FACTORS AFFECTING THE ADMISSION OF
APPLICANTS TO A MEDICAL SCHOOL
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APPLICANTS TO A MEDICAL SCHOOL

BY

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ABSTRACT

The purpose of this research is to examine the admissions process in which applicants to medical school are selected. It is argued that structural conditions such as a decrease in occupational demand and an increase in educational supply will result in a greater emphasis upon ascriptive values rather than achieved values.

A sampling of applicants from 1969 to 1975 who were involved in the admissions process at the medical school was conducted. As well, 73 percent of the 1975 assessors (N=289) who were involved in the admissions process were also analysed. Both 1975 assessors and applicants were mailed a questionnaire which probed their attitudes to those factors which can be present in the selection process.

An analysis of the data revealed that academic marks were less differentiated over time and declining in importance in the admissions process. Only sex was found to be increasing in importance over time. Path analysis of the 1975 data demonstrated the direct and indirect effects of ascribed variables such as sex, age, social class, family size and geographical place of residence.
I would like to express my gratitude to several individuals in guiding and crystallising this research. Professor Jerry Rosenblum, as my supervisor, provided initial inspiration into the area of the professions and sustained this enthusiasm throughout the project. I owe Professor Frank Jones a special thanks for establishing initial contact with the medical school. As well, his methodological counselling and his own areas of interest were often consulted. Professor Ralph Matthews' indisputable logic and careful editorial scrutiny were much appreciated. Professor Robin Robert's inside knowledge aided my understanding of a very complex admissions process.

I should also like to thank Dr. R. Ferrier for allowing another sociologist into the the realm of the medical centre. The majestic cooperation given by Mr. Fred Bradley, Pat Carter, Lisa, Wendy and Donna facilitated the collection and tabulation of extensive data sets.

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I would like to dedicate this dissertation to Christine A. Davis who seemed to enjoy the role of critic.
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CHAPTER ONE

INTRODUCTION TO THE PROBLEM

1. INTRODUCTION

This study is an analysis of the process by which individuals apply to medical school. The process of admission is a critical step in the many phases through which individuals must pass in the pursuit of a professional career. Some studies in the area of the professions have concentrated on the decision making process of selecting a career (Ginsburg, 1951; Breton, 1972). Other studies have focused on the development of the individual once in the profession (Hall, 1948; Merton, 1957; Becker, 1961). This study investigates the gap between these two areas of research. The major purpose of this study is to isolate, measure and explain intended and unintended factors which are hypothesised to influence the admission of applicants to a medical school.

It is argued that certain societal forces, which are associated with professional demand and educational supply, will have certain effects on the level of emphasis of
achieved and ascribed status in the admissions process. This study challenges and examines the premise that applicants to elite groups such as medicine are admitted more on the basis of achievement rather than ascription. It is suggested that the factors influencing the levels of opportunity for those individuals attempting to enter the professions may be the result of an imbalance between professional demand and educational supply. The rise of achievement in an industrialised setting and the concomitant levels of opportunity will be discussed first.

There is a general consensus in sociology that industrialisation is linked to social mobility. Certain dimensions of industrialisation are thought to be causally related to the degree of opportunity for individuals to move from one social position to another social position in society (Marsh, 1963; Lipset and Bendix, 1967:13; Kerr et al., 1969:23). Several attempts have been made to identify principle dimensions of industrialisation which are considered to be responsible for social mobility (Miller and Bruce, 1965; Hazelrigg, 1974). Two processes which are frequently associated with industrialisation in terms of influencing social mobility are structural and value changes in society (Lipset and Zetterberg, 1966:569; Lipset and Bendix, 1967:2-3; Roudon, 1973; Tepperman, 1975:10; Moore, 1966:196). Structural processes involve those shifts in the shape of the distribution of occupations in a society. In
effect, industrialisation creates new technological demands. These demands in turn affect the composition of the occupational structure. A shift in the shape of the occupational distribution, both in size and composition, provides one source of opportunity for individuals to be socially mobile.

The second process which is associated with industrialisation is a change in societal values. The type of values governs the rules or principles by which individuals are distributed in occupational positions (Treiman, 1970:208). As a society industrialises, there is a growing belief that individual achievement is the primary basis for assigning individuals to occupations (Hoselitz, 1961:17). This means that individuals are given an opportunity to move from one social position to another on the basis of their achievement or according to their ability, talent or performance rather than on the basis of ascription such as their social background, sex, ethnicity or age. Research associated with this belief either in support of achievement or ascription will be discussed later in the chapter.

There are several assumptions underlying both structural and value processes. Opportunity for individuals to be mobile are the result of both processes. If there is an increase in opportunity due to structural changes in the occupational composition, then it is presumed that there is also a corresponding change toward an emphasis on
achievement. Another assumption is that if there were no structural changes, it is still expected that individuals will be given the opportunity to move on the basis of achievement and not ascription. These two processes can be either inclusive or exclusive of one another.

