to major area of study. Since some aspects of a student's background are significantly related to his high school grades and the latter are strongly related to his choice of major area of study, one may expect that the social background of students is related to their field of specialization. In this chapter the major area of study chosen by freshmen at McMaster University is considered in relation to aspects of their social background, while their high school grades, considered as an intermediate variable, are controlled.

TABLE 4.1

The Relation of Choice of Major Area of Study of Freshmen at McMaster University to Their Age, While Controlling For Their Final High School Grade

MAJOR AREA OF STUDY	FINAL HIGH SCHOOL GRADE			
	69% and Below		70% and Above	
	Age			
	19 or less	20 or more	19 or less	20 or more
Engineering	16 %	15 %	25 %	30 %
Physical Sciences or Mathematics	12	8	26	17
Psychology, Pre-Medical or Biological Sciences	16	15	17	25
Economics and Commerce	20	16	4	8
Other Social Sciences	29	32	18	11
Humanities and Divinity	6	15	9	8
N	(164)	(190)	(165)	(63)
Total N = 582				

Table 4.1 indicates, though the differences are small, that the natural sciences generally tend to attract younger people, though engineering and the biological and related sciences attract a disproportionate number of students aged 20 or more who had higher grades at school. Economics and commerce are similar, drawing a disproportionate number of younger students with lower grades and older students with higher grades, while the other social sciences, humanities and divinity, attract more of the older students with lower

grades and the younger students with high grades. None of these differences are significant, however.

TABLE 4.2

The Relation of Choice of Major Area of Study of Freshmen at McMaster University to the Occupational Status of Their Fathers, While Controlling For Their Final High School Grade

<u>MAJOR AREA OF STUDY</u>	<u>FINAL HIGH SCHOOL GRADE</u>					
	<u>69% and Below</u>			<u>70% and Above</u>		
	<u>Father's Occupational Status</u>					
	<u>High</u>	<u>Medium</u>	<u>Low</u>	<u>High</u>	<u>Medium</u>	<u>Low</u>
Engineering	15%	18%	14%	25%	35%	23%
Physical Sciences or Mathematics	5	12	17	25	28	17
Psychology, Pre-Medical and Biological Sciences	18	12	17	20	18	19
Economics and Commerce	23	13	14	7	3	4
Other Social Sciences	27	36	26	15	13	23
Humanities and Divinity	12	9	13	9	2	15
N	(149)	(129)	(72)	(114)	(60)	(53)

Total N = 577

Table 4.2 shows that students of engineering are most likely to have fathers in the middle occupational group, that is fathers who are sales, clerical, or skilled workers. Students of physical sciences and mathematics tend to come from lower occupational groups if their high school grades were 69 per cent or less but from the "Medium" or "High" groups if their grades were higher at high school. Boys

studying psychology, and the pre-medical and biological sciences tend to come more from the "High" occupational group. Students of economics and commerce are predominantly sons of managers, proprietors, and professionals, whatever level their high school grades were. Students of the other social sciences are more from the "Medium" occupational group if their grades were 69 per cent or less at high school. The humanities and divinity appear to be over-represented by boys whose fathers are semi-skilled, unskilled, or service workers, though the sons of men in the "High" group still constitute about half of the students in this area of study.

None of the above-mentioned differences are very large, except for the origin of economics and commerce students, but they show more clearly when high school grades are not taken into account. Then the "High" occupational group is over-represented in the biological and related sciences, as well as economics and commerce. The "Medium" group is over-represented among the engineers and "other" social sciences, while the "Low" group is over-represented in the humanities. However, the differences are small, there is a great deal of overlap and no one occupational group predominates in any field of specialization, except in economics and commerce where over half of the students are the sons of professionals, proprietors and managers. The grades achieved by the students at high school are more closely related to the major area of study they choose at college than is their background in terms of their fathers' occupations.

TABLE 4.3

The Relation of the Choice of Major Area of Study of Freshmen at McMaster University to the Educational Level of Their Fathers, While Controlling For Their Final High School Grade

MAJOR AREA OF STUDY	FINAL HIGH SCHOOL GRADE							
	69% or Below				70% or Above			
	Father's Educational Level							
	Grade 8 or less	Part High School	High School Graduate	College Experience	Grade 8 or less	Part High School	High School Graduate	College Experience
Engineering	18%	16%	14%	12%	32%	24%	19%	33%
Physical Sciences or Mathematics	12	9	13	7	20	22	33	19
Psychology, Pre-Medical and Biological Sciences	11	17	16	19	20	22	13	21
Economics and Commerce	19	13	17	24	2	3	10	7
Other Social Sciences	24	38	31	25	20	15	17	14
Humanities and Divinity	17	7	9	13	6	13	8	7
N	(84)	(125)	(70)	(75)	(50)	(67)	(52)	(58)

Total N = 581

Table 4.3 indicates that the fathers of students studying engineering generally have little education while the fathers of students in the physical sciences and mathematics are more likely to be high school graduates. The fathers of students in the humanities and divinity are less likely to be high school graduates but a disproportionate number of the students of economics and commerce have fathers with college experience if the boys themselves got lower grades at high school. Trends are not clear for the students of the biological and related sciences or for the students of social sciences other than economics and commerce, though few of the latter's fathers had college experience. Differences in this context are small, as they are in the related context of the fathers' occupations.

Table 4.4 shows that the mothers of students majoring in engineering tend to have either less than 8th grade education or college experience, regardless of the grades attained by their sons at high school. The same is true of the mothers of students in the physical sciences and mathematics except for the boys with higher grades who are less likely to have mothers with college experience. The mothers of students majoring in the humanities or divinity are very unlikely to have college experience, as are the mothers of boys studying economics or commerce, though the latter are more likely to have high school experience. Students with high grades who are majoring in the other social sciences are more likely to have mothers with college experience than students with lower grades in the same area of study.

TABLE 4.4

The Relation of the Choice of Major Area of Study of Freshmen at McMaster University to the Educational Level of Their Mothers, While Controlling For Their Final High School Grade

MAJOR AREA OF STUDY	FINAL HIGH SCHOOL GRADE							
	69% or Below				70% or Above			
	Mother's Educational Level							
	Grade 8 or less	Part High School	High School Graduate	College Experience	Grade 8 or less	Part High School	High School Graduate	College Experience
Engineering	21%	13%	13%	18%	31%	23%	23%	34%
Physical Sciences or Mathematics	13	8	8	13	25	19	27	20
Psychology, Pre-Medical and Biological Sciences	14	17	9	23	18	24	18	17
Economics and Commerce	12	20	24	8	2	8	7	2
Other Social Sciences	27	31	35	31	16	16	15	20
Humanities and Divinity	14	10	11	8	8	10	11	7
N	(86)	(143)	(85)	(39)	(51)	(62)	(74)	(41)
Total N =	581							



The mothers of students in psychology or the pre-medical and biological sciences are more likely to have college experience if their boys got lower grades at high school. However, among these boys, as among those in any other major area of study, there does not seem to be any systematic trend regarding the educational experience of their mothers and, as with the relation to the father's educational level, the differences are small. If one disregards the control variable, however, and looks simply at the relation of mothers' education to the students' fields of specialization the relationship appears stronger. For example, 62 per cent of the mothers who have experience of college have sons majoring in the natural sciences, though the latter constitute only 52 per cent of the sample.

TABLE 4.5

The Relation of the Choice of Major Area of Study of Freshmen at McMaster University to the Annual Income of Their Parental Family, While Controlling For Their Final High School Grade

MAJOR AREA OF STUDY	FINAL HIGH SCHOOL GRADE					
	69% and Below			70% and Above		
	Annual Income of Parental Family					
	\$10,000 or more	\$7,000 -9,999	\$6,999 or less	\$10,000 or more	\$7,000 -9,999	\$6,999 or less
Engineering	10%	13%	22%	33%	25%	24%
Physical Sciences or Mathematics	7	12	11	20	31	20
Psychology, Pre- medical or Bio- logical sciences	21	14	12	18	20	19
Economics or Commerce	22	15	15	9	4	4
Other Social Sciences	29	38	26	14	15	19
Humanities and Divinity	11	8	15	6	5	15
	N (106)	(119)	(124)	(66)	(75)	(85)
Total N =	575					

Table 4.5 indicates that boys majoring in engineering tend to come from the lowest income category if their grades were lower at high school but if their grades were high they are more likely to come from the top income category. Students of economics and commerce are most likely to come from the top income group while the reverse is true of students specializing in humanities or divinity. Boys studying the physical sciences and mathematics come disproportionately from the middle income group. Students majoring in the biological and related sciences and those majoring in social sciences other than economics and commerce are drawn fairly randomly from the three income groups unless their high school grades were lower, in which case the former are over-represented by high income boys and the latter by middle income boys.