A problem in explaining social mobility with these two processes is that it is difficult to attribute degrees of causation to one or the other. Quite often, both structural and value processes are grouped together without the understanding of which process is responsible for what portion of occupational mobility. Only the outcome or the degree of opportunity is considered to be important. However, they are two completely different processes which share in a common effect on occupational mobility. That is, changes in structural or value processes may realise an effect on the level of occupational mobility. If occupational mobility is evident, one may presume that the opportunity is the result of structural and/or value processes. As long as opportunity exists, one may presume that both processes are operating to produce social mobility.

If it is important to have social mobility, it is equally important to pinpoint the actual source of this mobility because mobility may be exclusively the result of one process and not the other. For example, if mobility increases solely because of changes in the shape of the occupational structure with no corresponding emphasis on
achievement as expected, then certain assumptions about social mobility must be questioned. If industrialisation should decline, social mobility would also decline for there would be little or no mobility on the basis of achievement since it was not operating as one presumed.

One can see that the major task is to separate both processes and to determine the relationship between them before one can explain their influence on social mobility. Can structural changes affect value changes or vice versa? These are the general questions which guide the direction of this research. Before these questions can be answered, social mobility should be defined more specifically.

One of the more prevalent ways of measuring the degree of movement from one social position to another is through the use of an individual's occupation (Fox and Miller, 1966:74; Lipset and Zetterberg, 1966:562; Lipset and Bendix, 1967:6; Coxon and Jones, 1975:9). An individual's occupation is an important component of a person's social status or social standing in society (Reiss, 1961:39; Blishen, 1967). Occupational mobility is often used as an indication of the level of opportunity when one wishes to trace patterns of individual movement from one social position to another.

One method of measuring occupational mobility compares son's occupation with father's occupation for a
specified group. By using a cross classification between father and son's occupations in a social mobility table, it is possible to record the total, upward and downward mobility levels of the group. The level of upward mobility is sometimes referred to as the openness, fluidity or rigidity of a social structure (Hazelriss, 1974:116). The more open a social structure, the greater the degree of opportunity present in a society. Father and son mobility tables can not only show levels of mobility for the group but the mobility tables can distinguish between structural and non-structural effects. Structural mobility is defined for mobility tables as the minimum amount of mobility which is required to accommodate the changing occupational distribution (Matras, 1975:403). When structural mobility is subtracted from the total level of mobility, the remainder is called circulation mobility. Circulation mobility refers to the turnover or exchange between individuals within a constant number of positions (Matras, 1975:404). Therefore, mobility tables can be instructive in partitioning structural and non-structural causes of mobility although there are certain methodological problems associated with this procedure. Since this research is concerned with the importance of structural and value changes and their influence on occupational mobility, an ideal place to begin this research is to review, on a general level, the kind of social mobility which exists in Canada. In turn, the kind of social mobility may provide an indication of the structural and value influences which
2. OVERVIEW OF SOCIAL MOBILITY IN CANADA

The degree to which the Canadian social structure is open for individuals to move from one social position to another regardless of their social background is subject to various opinions and increasing debate. There is general agreement that Canada is industrialising and therefore there should be a greater degree of opportunity for individuals to be mobile now than in the past. In this sense, the Canadian social structure certainly does not represent a caste society where most individuals simply inherit the social standing of their parents. The point of contention in the debate on opportunity is whether or not there is greater equality of opportunity today than in the past for individuals to move from one social position to another in Canadian society. Given the assumption that there is some degree of opportunity, one is pressed to determine whether or not individuals have an equal chance to attain social positions based on achieved status rather than ascribed (Gilbert and McRoberts, 1975:116).

The traditional view of Canadian society is one of inequality of opportunity where the means to acquire a social position is more the result of one’s ascribed status. Linstead
(1963) in his comparison of Canada with the U. S. A., Britain and Australia characterizes Canada as "conservative" due to traditionalist 'Tory' values. The consequences of these values according to Lipset is that "...Canadians have always been less intolerant of economic inequality and social stratification. Horatio Alger has never been a Canadian hero" (Lipset:251). A number of sociologists have agreed with Lipset that one of the outstanding traits of Canada's national character is a "conservative syndrome" where individuals are governed more by tradition, order, predictability and decisions of the elite who inherit their positions than by the principles of equity and achievement. Naesele summarizes their impressions when he says, "...in Canada there seems to be a greater acceptance of limitation of hierarchical patterns" (Blishen et al., 1961:27).

One reason for the acceptance of these conservative values is suggested by Porter in The Vertical Mosaic (1965). He claims that the complacency of Canadians toward equal opportunity can be explained by the persistence of social images over social reality. According to Porter, Canadians maintain a social image of their country in which there are no social classes. As he argues, "...this (social) image becomes translated into the assertion that Canadians are relatively equal in their possessions, in the amount they earn and in the opportunity which they and their children have to set on in the world" (Porter:3). This social image
has its origin in the perceived equality among early Canadian settlers and has been sustained over time by the mass media. Social reality, as vividly described by Porter, diverges quite sharply from the prevailing social image which, according to Porter, does not actually exist. Social reality consists of numerous barriers to educational and occupational opportunities. All of this causes Porter to remark that "...Canada is not a mobility oriented society" (Porter:43).

Other studies on opportunity in Canada give a similar view of the predominance of restrictions and limitations on mobility. One study on occupational movement of insured Canadian workers from 1952 to 1956 shows that most mobility is lateral: that is, from one unskilled job to another. It was shown that there is almost no movement between manual and non-manual occupations (Woods and Ostry:1962:747). More recent research of various Canadian subgroups shows persistent barriers to greater opportunity. A few studies show that opportunity is differentially achieved by ethnic groups (DeJacas and Rocher:1957; Richmond,1968; Breton and Roseborough,1971). A comparison between Anglophones and Francophones in Quebec over time reveals a sharp rise in the "...increased opportunities for upward movement" for the Francophones which simulates the Anglophone mobility pattern (Dofny and Baron-Audy:1969).

Research on social mobility and types of opportunity within Canada over the last decade is sometimes based on
conjecture, which in turn often leads to conflicting results. There are those who cite the trend toward industrialization and greater educational participation as indications of greater social mobility (Crysdale and Quintin-1977:211; Hiller, 1975:86). On the other hand, there are those who maintain that mobility has not increased at all (Gilbert and McRoberts-1975:129).

In summary, it appears that the level of opportunity in Canada as measured by the degree of occupational mobility is not clearly understood. Part of this problem lies with the lack of nationally and longitudinally collected samples. The reliance on studies which reflect different sample bases and research purposes provides at best only fragmentary and momentary glimpses of what is actually occurring. Consequently any overall interpretation must be conducted in a cautious manner. Another problem of assessing occupational mobility in Canada is the failure to define and analyse separately the structural and value processes which are known to affect mobility. It is this step which seems necessary if not preliminary in answering the question of whether or not there is opportunity.

3. OVERVIEW OF THE STUDY

The remainder of Chapter One is devoted to several objectives. The next two sections review the different
perspectives on structural and value changes. The final section of this chapter analyses some empirical findings of educational opportunity studies, status attainment models and elite studies. The remaining part of Chapter One briefly examines the larger context of occupational mobility in order to show how this particular research can benefit as well as improve upon research in this area.

The task of examining the importance of structural and value processes as they relate to mobility for all occupations lies outside the focus of this research. Instead, this study is restricted to the analysis of individuals who are attempting to enter one occupation, the medical profession. In particular, the major focus of this research will be to analyse and to explain structural and value processes as they relate to the admission of applicants to one medical school. A major goal of the research will be to show how an imbalance in the structural process will create a change in the value process. The consequence of this change will be a greater emphasis upon ascription. It will be argued that when alternative assessment criteria are introduced into the admissions process, there will be a greater number of chances for ascription to be reflected in these criteria. In other words, the increase in ascription will be additive. The more assessment criteria used, the more likely ascription may be reflected in the alternative assessment criteria in the same way that academic scores reflect ascription. Hypotheses
will be formulated to test the significance of the imbalance with respect to the emphasis on ascription and achievement values.

Chapter Two will examine in some detail the general balance between educational supply and occupational demand in Canada for the last two decades. The growth of the professions including the medical profession is compared to other occupational categories. The second section of the chapter describes how the problem of structural imbalance produces a greater emphasis on ascription.

Chapter Three applies the formulation of the problem to the professions in general, then to the medical profession in particular and finally, specifically to one medical school. The reasons for the imbalance and the consequences of such are subjected to detailed analysis.

Chapter Four includes a conceptual and methodological framework in which to test the various hypotheses which emphasise the increasing importance of ascriptive status of the applicant to medical school in an unbalanced educational supply relative to occupational demand situation.

Chapter Five tests the hypotheses which were presented in the previous chapter. The results of the various levels of analyses are also given. A discussion of the results as they relate to the ascribed and achieved status of the applicant is provided in the summary of the chapter.
Chapter Six examines the role of the assessor in an attempt to explain the rise of ascriptive status. The type of assessor and the nature of the criteria used in the admission process are investigated. The consequences of including certain groups of assessors who are not members of the medical profession are discussed.

Chapter Seven briefly summarises the conclusions as they relate to the major propositions. The implications of this study are reflected upon. Finally, suggestions for further research in this area are offered.