The annual income of the parental family appears from this data to be more closely related to the students' fields of specialization than are the parents' educational levels or the fathers' occupations, though it is nowhere near so strongly related as the high school grades achieved by the students.

Table 4.6 indicates that boys specializing in engineering are disproportionately from smaller towns, particularly if their high school grades were over 70 per cent. Humanities students are also over-represented by small-town boys, while the reverse is true of students of the social sciences. The natural science students, other than those in engineering, are distributed proportionately according to

TABLE 4.6

The Relation of the Choice of Major Area of Study of Freshmen at McMaster University to the Size of Their Hometown, While Controlling For Their Final High School Grade

<u>MAJOR AREA OF STUDY</u>	<u>FINAL HIGH SCHOOL GRADE</u>			
	<u>69% and Below</u>		<u>70% and Above</u>	
	<u>Population of Hometown</u>			
	<u>Less than 100,000</u>	<u>More than 100,000</u>	<u>Less than 100,000</u>	<u>More than 100,000</u>
Engineering	17%	15%	32%	22%
Physical Sciences or Mathematics	10	10	23	24
Psychology, Pre-medical and Biological Sciences	15	16	20	18
Economics and Commerce	15	20	3	8
Other Social Sciences	30	31	11	21
Humanities and Divinity	13	9	10	8
	N (155)	(199)	(108)	(120)
	Total N = 582			

size of hometown. On the whole the differences are not large, but they are slightly more significant for those boys who got higher grades at high school.

Table 4.7 shows that engineering, the physical sciences and mathematics attract more Catholics than one would expect by chance, while Catholics are under-represented in the biological and related sciences. Catholics are very under-represented in social sciences other than economics and commerce and slightly over-

represented in the humanities. Since the number of students who stated they had no religious affiliation is small, 12 per cent of the whole sample, the reverse of the above statements is generally true for the Protestants, though because they constitute the majority of the students they tend to represent the norm.

TABLE 4.7

The Relation of the Choice of Major Area of Study of Freshmen at McMaster University to Their Religious Affiliation, While Controlling For Their Final High School Grade

MAJOR AREA OF STUDY	FINAL HIGH SCHOOL GRADE					
	69% and Below			70 % and Above		
	Religious Affiliation					
	Protestant	Catholic	None	Protestant	Catholic	None
Engineering	14%	23%	14%	24%	32%	32%
Physical Sciences or Mathematics	7	17	7	26	26	16
Psychology, Pre-Medical or Biological Sciences	17	10	16	18	12	20
Economics or Commerce	18	18	14	6	4	4
Other Social Sciences	35	19	33	16	14	28
Humanities or Divinity	9	13	16	10	12	0
	N (191)	(88)	(43)	(122)	(50)	(25)
Total N = 519						

Though conclusions regarding those without religious affiliation must remain tentative on account of the smallness of the group, it appears that they are under-represented in the physical sciences and

mathematics and in economics and commerce, but over-represented in the other social sciences. Though differences on the whole are generally small, religious affiliation appears to be more strongly related to the boys' choice of major area of study when their grades at high school were lower.

TABLE 4.8

The Relation of the Choice of Major Area of Study of Freshmen at McMaster University to Their Fathers' Ethnic Background, While Controlling For Their Final High School Grade

MAJOR AREA OF STUDY	FINAL HIGH SCHOOL GRADE					
	69% and Below			70% and Above		
	Father's Ethnic Background					
	British and Irish	Canadian	Other	British and Irish	Canadian	Other
Engineering	15%	12%	21%	18%	27%	34%
Physical Sciences or Mathematics	5	12	11	18	29	25
Psychology, Pre-Medical or Biological Sciences	13	16	16	22	13	16
Economics or Commerce	24	14	17	12	2	7
Other Social Sciences	33	36	20	24	18	11
Humanities or Divinity	11	10	15	8	11	7
	N (103)	(123)	(81)	(51)	(85)	(61)
Total N = 504						

Since the number of boys with fathers characterized as having backgrounds other than British or Canadian is fairly small it was not possible to consider them separately according to their ethnic background while controlling for high school grade. For this reason Table 4.8 considers only three groups, the boys with fathers of British and Irish background, those who consider their fathers to be of Canadian background, and the "rest", in relation to their high school grades and their choice of major area of study. Table 4.8 indicates that the sons of men of non-English-speaking background are over-represented in engineering and in the humanities, if their high school grades were below 69 per cent. The boys of British and Irish background are under-represented in the physical sciences and mathematics but are over-represented in economics and commerce. They are also over-represented in the other social sciences and in the biological and related sciences if their grades were above 70 per cent at high school. The boys who characterized their fathers as being of Canadian ethnic background, a minority of the sample, are under-represented in economics and commerce, in engineering if their high school grades were low, and in the biological and related sciences if their grades were high. However, they were over-represented in the "other" social sciences if they had lower grades and in physical sciences and mathematics if their grades were above 70 per cent. When the boys are categorized as they are in Table 4.8 the relation between their fathers' ethnic backgrounds and their choice of major area of study is about as strong

as it is between their fathers' occupations or the incomes of their parental families and their choice of major area of study.

The results shown in Table 4.9 must be interpreted with caution on account of the smallness of most of the groups involved. However, it would appear that boys of Dutch and German background are over-represented in engineering, while Italians are under-represented in this subject. The physical sciences and mathematics are under-represented by boys who consider their fathers to be of British or German descent and boys of Dutch background are under-represented in the biological and related sciences. The latter subjects have a disproportionately large percentage of boys whose fathers are of German or Central European background, however. Economics and commerce are over-represented by boys of British, Irish, and Ukrainian background but under-represented by boys who consider their fathers to be of Canadian, Dutch, or German background. In the other social sciences the British and Irish groups are over-represented, while the Dutch, German, and Polish are under-represented. Boys of Italian background are over-represented in the humanities but those of Ukrainian and Central European background are under-represented in this area of study. Some of the differences are quite large and the relation between the students' choice of major area of study and their fathers' ethnic backgrounds is fairly strong. Unfortunately the size of the groups involved does not enable one to draw any very firm conclusions in this context.

TABLE 4.9

The Relation of the Choice of Major Area of Study of Freshmen at McMaster University  
To Their Father's Ethnic Background

Major Area Of Study	Father's Ethnic Background								
	British	Canadian	Central European	Dutch	German	Irish	Italian	Polish	Ukrainian
Engineering	15%	18%	17%	53%	37%	19%	12%	26%	22%
Physical Sciences or Mathematics	8	19	17	21	7	12	21	22	13
Psychology, Pre- Medical or Bio- logical Sciences	16	15	22	0	26	12	12	17	17
Economics and Commerce	20	9	17	5	4	19	12	13	26
Other Social Sciences	30	28	22	11	11	31	21	13	17
Humanities and Divinity	11	10	6	11	15	8	21	9	4
N	(130)	(208)	(18)	(19)	(27)	(26)	(33)	(23)	(23)

Total N = 507



TABLE 4.10

The Relation of the Choice of Major Area of Study of Freshmen at McMaster University to the Immigrant/Canadian-Born Status of Their Parents

<u>Major Area of Study</u>	<u>Both Parents born in Canada</u>	<u>One Parent born in Canada</u>	<u>Both Parents immigrants</u>
Engineering	16%	19%	24%
Physical Sciences or Mathematics	14	16	18
Psychology, Pre-Medical and Biological Sciences	15	21	16
Economics and Commerce	15	11	10
Other Social Sciences	31	21	19
Humanities and Divinity	8	12	13
	N (286)	(107)	(174)

Total N = 571

Table 4.10 indicates that the sons of immigrants are over-represented in engineering, the physical sciences and mathematics, and the humanities. Boys who have only one parent born in Canada seem to be over-represented in psychology and the pre-medical and biological sciences. The sons of people born in Canada are over-represented in economics and commerce and the other social sciences, but are under-represented in all the other areas of study. The relationship shown in this study is fairly consistent and is quite strong. These results are to some extent connected with those shown in Tables 4.8 and 4.9 because some ethnic groups tended to immigrate earlier than others.

Most of the relationships described above are not strong but

they do indicate that some aspects of a student's social background are related to his choice of major area of study. Students of engineering, for example, are over-represented by Catholics, by small-town boys and by the sons of men with little formal education, who are sales, clerical, or skilled workers, and by the sons of immigrants. Students of economics and commerce tend to come from larger towns and from higher income families; they are over-represented by boys whose fathers are professionals, proprietors, or managers, with college experience, and who were born in Canada. Although we can describe the proportions of students in any field of study according to their social background we are not in a position to explain why or how their background influences their choice. For instance, we can see that a majority of the sons of men of Dutch background are majoring in engineering, while those of Italian background are over-represented in the humanities, and those of British background are over-represented in the social sciences, particularly in economics and commerce. However, an explanation of this would require a knowledge of the cultural values of these groups as they exist within Canadian society which is not readily available. We could speculate that the Dutch are attracted to a subject that is seen as particularly practical and concrete, that Italians prefer working in an expressive context, and that British values lead to a desire to manipulate the social environment -- but such speculation would, at present, rely upon the use of popular stereotypes rather than information that is systematically

obtained.

The results of the present study are in agreement with previous work in that the grades a student obtained at high school have a much stronger relation to his choice of major area of study than social background characteristics, such as socioeconomic status. However, the position of the boy's parents in the social structure can help to explain the decisions and aspirations the boys have at university. For example, we have shown how freshmen who are the sons of professionals, proprietors and managers, are more likely to have obtained high grades at high school. Yet students of economics and commerce, who generally have lower grades than students of natural sciences, are over-represented by the sons of professionals, proprietors and managers. We could now explain this, albeit inconclusively, by suggesting that, while high school grades are of prime importance as a selective factor, the values and expectations associated with a particular occupational status group encourage the boys to specialize in a particular field. Hence the academic demands of economics and commerce are maybe not so great as those of natural science departments but the boys, who had not been particularly successful at high school, see these subjects as a path to a financial position similar to that of their fathers. Had these boys been more successful at high school, on the one hand, they may have specialized in the pre-medical or biological sciences, but, on the other hand, had they been from a lower occupational group they may have chosen humanities, which would lead to a teaching career, less

financially rewarding but more secure than business. Finally, boys of lower occupational status who achieved high grades at high school may be attracted by engineering, which demands high ability and which will produce a high and secure income without the expensive prolonged training necessary to become a physician. Although the high school grades, which are themselves influenced by the students' backgrounds, are of great importance as a selective factor, the social backgrounds of the students, with regard to ethnicity, religious affiliation and size of hometown, as well as socioeconomic status, continue to exercise an influence over the freshmen's choice of major area of study and occupational aspirations while they are at university.

In this study we have emphasized the relation of sociological variables to students' fields of specialization, in contrast to those studies that concentrate on the psychological variables associated with specialization in various fields. The most productive approach for future research would appear to be one that considers both sociological and psychological variables. Then, instead of simply describing the students in any field of study according to either their social background or their personality, it should be possible to discover the values and attitudes associated with an individual's position in the social structure that lead him towards a particular field of specialization and type of occupation. Alternatively stated, this would imply finding the social bases for those values, attitudes, and personality types which characterize a given field of

study. It would also be interesting to estimate the magnitude of the influence of each of the various factors upon the boys' plans and decisions. A longitudinal study, involving both psychological and sociological variables, that would follow students through high school and university, and several years beyond to determine their actual rather than anticipated occupations, is clearly desirable. The present study can be viewed, therefore, as a pilot investigation which looks at the relation of various characteristics of students' social backgrounds to their decisions and aspirations relevant to their occupational choice.

It has been stated with regard to the state of education in Canada that,

We seem to be doing an admirable job of squandering the priceless human resources available to us. In fact it can be argued on the basis of the fragments of information at hand that we are utilizing to the full the talents of no more than one third of our academically gifted young men and women.<sup>9</sup>

More recently Porter has commented,

Even into the 1960's Canadian educational systems have yet to become democratized through to the university level. The possibilities for upward social mobility are reduced, and, at the same time, shortages of highly trained people for the new occupational structure continue. In this respect Canada is behind twentieth century democracy elsewhere.<sup>10</sup>

In view of this situation it is important to study the set of inter-related sociological and psychological variables which delineate the individual's position in the social structure and influence his chances in the education system. In the interests of the country's development, both economic and cultural, it is essential that its human potential be maximized. This means not only that individuals continue through the highest level of education from which they can benefit, but also that they choose the field of activity which best suits them. Even if a change in educational policy were to remove the financial barriers to higher education, social and psychological barriers resulting from factors connected with class, ethnic, and family traditions will continue to influence an individual's career aspirations and expectations. It is to the further understanding of some of these factors that this preliminary study has been aimed.

FOOTNOTES TO CHAPTER 4

1. John Porter, The Vertical Mosaic, University of Toronto Press, 1965, p. 92.
2. Carl Bereiter and Mervin B. Freedman, "Fields of Study and the People in Them" in Nevitt Sanford, (ed.), The American College, New York: John Wiley and Sons, 1962, p. 563.
3. Dael Wolfle, America's Resources of Specialized Talent, New York: Harper Bros., 1954, p. 48.
4. Bereiter and Freedman, op.cit. As examples of studies of this type see also H. B. Carlson, "Attitudes of Undergraduate Students", Journal of Social Psychology, 5 (1934), 202-212; P. J. Fay and W. C. Middleton, "Certain Factors Related to Liberal and Conservative Attitudes of College Students: Sex, Classification, Fraternity Membership, Major Subject", Journal of Educational Psychology, 30 (1939), 378-390; J. W. Hancock and C. C. Carter, "Student Personality Traits and Curriculae of Enrollment", Journal of Educational Research, 48 (1954), 225-227; Anne Roe, The Psychology of Occupations, New York: John Wiley and Sons, 1956; C. Sternberg, "Personality Trait Patterns of College Students Majoring in Differing Fields", Psychological Monograph, 69 (1955), No. 18; L. C. Teevan, "Personality Correlates of Undergraduate Field of Specialization", Journal of Consulting Psychology, 18 (1954), 212-214.
5. Wolfle, op. cit., p. 208.
6. Ibid., p. 209.
7. Ibid., p. 209.
8. Ibid., p. 210.
9. R. W. B. Jackson and W. G. Fleming, "Who Goes To University? English Canada" in Claude T. Bissell (ed.), Canada's Crisis in Higher Education, University of Toronto Press, 1957, p. 76.
10. Porter, op. cit., pp. 557-558.

## APPENDIX

The questionnaire used in this study was constructed in such a way that it could be answered on IBM marked sense cards. Hence all the questions involved restricted responses, the respondent being required to select a suitable category and indicate his choice on the card. Apart from the identification, thirty-nine questions were asked. Several of these questions were similar to ones used in previous studies, particularly one carried out by the National Opinion Research Centre, and others were constructed after consulting the relevant data in the Canadian Census. The question concerning occupational choice was given a pre-test with a second year sociology class. The most frequently specified "Other" choices were incorporated with the preliminary list in order to reduce the number of responses to this category in the questionnaire. The respondents to the questionnaire were requested to specify their choice of occupation on the back of the card if it was not on the list provided and it was possible to add several of these into categories in the list. This enabled the "Other" category in this question to be reduced finally to only four per cent of the respondents.

The questionnaire, including instructions for its use, was printed on seven pages which were stapled together. Enclosed with



the questionnaire were two IBM marked sense cards, an electrographic pencil, and a stamped, addressed envelope in which to return the cards. It was judged that most of the students would have had previous experience of using these cards, either for other questionnaires or in examinations, and the care with which most of the returned cards had been completed showed that this was justified. Only 18 of the 606 pairs of cards that were returned were unusable.

Two weeks after the questionnaire had been mailed, eliciting an initial response of 60 per cent, a reminder card was mailed to all those who had failed to return their cards. This produced a further return of 10 per cent, the final total of usable returns being 68 per cent of the sample. (An example of the questionnaire used in this study, including the percentages of responses to each category of all thirty-nine questions is included at the end of this Appendix.)