4. STRUCTURAL CHANGES AND OCCUPATIONAL MOBILITY

What are some of the structural changes which indicate a redistribution in the shape and composition of the occupational structure when a society industrialises? Moore has identified five types of structural changes which, when applied to a Canadian setting, may provide some clues as to the extent of the structural changes in the process of industrialisation (Moore, 1969:107-125). The first type of structural change in a society is the formation of the labour force. A labour force is defined as those persons who work in a society either part or full time for remuneration. The growth in the size of the Canadian labour force has been quite remarkable. In 1901, there were 1,782,832 persons who participated in the labour force (Ostry, 1970:table 3). In
1977 there were over ten million persons (Statistics Canada, 1977:3). It has been estimated that the labour force is growing 22 percent every decade (Denton, 1970:5). The type of person participating in the labour force has also been changing. For instance, the number of women in the labour force since 1965 has increased 60 percent while the number of males has increased only 25 percent (Canada Year Book, 1975:307). In short, the labour force has been subject to changes in both size and type of participation.

Another structural change suggested by Moore is the shift from agricultural to non-agricultural occupations. This pattern of change is clearly shown for Canada. In 1901—approximately 40 percent of the labour force was employed in agricultural occupations. In 1975, this occupational sector had dwindled to only 8 percent and is expected to decrease much further in the next few years (Kubat and Thorton, 1974:153).

Specialisation is another indicator of structural change. As Moore points out, specialisation is not easily or directly measured. By using the number of occupational titles in a labour force, an indirect way of measuring specialisation can be created. There has been a substantial increase from 1961 to 1971 in the census occupational titles. In 1961, there were approximately 16,000 occupations according to the Canadian census. In 1971, there were over 25,000 positions.
Another structural change which reflects the transition to non-agricultural occupations is the shift from manual to non-manual occupations. Basically, this shift parallels the demand created by industrialisation for higher skill levels. If one accepts the overall shift from blue collar to white collar occupations as an indication of higher skill demands, then the Canadian labour force is influenced by new industrial demands. The proportion of white collar workers in the labour force has gradually increased over the years to almost 50 percent of the entire labour force population (Kubat and Thorton, 1974:168). On the other hand, the proportion of blue collar workers relative to the labour force has remained at a constant 25 percent since 1901 (Ostry, 1967:10). The shift to white collar occupations is due mostly to a decline in primary occupations. In short, the Canadian labour force in terms of structural changes as suggested by Moore, has altered with respect to size and composition. The type of participation, the shift to non-agricultural occupations, the trend toward specialisation all demonstrate quite emphatically that structural changes have taken place in the last half century. Since these changes have occurred, the possibility of structural change as an important factor influencing occupational mobility should be seriously considered.

While there have been changes in the size and composition of the Canadian occupational structure, there
have been few studies that have acknowledged these changes in explaining occupational mobility. One exception is a study by Turrittin(1971). Using a sample survey of Ontario male respondents, a father to son occupational table was constructed. The findings indicate an overall low mobility rate. When this mobility was further subdivided, structural and exchange mobility were almost equal. In comparing these findings to one U.S. study Turrittin found very little difference in mobility patterns. Pineo also believes that the U.S. and Canada share similar mobility patterns (Pineo, 1976:18). If this is true then a brief review of some of the more prominent studies conducted in the U.S. should provide another basis to judge the impact of structural changes on occupational mobility.

Rosoff was one of the first to measure intergenerational mobility, or father to son mobility, while at the same time trying to control for changes in the occupational structure (Rosoff, 1953:29). A primary concern of the study is that other occupational mobility studies did not take into account the change in the total number of available positions for each occupational category over time.

By devising a social distance mobility ratio, Rosoff could separate demand mobility, the change in the number of positions brought about by industrial demand, and personal mobility which is based on an individual’s ambition, education or race (Rosoff:30). In the comparison of fathers
and sons from 1910 to 1940, there is a large degree of overall mobility but when the portion attributed to demand is controlled, the overall mobility rate is reduced. Her conclusion is that structural changes or a change in the demand accounted for most of the measured mobility.

Bendix and Lipset in their secondary analysis of several occupational studies claim that the overall pattern of mobility appears to be similarly high for most industrial countries (Bendix and Lipset, 1967:13). They suggest that changes in demand for new positions, which are caused by industrialisation, are the primary causes of occupational mobility. Since structural changes are more or less uniform across countries, the pattern of occupational mobility is expected to be similar. Equally important in their study is their finding that national differences in value changes seem to have little effect on the level of mobility (Lipset and Bendix:56). In short they conclude:

Instead of supporting the assumption that value differences cause variations in mobility rates, the data support the hypothesis that mobility patterns in Western industrialized societies are determined by the occupational structure (Lipset and Bendix:73).