The data obtained through use of this questionnaire was analyzed with the assistance of an IBM 70/40, 70/44 Computer System. The analysis is far from being exhaustive and much of the data obtained was not used at all for the present study. The emphasis of this study was placed on the relationship of various social background factors upon the final high school grade and the choice of major area of study of the students in the sample. (Chi square tests were applied in the analysis and statements were made only with regard to those relationships which were significant at the 10 per cent level.)

The chief dependent variable selected for this investigation was the respondent's choice of major area of study at the university.

Other variables employed in this study include age, number of high school friends who had gone to university, religious affiliation, size of hometown, final high school grade, circumstances in which decisions with regard to a career were made, intentions with regard to post-graduate study, the type of activity involved with in anticipated career, the "level" of occupation aspired to, the father's occupational status, the father's educational level, the mother's educational level, the annual income of the parental family, the father's ethnic background, the mother's ethnic background, and the parents' status vis-a-vis immigration. All information pertaining to these variables was derived from the responses to the questionnaire, though a sample of the reported final high school grades was checked with information from the Registrar. In most of the variables the categories originally given in the questionnaire have been combined in some way for the purposes of analysis.

The variable major area of study consists of six categories: engineering; physical sciences or mathematics; psychological, pre-medical, or biological sciences; economics or commerce; other social sciences; and humanities or divinity.

The variable age consists of two categories: 19 years or younger, and 20 years or older.

The variable number of best friends at high school who have gone to university consists of two groups: those who had less than four friends go to university, and those who had four or five friends

go.

The variable religious affiliation consists of three categories: Protestants; Catholics; and those with no religious affiliation.

The variable size of hometown consists of two groups of roughly similar size: those with a population of less than 100,000, and those with a population of more than 100,000.

The variable final high school grade is divided into different groups at times, but generally consists either of "65 per cent and below" and "66 per cent and above", or of "69 per cent and below" and "70 per cent and above".

The variable circumstances in which decisions with regard to careers were made consists of four groups: those who made decisions at school; those who made them at home; those who made them at university; and those who had no career plans yet.

The variable intentions with regard to post-graduate study divides the sample into four groups: those with no intention to study further; those with no definite plans; those who intend to work for a while prior to further study; and those who intend to start graduate or professional studies immediately.

The variable type of activity to be chiefly involved with in anticipated career consists of five categories: teaching; research; engineering; business; and service to patients or clients.

The variable level of occupation aspired to divides the sample into three groups: "High", "Low", and "Undecided". The "level" of

occupation was determined by looking up the score of the occupation aspired to on Blishen's Occupational Class Scale. Naturally all the occupations selected by this sample fell within the top classes of Blishen's Scale, so his "Class" divisions were not used. Instead, the groups "High" and "Low" used in this study were divided to form roughly equal groups of the sample.

The variables father's occupational status and father's father's occupational status are based on a ranking of occupational categories according to the approximate years of education required to obtain them and the income they provide. The sample is divided into three groups: "High", consisting of professionals, proprietors and managers; "Medium", consisting of sales, clerical, and skilled manual workers; and "Low", consisting of semi-skilled, unskilled, and service workers.

The variables father's level of education and mother's level of education each contain the same four categories: 8th grade or less; part high school; high school graduate; and college experience.

The variable annual income of the parental family is divided into different groups; either "less than \$7,999" and "more than \$8,000"; or "less than \$6,999", "\$7,000 to \$9,999", and "more than \$10,000". The limits of these groups are determined solely on the grounds of having groups of roughly similar size, and the number of groups required by the analysis.

The variables father's ethnic background and mother's ethnic background contain the same nine groups, selected because they were

the largest in the sample: British, Canadian, Central European, Dutch, German, Irish, Italian, Polish, and Ukrainian. Though some of these groups are very small, the only way they are ever combined is to put them into three groups: Canadian; British and Irish; and "Others", who are not English-speaking.

The variable concerned with the immigrant or Canadian-born status of parents consists of three categories: both parents born in Canada; one parent born in Canada; and both parents immigrants.

The results of this study are presented in the text in the form of bivariate tables (sometimes a control variable is added) showing the proportions of students with various achievements and aspirations, according to certain aspects of their background.

STUDENT SURVEY QUESTIONNAIRE

This questionnaire is part of a piece of sociological research which is designed to discover something about the relationship between students' backgrounds and their aspirations. It is very important that everyone who receives a questionnaire should answer it in order to fulfil the demands of statistical sampling. Please complete it as quickly as possible -- it won't take long.

Your replies to this questionnaire are completely confidential and absolutely no information of any kind about specific persons will be released to the University authorities or anyone else. Your responses will be analyzed along with hundreds of others by computer and will therefore be completely anonymous. However, in order to assess the statistical representativeness of the students in the sample it is necessary to have part of your student number on both cards.

Before beginning to answer the questions, please read the instructions carefully.

INSTRUCTIONS

Two answer cards are provided for your answers. Please do not fold or bend these cards.

Use only the electrographic pencil provided for marking on the face of these cards. Make all your pencil marks heavy and fill the entire oval. If you want to change your answer, erase your original answer completely. IT IS IMPORTANT NOT TO MAKE ANY OTHER MARKS ON THE CARD.

A column number, and sometimes more than one, is assigned to each item, e.g., the first item on the questionnaire is Card 1, Column 1. There are 27 columns on each card; you will find them numbered along the bottom of the card.

The first mark to be put on each card is the number of the card. This means that on one card you will fill in the oval marked 1 in column 1. This card is then the first card. On the other card fill in the oval marked 2 in the first column to show that it is the second card. It is most important that you should do this.

Mark the last five digits of your student number in the columns 2 to 6 on the first card. For example, if your student number were 6535890, you would mark your card like this, with one digit per column, missing out the first two digits:

0	0	0	0	0	☛
1	1	1	1	1	
2	2	2	2	2	
☛	3	3	3	3	
4	4	4	4	4	
5	☛	5	5	5	
6	6	6	6	6	
7	7	7	7	7	
8	8	☛	8	8	
9	9	9	☛	9	
<hr style="width: 20%; margin: 0 auto;"/>					
Column Number	2	3	4	5	6

Read each question and its numbered answers. When you have decided which is the best alternative, mark the whole of the corresponding oval space in the appropriate column of the relevant answer card. For example, if you decide number 3 is the best alternative for the question for column 14 of the second card, then you mark the oval space number 3 in the 14th column of that card.

Do not enter more than one mark for any question, otherwise it will be invalid.

Enter one mark for every question. If you are unsure, please mark the response that seems to represent your feelings about the item.

I would be very grateful if you would be so kind as to mail the completed cards promptly, using the stamped, addressed envelope provided.

*O. Nigel Bolland*

O. Nigel Bolland,  
Department of Sociology,  
McMaster University.

QUESTIONS TO BE ANSWERED BY YOU ON THE FIRST CARD

Card number: 1

Please put in last five digits of your student number.

What is your age?

- |                        |    |                      |   |
|------------------------|----|----------------------|---|
| 1. 18 years or younger | 17 | 5. 22 years          | 3 |
| 2. 19 years            | 39 | 6. 23 - 24 years     | 7 |
| 3. 20 years            | 23 | 7. 25 - 29 years     | 3 |
| 4. 21 years            | 6  | 8. 30 years or older | 1 |

What is your marital status?

- |  |    |
|--|----|
| 1. Single, don't expect to be married before Fall, 1969. | 87 |
| 2. Single, expect to be married before Fall, 1969.       | 6  |
| 3. Married, no children.                                 | 3  |
| 4. Married, expecting a child.                           | 0  |
| 5. Married, one or more children.                        | 2  |
| 6. Separated.  | 0  |
| 7. Divorced.   | 1  |
| 8. Widowed.  | 0  |

How many brothers or sisters do you have?

- |          |    |                  |   |
|----------|----|------------------|---|
| 1. None  | 10 | 6. Five          | 4 |
| 2. One   | 30 | 7. Six           | 3 |
| 3. Two   | 29 | 8. Seven         | 2 |
| 4. Three | 14 | 9. Eight or more | 2 |
| 5. Four  | 7  |                  |   |

How many of the five best friends you had while you were at high school have gone to university?

- |          |    |                 |    |
|----------|----|-----------------|----|
| 1. One   | 10 | 5. All of them  | 27 |
| 2. Two   | 18 | 6. None of them | 6  |
| 3. Three | 19 |                 |    |
| 4. Four  | 22 |                 |    |

How many of the five best friends you have now have you met at University?

- |          |    |                 |    |
|----------|----|-----------------|----|
| 1. One   | 21 | 5. All of them  | 8  |
| 2. Two   | 20 | 6. None of them | 27 |
| 3. Three | 13 |                 |    |
| 4. Four  | 22 |                 |    |

What is your religious affiliation?

- |                 |    |                   |    |
|-----------------|----|-------------------|----|
| 1. Anglican     | 18 | 6. Roman Catholic | 24 |
| 2. Baptist      | 5  | 7. United         | 21 |
| 3. Jewish       | 3  | 8. None           | 12 |
| 4. Lutheran     | 3  | 9. Other          | 7  |
| 5. Presbyterian | 7  |                   |    |

Which of the following best describes the community which you think of as your home town during High School days?

- |   |    |
|---|----|
| 1. Farm or open country   | 10 |
| 2. Less than 50,000 population  | 20 |
| 3. 50,000 to 100,000 population   | 15 |
| 4. Suburb in a metropolitan area of 100,000 to 250,000 population       | 8  |
| 5. Central city in a metropolitan area of 100,000 to 250,000 population | 5  |
| 6. Suburb in a metropolitan area of 250,000 to 500,000 population       | 13 |
| 7. Central city in a metropolitan area of 250,000 to 500,000 population | 17 |
| 8. Suburb in a metropolitan area of 500,000 or more population          | 6  |
| 9. Central city in a metropolitan area of 500,000 or more population    | 5  |

What is the source of your income while you are studying at college?

- |  |    |
|--|----|
| 1. Your parents or spouse  | 13 |
| 2. A part-time job   | 12 |
| 3. A loan  | 3  |
| 4. Your parents or spouse <u>and</u> a part-time job                   | 20 |
| 5. Your parents or spouse <u>and</u> a loan                            | 5  |
| 6. A part-time job <u>and</u> a loan                                   | 7  |
| 7. Your parents or spouse <u>and</u> a part-time job <u>and</u> a loan | 5  |
| 8. Other, such as a scholarship, your own savings, etc.                | 22 |
| 9. A combination of 1, 2, or 3 with any other source of income         | 14 |

COL. QUESTIONS TO BE ANSWERED BY YOU ON THE FIRST CARD

What is your major area of study?

- |                                     |    |                           |    |
|-------------------------------------|----|---------------------------|----|
| 1. Engineering                      | 20 | 6. Economics and commerce | 13 |
| 2. Physical sciences or mathematics | 15 | 7. Other social sciences  | 25 |
| 3. Biological sciences              | 4  | 8. Humanities             | 10 |
| 4. Pre-medical                      | 3  | 9. Divinity               | 1  |
| 5. Psychology                       | 9  |                           |    |

What was your final High School grade?

- |                 |    |                 |    |
|-----------------|----|-----------------|----|
| 1. 50 and below | 0  | 6. 66 - 69      | 21 |
| 2. 51 - 54      | 0  | 7. 70 - 74      | 20 |
| 3. 55 - 59      | 12 | 8. 75 - 79      | 9  |
| 4. 60 - 62      | 10 | 9. 80 and above | 10 |
| 5. 63 - 65      | 18 |                 |    |

If you participate in extra-curricular activity at this University, which one of the following best describes your sphere of participation?

- |   |    |
|---|----|
| 1. Editorial staff of "Silhouette" or other campus publication            | 2  |
| 2. Musical, dramatic or debating group                                    | 4  |
| 3. Business staff of a campus publication                                 | 1  |
| 4. Campus group concerned with national or world issues                   | 1  |
| 5. Inter-collegiate games   | 17 |
| 6. Special interest group (e.g., Psychology Club, Photography Club, etc.) | 8  |
| 7. Student government   | 1  |
| 8. Other  | 22 |
| 9. None   | 45 |

Which one of the following purposes or results of college is the most important to you personally?

- |   | FIRST | SECOND |
|---|-------|--------|
| 1. A basic general education and appreciation of ideas                      | 15    | 20     |
| 2. Having a variety of experiences while getting a degree                   | 10    | 14     |
| 3. Getting the information, training and qualifications needed for a career | 51    | 18     |
| 4. Developing the ability to get along with different kinds of people       | 2     | 11     |
| 5. More rapid promotion in my chosen career                                 | 4     | 9      |
| 6. Developing my potential creative mental ability                          | 10    | 13     |
| 7. Help develop moral capacities, ethical standards and values              | 1     | 4      |
| 8. Develop knowledge and interest in community and world problems           | 4     | 7      |
| 9. Other  | 3     | 3      |

Which one of the above purposes or results of college is the next most important to you personally?

What are your intentions now with regard to post-graduate study?

- |  |    |
|--|----|
| 1. No definite plans                                     | 43 |
| 2. No intention to study further                         | 10 |
| 3. To work for a while prior to further study            | 16 |
| 4. To start graduate or professional studies immediately | 30 |

If you do anticipate going on to further study as soon as you graduate, please mark number -

- |   |    |
|---|----|
| 1. Anticipate going on to further study | 42 |
|---|----|

If not, please mark whichever of the following best explains why you do not anticipate going on to advanced study immediately you get your Bachelor's degree:

- |  |    |
|--|----|
| 2. Financial obstacles                             | 7  |
| 3. Can get a desirable job without further studies | 11 |
| 4. Graduate school demands such high grades        | 1  |
| 5. I would rather get married                      | 4  |
| 6. I want to get practical experience first        | 14 |
| 7. I don't think I have the ability                | 6  |
| 8. I'm tired of being a student                    | 12 |
| 9. Family responsibilities                         | 4  |

Which one of the following possibilities best describes the circumstances in which you made your most important decisions with regard to a career?

- |   |    |
|---|----|
| 1. Before grade 10; influenced at school              | 3  |
| 2. Before grade 10; influenced at home                | 3  |
| 3. Between grades 10 and 12; influenced at school     | 14 |
| 4. Between grades 10 and 12; influenced at home       | 4  |
| 5. In final year at high school; influenced at school | 14 |
| 6. In final year at high school; influenced at home   | 5  |
| 7. In first year at University                        | 21 |
| 8. In other circumstances than the above              | 22 |
| 9. No career plans yet                                | 14 |



## CARD COL. QUESTIONS TO BE ANSWERED BY YOU ON THE FIRST CARD

23 Please select from the following possibilities the one which has had the most effect on your career plans or decisions while you have been at University:

- |   |    |
|---|----|
| 1. Vocational or other psychological tests              | 2  |
| 2. Interviews with a professional vocational counsellor | 3  |
| 3. Discussions with faculty members                     | 10 |
| 4. Discussions with other undergraduates                | 30 |
| 5. Discussions with old High School friends             | 5  |
| 6. Advice mainly from father                            | 2  |
| 7. Advice mainly from mother                            | 1  |
| 8. Advice from both parents equally                     | 3  |
| 9. There has been no change in plans                    | 45 |

24 The following activities cut across a number of jobs. Which activity do you anticipate you will be chiefly involved with in your career?

- |                            |    |                                       |    |
|----------------------------|----|---------------------------------------|----|
| 1. Teaching                | 27 | 6. Administration other than business | 6  |
| 2. Research                | 15 | 7. Fine arts or entertainment         | 2  |
| 3. Engineering             | 16 | 8. Service to patients or clients     | 13 |
| 4. Business - production   | 6  | 9. Other                              | 9  |
| 5. Business - distribution | 7  |                                       |    |

25 Which of the following will be your most likely employer when you begin full-time work in your anticipated career field?