One of the first attempts to study occupational mobility on a national level in the United States was undertaken by Blau and Duncan. Working in conjunction with
the Bureau of the Census, they were able to survey
approximately 20,700 male respondents who represented a
population of over 45 million men 20 to 64 years old in the
American labour force in 1962 (Blau and Duncan:13). Using 17
occupational subgroups, they traced father to son
occupational mobility.

Several of Blau and Duncan's findings are worth
noting. Not only do they find a large degree of occupational
mobility, but they also find that upward mobility is more
prevalent. They also find that occupational inheritance is
greater than expected by chance (Blau and Duncan:34). This is
particularly true for very high and very low status
positions. For example, very few sons left their father's
salaried professional occupational category or very few sons
left their father's farming occupational category. To further
this selfcontainment, very few sons from other occupational
categories entered either farming or salaried professions
(Blau and Duncan:40). In contrast, other occupational groups
such as clerical and retail sales both supplied sons to, and
received sons from, diverse occupational backgrounds. This
finding emphasizes that although there is an overall degree of
upward mobility: the differences in occupational
inheritance reveal that occupational mobility is not uniform
for all occupational categories.

Blau and Duncan conclude that circulatory mobility is
slightly stronger than structural mobility. They argue that
technological progress, immigration and differential fertility as major factors of structural changes no declining in importance. As they state:

In brief upward mobility no longer benefits from large numbers of immigrants to this country; there is less class differential in fertility to promote it; and the influence of technological advances on it has become equivocal (Blau and Duncan 1966).

Instead Blau and Duncan maintain that other causes are gaining in importance. They conclude that occupational mobility is more the result of the universal recognition of achievement. In essence, there is greater occupational mobility and therefore greater opportunity due to the recognition of the value of achievement rather than ascription (Blau and Duncan 1966:430-431). One of the problems of Blau and Duncan’s approach to their measurement of occupational mobility is their lack of control of changing occupational distributions over time from fathers to sons.

In an attempt to overcome the methodological problem of intergenerational shifts in the occupational structure between father and son, Hauser et al. have utilised a log-linear model which describes changes in occupational mobility while the occupational matchings for fathers and sons are held constant (Hauser et al., 1975:295). By re-analysing most of the existing data on intergenerational mobility, Hauser et al. find that there has been no change in
occupational mobility once changes in the occupational structure have been controlled. As Hauser et al. state:

"...we have found remarkable homogeneity in the patterns of association between father's occupation and son's first occupation when changes in the occupational structure have been controlled. There appear to be negligible differences among cohorts in the propensity to move versus stay; in the propensities to move up, move down, or stay; in the propensity to move up relative to the propensity to move down; in the propensity to inherit one's father's occupation; in patterns of movement among similar occupation groups; and in patterns of movement among dissimilar occupation groups (Hauser et al., 1983-89)."

In effect, Hauser et al., say that changes in the occupational structure are the predominant source of systematic variation in the rates of intergenerational occupational mobility (Hauser et al., 1983). Instead of treating occupational changes as a nuisance, Hauser et al. recommend that one should reconsider these changes as "...both the driving force and the problematic issue in comparative mobility studies (Hauser et al., 1983)."

While father and son occupational mobility tables are useful in determining levels of occupational mobility, one should remember that these tables are only crude representations of actual mobility patterns (Turrittin, 1974:174). One critic of occupational mobility tables argues that they conceal more than they reveal (Copp...
and Jones, 1975:10). For example the manner in which sons move from fathers' occupations to sons' present occupation may be the result of quite diverse routes and rates. The mobility table only depicts a one shot picture regardless of the route or length of time it takes to assume that position. There are many other problems, primarily methodological, which are identified with mobility tables (Duncan, 1966; Miller, 1960; Jones, 1967; Turrittin, 1974).

Perhaps a more limited drawback of the mobility table is the inability to measure value changes such as the influence of achievement and ascription on individual movement. Although one is able to show that structural changes are important in explaining occupational mobility, this does not necessarily mean that individuals are assigned to these new positions on the basis of achievement or for that matter ascription. In sum, mobility tables do not show how individuals can move when they are given the opportunity to move because of structural changes in the occupations. The next section will examine the historical reasons for the prevalence of achievement and ascription as a major cause of occupational mobility.

5. ASCRIPTION-ACHIEVEMENT VALUE CHANGES AND OCCUPATIONAL MOBILITY

One of the first to systematically explore
occupational mobility in terms of achievement and ascription is Sorokin (1941). In his major theme on mobility, he argues that the process which distributes individuals to occupational positions is achievement or what he refers to as talent and ability. If individuals are placed in this manner then they will be best able to perform their social function. If they are wrongly placed for another reason, their performance will suffer and consequently "...all society suffers and disintegrates" (Sorokin:182). He argues that the selection of individuals on the basis of talent has been recognised as far back as Plato and Aristotle (Sorokin:208).