- |  |    |
|--|----|
| 1. Private company with 100 or more employees                                  | 27 |
| 2. Private company with fewer than 100 employees or a professional partnership | 10 |
| 3. Family business or self-employed  | 5  |
| 4. Research organization or institute  | 8  |
| 5. College or university   | 7  |
| 6. Other educational institutions  | 22 |
| 7. Federal or Provincial government  | 9  |
| 8. Hospital, Church, clinic, welfare organization, etc.                        | 8  |
| 9. Other   | 5  |

26 Which one of these characteristics would be the most important to you in choosing a job or career?

1. A chance to exercise leadership
2. The promise of moderate but regular promotion rather than the chance of extreme success or failure.
3. The chance to travel
4. Living and working in the world of ideas
5. Opportunities to be helpful to others or to society
6. Freedom from supervision in my work
7. Making a lot of money
8. Opportunities to be original and creative
9. Opportunity to work with people rather than things

27 Which one of the above-mentioned characteristics would be the next most important to you in choosing a job or career?

## CARD COL. QUESTIONS TO BE ANSWERED BY YOU ON THE SECOND CARD

## RESPONSES FOR CARD COLS. 26 AND 27

1	Card number: 2	FIRST	SECOND
1 - 6	Please put in last five digits of your student number	1. 7	9
		2. 13	9
		3. 7	13
		4. 13	9
		5. 16	14
		6. 6	9
		7. 9	17
		8. 11	11
		9. 18	11

L. QUESTIONS TO BE ANSWERED BY YOU ON THE SECOND CARD

Please indicate in which of the following occupations you are hoping to work eventually. Make only one choice and mark it on the card by marking the first digit of the number representing your choice in column 7 and the second digit in column 8; e.g., if you choose occupation number 84, you would mark oval 8 in column 7 and oval 4 in column 8. (If you choose an occupation that is not listed please indicate 93 - and write your choice clearly on the back of the card.)

- |   |  |
|---|--|
| 3 10. Accountant or auditor                 | 0 55. Manager, construction                                  |
| 0 11. Actor                                 | 1 56. " , finance  |
| 0 12. Actuary                               | 0 57. " , forestry   |
| 0 13. Advertising agent                     | 1 58. " , manufacturing                                      |
| 0 14. Agricultural professional             | 0 59. " , mining   |
| 1 15. Air pilot                             | 2 60. " , personnel  |
| 0 16. Architect                             | 0 61. " , retail trade                                       |
| 0 17. Artist or art teacher                 | 0 62. " , transportation                                     |
| 0 18. Artist, commercial                    | 0 63. " , wholesale trade                                    |
| 2 19. Author, editor or journalist          | 1 64. " , other  |
| 3 20. Biological scientist                  | 1 65. Metallurgist   |
| 0 21. Broker, agent or appraiser            | 0 66. Musician or music teacher                              |
| 0 22. Business service officer              | 0 67. Nurse - graduate                                       |
| 5 23. Chemist                               | 0 68. Officer, armed forces                                  |
| 2 24. Clergyman or priest                   | 0 69. Osteopath or chiropractor                              |
| 0 25. Commercial traveller                  | 0 70. Petroleum refiner                                      |
| 0 26. Community service worker              | 0 71. Pharmacist   |
| 1 27. Computer programmer                   | 0 72. Photo-engraver   |
| 1 28. Dentist                               | 0 73. Photographer   |
| 0 29. Designer, clothing                    | 0 74. Physical and occupational therapist                    |
| 0 30. Draughtsman                           | 3 75. Physician or surgeon                                   |
| 0 31. Electricity, gas or water official    | 3 76. Physicist  |
| 0 32. Engineer, chemical                    | 4 77. Professor or college principal                         |
| 3 33. " , civil                             | 5 78. Psychologist   |
| 5 34. " , electrical                        | 0 79. Purchasing Agent                                       |
| 0 35. " , locomotive                        | 0 80. Radio announcer  |
| 4 36. " , mechanical                        | 0 81. Radio operator   |
| 0 37. " , mining                            | 0 82. Real estate agent or dealer                            |
| 0 38. Foreman, commercial                   | 0 83. Recreation service officer                             |
| 0 39. " , communication                     | 1 84. School teacher   |
| 0 40. " , manufacturing                     | 1 85. Social welfare worker                                  |
| 0 41. " , mining                            | 0 86. Statistician   |
| 0 42. " , transportation                    | 0 87. Stenographer   |
| 0 43. Geologist                             | 0 88. Stock and bond broker                                  |
| 3 44. Government service official - Federal | 0 89. Surveyor   |
| 0 45. " " " - Provincial                    | 2 90. Urban or regional planner                              |
| 0 46. " " " - Local                         | 0 91. Veterinarian   |
| 0 47. Inspector, communication              | 0 92. Vocational guidance counsellor                         |
| 0 48. " , construction                      | 4 93. Other - please specify on the <u>back</u> of the card. |
| 0 49. " , metal                             |  |
| 0 50. Insurance agent                       | 10 94. Undecided   |
| 0 51. Judge or magistrate                   |  |
| 0 52. Laboratory technician                 |  |
| 0 53. Lawyer or notary                      |  |
| 0 54. Librarian                             |  |

Please indicate the extent of your agreement or disagreement with each of the following statements:

"I'd prefer to have a job which enables me to remain near my parents".

- |                      |    |
|----------------------|----|
| 1. Strongly agree    | 1  |
| 2. Agree             | 13 |
| 3. Neutral           | 53 |
| 4. Disagree          | 23 |
| 5. Strongly disagree | 9  |

"I would be satisfied with a job where I was part of an organization all working together even if I didn't get individual credit".

- |                      |    |
|----------------------|----|
| 1. Strongly agree    | 4  |
| 2. Agree             | 30 |
| 3. Neutral           | 24 |
| 4. Disagree          | 31 |
| 5. Strongly disagree | 10 |

RD COL. QUESTIONS TO BE ANSWERED BY YOU ON THE SECOND CARD

- 11 "Religion plays a dominant part in my life".
- |                      |    |
|----------------------|----|
| 1. Strongly agree    | 12 |
| 2. Agree             | 22 |
| 3. Neutral           | 25 |
| 4. Disagree          | 24 |
| 5. Strongly disagree | 17 |
- 12 "If truly artistic criteria are used, something such as Oldenburg's 'Giant Hamburger', electronic music, or Warhol's 'Exploding Plastic Inevitable', cannot be considered seriously".
- |                      |    |
|----------------------|----|
| 1. Strongly agree    | 11 |
| 2. Agree             | 23 |
| 3. Neutral           | 32 |
| 4. Disagree          | 27 |
| 5. Strongly disagree | 5  |
- 13 "The use of such drugs as LSD is providing an opportunity for a real breakthrough in the sphere of artistic experience".
- |                      |    |
|----------------------|----|
| 1. Strongly agree    | 3  |
| 2. Agree             | 13 |
| 3. Neutral           | 26 |
| 4. Disagree          | 30 |
| 5. Strongly disagree | 27 |
- 14 "If the USSR remains Communist, life there will never be as good as life in Canada".
- |                      |    |
|----------------------|----|
| 1. Strongly agree    | 10 |
| 2. Agree             | 22 |
| 3. Neutral           | 15 |
| 4. Disagree          | 42 |
| 5. Strongly disagree | 11 |
- 15 "Planning only makes a person unhappy since your plans hardly ever work out anyhow".
- |                      |    |
|----------------------|----|
| 1. Strongly agree    | 2  |
| 2. Agree             | 4  |
| 3. Neutral           | 10 |
| 4. Disagree          | 49 |
| 5. Strongly disagree | 34 |
- 16 Which of the following categories best describes the usual occupation of your father?
- |  |    |
|--|----|
| 1. Professional - income from fees: e.g., doctor, architect, lawyer  | 3  |
| 2. Professional - income from salary: e.g., social worker, teacher, clergyman  | 15 |
| 3. Proprietor or manager: e.g., proprietors of businesses, farm owners, managers of financial and industrial enterprises, assistant executives | 28 |
| 4. Sales (other than sales manager or administrator): e.g., auto salesman, real estate salesman  | 6  |
| 5. Clerical: e.g., bank clerk or cashier, bookkeeper, secretary  | 7  |
| 6. Skilled worker: e.g., electrician, plumber, carpenter, watchmaker, radio repairman  | 20 |
| 7. Semi-skilled worker: e.g., moulder, assistant to plumber, timberman, assembly-line worker   | 11 |
| 8. Service worker: e.g., policeman, barber, fireman, taxi-driver, bartender  | 4  |
| 9. Unskilled worker: e.g., janitor, farm and other heavy labour  | 6  |
- 17 Which of the following categories best describes the usual occupation of your mother?  
(See examples above)
- |  |    |
|--|----|
| 1. Professional                                      | 6  |
| 2. Proprietor or manager                             | 2  |
| 3. Sales (other than sales manager or administrator) | 4  |
| 4. Clerical  | 7  |
| 5. Skilled worker                                    | 3  |
| 6. Semi-skilled worker                               | 3  |
| 7. Service worker                                    | 2  |
| 8. Unskilled worker                                  | 3  |
| 9. Housewife   | 71 |

18 What is your father's educational level?

1. 8th grade or less	23	4. Part college	9
2. Part High School	33	5. College graduate	8
3. High School graduate	21	6. Graduate or professional degree beyond the Bachelor's	6

19 What is your mother's educational level?

1. 8th grade or less	23	4. Part college	7
2. Part high school	35	5. College graduate	5
3. High School graduate	28	6. Graduate or professional degree beyond the Bachelor's	1

20 Which of the following is the income category for your parental family? Please consider annual income from all sources before taxes.

1. Less than \$ 3,999 per year	7
2. \$4,000 to 6,999	30
3. 7,000 to 7,999	14
4. 8,000 to 8,999	10
5. 9,000 to 9,999	10
6. 10,000 to 11,999	14
7. 12,000 to 14,999	5
8. 15,000 to 19,999	5
9. 20,000 and more	3

21 Which of the following categories best describes the usual occupation of your father's father, prior to retirement? (See examples in 16)

1. Professional - income from fees	3
2. Professional - income from salary	4
3. Proprietor or manager	20
4. Sales (other than sales manager or administrator)	4
5. Clerical	5
6. Skilled worker	24
7. Semi-skilled worker	13
8. Service worker	5
9. Unskilled worker	21

22 Which of the following categories best describes the usual occupation of your mother's father, prior to retirement? (See examples in 16)

1. Professional - income from fees	3
2. Professional - income from salary	7
3. Proprietor or manager	20
4. Sales (other than sales manager or administrator)	4
5. Clerical	3
6. Skilled worker	22
7. Semi-skilled worker	13
8. Service worker	6
9. Unskilled worker	22

23-24 From the alternatives shown please indicate in the next two columns what you consider your father's ethnic background to be:

	<u>FATHER</u>	<u>MOTHER</u>		<u>FATHER</u>	<u>MOTHER</u>		<u>FATHER</u>	<u>MOTHER</u>
10. American	1	1	16. German	5	5	22. Oriental	2	2
11. British	22	25	17. Greek	0	0	23. Polish	4	3
12. Canadian	35	33	18. Irish	4	5	24. Russian	0	0
13. Central European	3	3	19. Italian	6	6	25. Scandinavian	1	1
14. Dutch	3	3	20. Jewish	2	2	26. Ukrainian	4	5
15. French	1	0	21. Lithuanian	1	1	27. Other	5	4

26 From the alternatives shown above please indicate in the next two columns what you consider your mother's ethnic background to be.

27 Please indicate which one of the following is true:

1. Both my parents were born in Canada	50
2. Only my father was an immigrant	9
3. Only my mother was an immigrant	9
4. Both of my parents were immigrants	31

THANK YOU VERY MUCH

## BIBLIOGRAPHY

### Books

- Bissell, Claude T., (ed.). Canada's Crisis in Higher Education. Toronto: University of Toronto Press, 1957.
- Carlsson, Gösta. Social Mobility and Class Structure. Lund: Gleerup, 1958.
- Census of Canada. Ottawa: Dominion Bureau of Statistics, 1961.
- Davis, James A. Great Aspirations. Chicago: Aldine, 1964.
- . Undergraduate Career Decisions. Chicago: Aldine,
- Drucker, Peter F. Landmarks of Tomorrow. New York: Harper Bros., 1959.
- Fleming, W. G. Background and Personality Factors Associated with Educational and Occupational Plans and Careers of Ontario Grade 13 Students. Toronto: O. E. E., 1957.
- Floud, J. E., A. H. Halsey, and F. M. Martin. Social Class and Educational Opportunity. London: Heinemann, 1956.
- Ginzberg, E., S. W. Ginzberg, S. Axelrad, and J. E. Herma. Occupational Choice: An Approach to a General Theory. New York: Columbia University Press, 1951.
- Glass, D. V. (ed.). Social Mobility in Britain. London: Routledge and Kegan Paul, 1954.
- Goldsen, Rose K., Morris Rosenberg, Robin M. Williams, Jr., and Edward A. Suchman. What College Students Think. Princeton: Van Nostrand, 1960.
- Gordon, Milton M. Assimilation in American Life. New York: Oxford University Press, 1964.

- Halsey, A. H., J. Floud, C. Arnold Anderson. Education, Economy, and Society. New York: Free Press, 1961.
- Herberg, Will. Protestant, Catholic, Jew. New York: Doubleday, 1955.
- Hollinshead, Byron S., (ed.). Who Should Go To College? New York: Columbia University Press, 1953.
- Jacob, P. E. Changing Values in College: An Exploratory Study of the Impact of College Teaching. New York: Harper Brothers, 1957.
- Lehmann, I. J. and S. O. Ikenberry. Critical Thinking, Attitudes, and Values in Higher Education: A Preliminary Report. East Lansing, Michigan: Michigan State University, 1959.
- Lenski, Gerhard. The Religious Factor. New York: Doubleday, 1961.
- Lipset, Seymour M., Reinhard Bendix. Social Mobility in Industrial Society. University of California Press, 1959.
- McClelland, D. C., et al. Talent and Society. Princeton: Van Nostrand, 1958.
- McClelland, David C. The Achieving Society. Princeton: Van Nostrand, 1961.
- Newcomb, T. M. Personality and Social Change: Attitude Formation in a Student Community. New York: Dryden Press, 1943.
- Porter, John. Canadian Social Structure: A Statistical Profile. Toronto: McClelland and Stewart, 1967.
- . The Vertical Mosaic. Toronto: University of Toronto Press, 1965.
- Rabinovitch, Robert. An Analysis of the Canadian Post Secondary Student Population Part I: A Report on Canadian Undergraduate Students. Ottawa: Canadian Union of Students Secretariat, 1966.
- Riesman, David. Constraint and Variety in American Education. Lincoln, Nebraska: University of Nebraska Press, 1956.
- Roe, Anne. The Psychology of Occupations. New York: Wiley, 1956.
- Rosenberg, Morris, et al. Occupations and Values. Glencoe: Free Press, 1957.

- Sanford, Nevitt. The American College. New York: John Wiley, 1962.
- Sorokin, Pitirim A. Social and Cultural Mobility. New York: Free Press, 1959.
- Strong, E. K. Jr. Vocational Interests of Men and Women. Stanford University Press, 1943.
- Wallace, Walter L. Peer Groups and Student Achievement. Chicago: Aldine,
- Warner, W. Lloyd, Robert J. Havighurst, and Martin B. Loeb. Who Shall Be Educated? New York: Harper Brothers, 1944.
- Weber, Max. The Protestant Ethic and the Spirit of Capitalism. (trans. by Talcott Parsons). New York: Charles Scribner's Sons, 1958.
- Wofle, Dael. America's Resources of Specialized Talent. New York: Harper Bros., 1954.

#### Articles

- Alexander, C. Norman, Jr., and Ernest Q. Campbell. "Peer Influences on Adolescent Educational Aspirations and Attainments", American Sociological Review, 29 (Aug. 1964), 568-575.
- Anderson, C. Arnold. "A Skeptical Note on the Relation of Vertical Mobility to Education", American Journal of Sociology, 66 (1961), 560-570.
- Bereiter, Carl and Mervin B. Freedman. "Fields of Study and the People in Them" in Nevitt Sanford (ed.), The American College, New York: John Wiley and Sons, 1962, 563-596.
- Bernstein, Basil. "Some Sociological Determinants of Perception", British Journal of Sociology, 9 (1958), 159-174.
- Blishen, Bernard R. "The Construction and Use of An Occupational Class Scale", Canadian Journal of Economic and Political Science, 24, 6 (Nov. 1958), 521-531.
- Bradley, William Arthur, Jr. "Correlates of Vocational Preferences", Genetic Psychology Monographs, 28 (1943), 99-169.