Sorokin admits it is easy to say that to attain a perfect society, all members should be placed in positions which correspond only to their ability. It is however more "...difficult to decide whether one has a definite ability or not, whether he has it in greater degree than another man, and what kind of talent there is in every individual" (Sorokin:183). He concludes that such institutions as the school, political, professional and occupational organizations have been selecting and distributing their members in a more or less satisfactory way.

Sorokin acknowledges that perfect mobility is far from being achieved. He notes that while there is a high degree of mobility, there is also a high degree of occupational inheritance where sons enter the occupations of their fathers in a greater proportion than for any other
occupational category. The analysis of his data suggests that occupational inheritance is gradually declining and fluctuates in importance from one occupational category to another. As Sorokin states:

This suggests that within the same society there may be groups in which inheritance of occupation goes down, while within other groups it increases. This probably is the most correct picture of what is going on in reality. The trend of a decrease in inheritance of occupation means that the occupational status of the population is less and less determined by the occupational status of the father or family. ...That the occupation of a man is more and more determined by factors other than the family (Sorokin, 1941:225).

A second theme in Sorokin's work is the different types of effects that occupational mobility has on a society. Since individuals are allowed to move on the basis of achievement or ability, there are three major advantages to society (Sorokin:530-546). The first is that mobility facilitates the proper social placement of individuals and positions. In a non-mobile society this match would not be so effective. Secondly, mobility once again on the basis of ability results in more efficiency. This leads to more prosperity and a more rapid social progress. The third positive effect of mobility according to Sorokin is greater social order and social stability and thus a greater chance of survival for a society.
The early views of Sorokin are interesting as an approach to explaining the rise of achievement over ascription. Throughout his study, Sorokin treats achievement as a goal. He remarks that the transition to this goal should be seen as a gradual change over several generations. In light of this comment, certain questions are posed. If achievement was recognised many centuries ago as a major means for mobility, why hasn't the influence of father's occupation or family background all but disappeared? Why has ascription been preserved over time as Sorokin's data seem to suggest? As a possible answer to this situation, Sorokin admits to some scepticism concerning the sincerity of the educational system as a means of recognising ability and achievement (Sorokin:501-502).

In a more contemporary interpretation, Parsons diverges somewhat from Sorokin's emphasis on the goal of achievement. Parsons states in *The Social System* (1951) that individuals are allocated to roles initially on the basis of ascribed status such as social class, ethnicity, kinship and community standing (Parsons:173). However, in a modernising industrial society individuals will be assigned to positions more on the basis of a universal application of achievement. By this he means that general rules or conditions for employment would be in force where individuals will be selected on the basis of their achievement (Parsons:178-179).

In a later article, Parsons contends that...
will eventually overshadow ascriptive qualities of individuals; however, membership in certain groups will inevitably be affected by some ascriptive trait. In other words total achievement will never be attained. His reason for this is given in the following:

"... We have outlined above the secular trend to the weakening of many of the historic bases of ascriptive status such as religion, ethnicity, territorial location and class in its older senses. In general, these changes have favoured the rise to prominence of collectivities and roles to a paramount position in the occupational system and in most modern authority structures. ... Even here, however, the kinship system retains an important residual status in favoring ascriptive continuities from generation to generation. It is difficult to see how these can be drastically reduced from the present level without virtually eliminating the family itself (Parsons, 1970:19).

Another perspective on the prominence of achievement in an industrialising society is given by Linton. He argues that most positions in societies are filled by individuals on the basis of ascription not achievement. Unlike Sorokin, he suggests that these individuals will perform their functions "passably well" (Linton, 1936:129). There are two predominant reasons for the acceptance of ascription according to Linton. Most positions which are based on achievement are not directly related to the vital functioning of society (Linton:128). For example he cites the case of a symphony
conductor.

The second reason is that a society should be built on the potential of the average individual. The average individual although assigned ascriptively, "...can be trained to occupy almost any status and to perform the associated role adequately if not brilliantly" (Linton:129). The logic behind Linton's reasoning is that if one waits for a position to be filled on the basis of achievement this would be more detrimental to society than by filling the position on the basis of ascription. He argues that these positions even if they were filled on the basis of ascription do not necessarily mean a loss or waste of talent, as Linton states: "...the actual loss to societies through this failure to use their members' gifts to the full is probably a good deal less than persons reared in the American tradition would like to believe" (Linton:129). The result is that the positions are performed "passably well" but not "superlatively well".

One should note in Linton's argument that his viewpoint is conditional. Ascription will suffice only in times where serious changes are not occurring in a society. If drastic disruption is experienced, then achievement will prevail over ascription. When society has adjusted to these drastic changes then ascription will resume importance once again. As Linton states, "...well adjusted societies are, in general, characterized by a high preponderance of ascribed over achieved statuses,..." (Linton:130).
This approach by Linton as to the prevalence of ascription is most unique. In this sense, Linton is one of the first to argue that ascription and not achievement is a major societal goal and that ascription is an adequate means for allocating individuals to positions. If Linton is correct in his assumption, then one cannot be too astonished to find that ascription is indeed flourishing and not decreasing in importance as commonly assumed. This of course is predicated on the contention that our society is in a period of stability.

A similar, but more recent view than Linton’s, is given by Mayhew. Within the present stages of industrialisation, according to Mayhew, ascription will prevail primarily because, as a means of allocating individuals, it is cheap and convenient (Mayhew, 1970:313). He illustrates his point by referring to the recruitment practices of a business firm. In an ideal setting where achievement is the sole basis for recruiting, the business firm desires the best person for the vacancy. This would entail the investment of money, labour and time in seeking the best possible person. In most cases this is not practical or efficient. Instead, the business firm will rely on informal contacts. According to Mayhew, the advantages of hiring a local recruit will outweigh the disadvantages of seeking the best available person for the position. In short, Mayhew supports the belief that ascription should not
experience any decrease in importance in an industrial society.

The purpose of analysing these four viewpoints is to demonstrate the possible stages that are thought to exist along the achievement to ascription continuum. By no means are these four approaches equally represented in the literature. Certainly Sorokin represents the traditional and widely acceptable viewpoint that achievement will ascend in importance. In all likelihood achievement will never completely eliminate the presence of ascription. If achievement is the accepted ideal, then what is interesting are the kind of causes which prevent this ideal from being attained. Sorokin suggests that the educational system does not effectively recognise achievement and therefore is a major reason why this ideal has not been approximated. Parsons offers a different perspective in which some ascription in the form of the family must endure unless the family itself is eradicated. Linton and Mayhew represent the other side of the continuum where they contend that ascription should be seen as an important dimension in the placement of individuals to positions. The next section will examine some of the empirical findings in an effort to establish if ascription or achievement is increasing or decreasing in importance and, more to the point, what causes this observed trend.
5. EMPIRICAL RELATIONSHIPS BETWEEN ASCRITION AND ACHIEVEMENT VALUE CHANGES AND OCCUPATIONAL MOBILITY

What type of analysis has been conducted which attempts to measure the relative importance of ascription and achievement as part of the occupational mobility process? Mobility tables have provided a formidable beginning by supplying information about the level of mobility as well as the direction of mobility. There is very little information in these tables which describes the factors which are responsible for allowing individuals to move from one position to another. There is very little reason to believe that father's occupation or social background plays a greater part in influencing son's occupational attainment than son's own ability. To overcome this problem, three approaches which attempt to differentiate relative importance of ascription and achievement are presented below. These include education and mobility, the status attainment model and elite mobility.

6A. EDUCATIONAL AND OCCUPATIONAL MOBILITY

One approach which identifies the importance of ascription and achievement is found in studies which examine educational opportunity. One of the more prominent indicators
of achieved status in occupational mobility is the level of
educational attainment of an individual (Small et al., 1975; 1976). Usually educational attainment is considered
to be an important stage in influencing occupational
achievement. Therefore access to education or equal access to
educational pursuits has been a major interest in assessing
the level of occupational mobility. Several studies have
demonstrated the lack of equal educational opportunity in
Canada (Porter, 1961; Bancroft, 1964; Pike, 1970; Marsden and
Harvey, 1971). Other studies have tried to demonstrate the
relationship of educational achievement and occupational
aspirations (Fleming, 1957; Hall and McFarlane, 1956;
Pavalko, 1967; Pavalko and Bishop, 1966; Pavalko, 1967). Two
studies based on recent Canadian data sets are looked at in
order to fathom the influence of ascribed and achieved status
in the study of educational opportunity and occupational
aspiration.

The first selected study is one by Porter et al. (1973). The purpose of the study was to show "...the
differences in educational aspirations and expectations
between various subgroups" of high school students in
Ontario. (Porter et al., 224). The sample is very large with
approximately 10,000 Grades Eight, Ten and Twelve Ontario
high school students. In essence, they try to test the
governmental claim that educational opportunity is not a
problem in educational achievement (Porter et al., 224). On the
basis of their data they were unable to render a verdict since two interpretations of their results are possible. Their dilemma was realized in the following way. The researchers simply did not know whether it was "good" to find that half of the students with high mental ability expected to go to university or whether it was "bad" that half of the students with high mental ability did not expect to attend university (Porter et al., 197).