- Breton, Raymond. "Institutional Completeness of Ethnic Communities and the Personal Relations of Immigrants", American Journal of Sociology, 70 (Sept. 1964), 193-205.
- Brunner, Edmund deS, and Sloan Wayland. "Occupation, Labour Force Status and Education", Journal of Educational Sociology, 32, 1 (1958), 8-20.
- Carlson, H. B. "Attitudes of Undergraduate Students", Journal of Social Psychology, 5 (1934), 202-212.
- Centers, R. "Education and Occupational Mobility", American Sociological Review, 14 (1949), 143-144.
- Dalton, Melville. "Worker Response and Social Background", Journal of Political Economy, 55 (1947), 323-332.
- Duncan, Otis Dudley and Robert W. Hodge. "Education and Occupational Mobility: A Regression Analysis", American Journal of Sociology, 68 (1963), 629-644.
- Dynes, Russell R., Alfred C. Clarke, and Simon Dinitz. "Levels of Occupational Aspiration: Some Aspects of Family Experience as a Variable", American Sociological Review, 21 (1956), 212-215.
- Eckland, Bruce K. "Social Class and College Graduation: Some Misconceptions Corrected", American Journal of Sociology, 70 (July 1964), 36-50.
- , "Academic Ability, Higher Education, and Occupational Mobility", American Sociological Review, 30 (Oct. 1965), 735-746.
- Elder, Glen H. "Family Structure and Educational Attainment- A Cross National Analysis", American Sociological Review, 30, 1 (Feb. 1965), 81-96.
- , "Structural Variations in the Child-Rearing Relationship", Sociometry, 25 (Sept. 1962).
- Elder, Glen H., Jr. "Achievement Orientations and Career Patterns of Rural Youth", Sociology of Education, 37 (Fall 1963), 30-58.
- Elder, Glen H. Jr. "Life Opportunity and Personality: Some Consequences of Stratified Secondary Education in Great Britain", Sociology of Education, 38, 3 (Spring 1965).



- Ellis, Robert A. and W. Clayton Lane. "Structural Supports for Upward Mobility", American Sociological Review, 28 (October 1963), 743-756.
- Fay, P. J. and W. C. Middleton. "Certain Factors Related to Liberal and Conservative Attitudes of College Students: Sex, Classification, Fraternity Membership, Major Subject", Journal of Educational Psychology, 30 (1939), 378-390.
- Gordon, Milton M. "A System of Social Class Analysis", Drew University Studies, No. 2 (August 1951), 15-18.
- Haller, A. E. and C. E. Butterworth. "Peer Influences on Levels of Occupational and Educational Aspiration", Social Forces, 38 (May 1960), 289-295.
- Halsey, A. H. "Sponsored and Contest Mobility: A Criticism of Turner's Hypothesis", and Ralph H. Turner, "Reply to Halsey", American Sociological Review, 26, 3 (1961), 454-456.
- Hancock, J. W. and C. C. Carter. "Student Personality Traits and Curriculae of Enrollment", Journal of Educational Research, 48 (1954), 225-227.
- Havighurst, Robert J. "Education, Social Mobility and Social Change in Four Societies", International Review of Education, 4, 2 (1958).
- Havighurst, Robert J and Robert P. Rogers. "The Role of Motivation in Attendance at Post-High School Educational Institutions" in Byron S. Hollinshead (ed.), Who Should Go To College; New York: Columbia University Press, 135-165.
- Herriot, Robert E. "Some Social Determinants of Educational Aspirations", Harvard Educational Review, 33 (Spring 1963), 157-177.
- Hollingshead, August B. "Trends in Social Stratification: A Case Study", American Sociological Review, 17, 6 (Dec. 1952), 679-686.
- Hyman, Herbert H. "The Value Systems of Different Classes: A Social Psychological Contribution to the Analysis of Stratification" in Reinhard Bendix and Seymour Lipset, Class, Status and Power: A Reader in Social Stratification. Glencoe, Illinois: Free Press, 1953.
- Jackson, R. W. B. and W. G. Fleming. "Who Goes to University - English Canada" in Claude T. Bissell (ed.), Canada's Crisis in Higher Education, Toronto: University of Toronto Press, 1957, 75-113.

- Jones, V. "Attitudes of College Students and the Change in Such Attitudes During Four Years in College", Journal of Educational Psychology, 29 (1938), 14-25.
- Kahl, Joseph A. "Educational and Occupational Aspirations of 'Common Man' Boys", Harvard Educational Review, 23, 3 (Summer 1953), 186-203.
- Krauss, Irving. "Educational Aspirations Among Working-Class Youth", American Sociological Review, 29, 6 (Dec 1964), 867-879.
- Livesay, T. E. "Test Intelligence and College Expectation of High School Seniors in Hawaii", Journal of Educational Research, 35 (Jan. 1942), 334-337.
- Mack, Raymond W., Raymond J. Murphy and Seymour Yellin. "The Protestant Ethic, Level of Aspiration, and Social Mobility: An Empirical Test", American Sociological Review, 21 (1956), 295-300.
- McDill, Edward L. and James Coleman. "High School Social Status, College Plans, and Interest in Academic Achievement: A Panel Analysis", American Sociological Review, 28 (Dec. 1963), 905-918.
- McDill, Edward L. and James Coleman. "Family and Peer Influences in College Plans of High School Students", Sociology of Education, 38 (1965), 112-126.
- Michael, John A. "High School Climates and Plans for Entering College", Public Opinion Quarterly, 24 (1961), 585-595.
- Pavalko, Ronald M and David R. Bishop. "Peer Influences on the College Plans of Canadian High School Students", Canadian Review of Sociology and Anthropology, 3, 4 (November 1966), 191-200.
- Potter, Robert J. "Portrait of a Working Class College", Dissent, 11 (Winter 1964), 46-49.
- Richmond, A. M. "Social Mobility of Immigrants in Canada", Population Studies, 18, 1 (1964), 53-69.
- Rogoff, Natalie. "Local Social Structure and Educational Selection" in A. H. Halsey, Jean Floud and C. Arnold Anderson (eds.), Education, Economy and Society, Glencoe: Free Press, 1961), 241-251.
- Rosen, Bernard C. "Family Structure and Achievement Motivation", American Sociological Review, 26, 4 (Aug. 1961), 574-585.

- . "Race, Ethnicity, and The Achievement Syndrome", American Sociological Review, 24 (1959), 47-60.
- . "The Achievement Syndrome: A Psychocultural Dimension of Social Stratification", American Sociological Review, 21 (April 1956), 203-211.
- Rosen, Bernard C. and Roy C. D'Andrade. "The Psychosocial Origins of Achievement Motivation", Sociometry, 22 (Sept. 1959), 185-218.
- Sewell, William H. "Community of Residence and College Plans", American Sociological Review, 29 (February 1964), 24-38.
- Sewell, William H. and J. M. Armer. "Neighbourhood Context and College Plans", American Sociological Review, 31, 2 (April 1966), 159-168.
- Sewell, William H., A. O. Haller and M. A. Straus. "Social Status and Educational and Occupational Aspirations", American Sociological Review, 22 (Feb. 1957), 67-73.
- Sewell, William H. and Vimal P. Shah. "Socioeconomic Status, Intelligence, and The Attainment of Higher Education". Paper for the Research Group on the Sociology of Education at the Sixth World Congress of the International Sociological Association, Evian, France, September 1966.
- Simpson, Richard L. "Parental Influence, Anticipatory Socialization, and Social Mobility", American Sociological Review, 28 (October 1963), 517-522.
- Sternberg, C. "Personality Trait Patterns of College Students Majoring in Different Fields", Psychological Monograph, 69 (1955), No. 18.
- Strodbeck, Fred L. "Family Interaction, Values and Achievement" in McClelland, D. C. et al., Talent and Society, Princeton: Van Nostrand, 1958.
- Stubbins, Joseph. "The Relationship Between Level of Vocational Aspiration and Certain Personal Data", Genetic Psychology Monographs, 41 (1950), 327-408.
- Teevan, L. C. "Personality Correlates of Undergraduate Field of Specialization", Journal of Consulting Psychology, 18 (1954), 212-214.
- Turner, Ralph H. "Sponsored and Contest Mobility and the School System", American Sociological Review, 25 (December 1960), 855-867.

- Wallace, Walter L. "Peer Influences and Undergraduates' Aspirations for Graduate Study", Sociology of Education, 38 (Fall 1965), 375-392.
- Weinberg, Ian. "The Occupational Aspirations of British Public School Boys", The School Review, 74, 3 (Autumn 1966), 265-282.
- Wilson, Alan B. "Residential Segregation of Social Classes and Aspirations of High School Boys", American Sociological Review, 24 (Dec. 1959), 836-845.
- Winterbottom, M. R. "The Relation of Need for Achievement to Learning Experiences in Independence and Mastery", in Atkinson, J. W., Motives in Fantasy, Action and Society, Princeton: Van Nostrand, 1958.