In a follow up study two years later (the Grade Twelves would then have graduated), it was determined that approximately fifty percent of the students who eventually ended up working would have preferred to have continued their education. (Porter et al., 193). Quite clearly, a factor had intervened and prevented some students from continuing their education. In identifying this factor, the title of their study, Does Money Matter?, alludes to the answer. Money does indeed matter and is the primary cause affecting the level of educational attainment. To alleviate this financial barrier, the authors recommended a series of tax reforms to aid those who wished to pursue greater educational opportunity (Porter et al., 199-200).

Porter and others also looked at the relationship between educational opportunity and occupational aspiration. When the researchers surveyed the parents, they found that education was favourably rated by all social class groups. (Porter et al., 198). However, they did find a linear
relationship between social class and parental work expectations of Grade twelve students. The proportion of parents expecting their Grade twelve child to enter the labour force increases from four per cent in the highest social class to thirty one per cent in the lowest social class (Porter et al., 55). Once again they surmise that the occupational aspirations of the parents are guided more by financial reasons than social or cultural. As they state:

The evidence which we have presented about attitudes to education strongly suggests that parents throughout the class system value education highly. It seems likely if there were no financial barriers most lower class parents would do what they could to enable their children to benefit from it (Porter et al., 78).

The second study in this section on educational opportunity looks at some of the social and academic factors which influence career choice (Breton, McDonald and Richer, 1972). The study consists of a national sample of over 150,000 high school students across Canada during the 1965-66 academic year. Since educational opportunity was not the precise purpose of the study, the authors only cautiously concluded from their data that the "disadvantaged" students do respond to opportunities by elevating their goals and intentions (Breton et al., 376).

The study was mostly interested in those factors
which were thought to influence vocational decision. They found that social class, language, community size and mental ability were among the factors in the decision making process (Breton et al.:89-104). For example, they found that for boys, socio-economic status and vocational indecision were closely related. A greater percentage of the boys from families of lower socio-economic status had no career goals in mind as compared to boys from families of higher socio-economic status who expressed less vocational indecision. (Breton et al.:56).

In summary, ascription in the form of social background exerts a considerable influence on the level of educational attainment which is considered the primary form of achievement. The level of educational attainment will of course have a direct bearing on the level of occupational attainment and occupational aspiration. Porter has shown that educational attainment is affected by financial ability and social class. Breton shows that occupational aspirations of high school students in spite of ability are also influenced by ascriptive factors. In both instances, Porter and Breton have amply cited evidence which shows that educational opportunity is influenced by both ascriptive and achievement factors. If occupational mobility is dependent upon educational attainment, then one may assume that there is also a relationship between ascription and achievement and occupational mobility. The next approach to be examined
includes both educational and occupational factors as important causes of occupational mobility.

6B. STATUS ATTAINMENT MODEL AND OCCUPATIONAL MOBILITY

Another approach which analyses occupational mobility and at the same time includes both ascriptive and achievement as factors of this mobility is known as the status attainment model. This model describes mobility as a series of related movements from one position or stage in a person’s life to another. There are basically three stages in the life cycle of an individual within the status attainment model. These are a person’s family, education and occupation. It is thought that the status or position within each will have a bearing on the other stages in a sequential manner. For example, the status of one’s family will have an effect on the level of a person’s education and this in turn will influence the status of the occupation. The status of the family is usually measured by the father’s occupation and is considered an ascriptive factor. The status of education is determined by the level of education. This is usually considered a form of achievement. The individual’s occupational status is considered to be a form of achievement.

There are several advantages in conceptualising mobility by means of the status attainment model. The first
is that ascription, (in the form of father's occupation) and respondent's achievement, (in the form of educational and occupational attainment) can be measured independently of one another. Another advantage is that the status attainment model can include inter and intra-generational mobility. That is, the movement from father's occupation to son's occupation as well as son's first occupation and present occupation can be depicted within the same analysis. The third advantage is that a path analysis methodology can be applied to variables in the model so that the relative statistical importance of each can be measured. Last, but perhaps most important, is that the causal effects of ascribed and achieved variables upon occupational mobility can be determined.

Blau and Duncan are credited as the first to conceptualise occupational mobility or occupational attainment by means of the status attainment model. Their pioneering work in occupational mobility using this model has become a benchmark for subsequent generations of researchers (Sewell, 1969; Duncan, Featherman and Duncan, 1972; Hauser, 1971). In general, Blau and Duncan conclude that "Social origin, education and career beginning account for somewhat less than half of the variance in occupational achievement" (Blau and Duncan, 1967:407). They find that the respondent's education or achieved status has the strongest direct effect on occupational achievement followed respectively by first job and father’s occupation. With
regard to origins or ascribed status, they state that although social origins can influence occupational attainment, other factors such as respondent's educational attainment and first job are more important influences. They summarise this as follows:

The general conclusion to which these findings point is that the American occupational structure is largely governed by universalistic criteria of performance and achievement, with the notable exception of the influence of race. The close relationship between educational attainment and occupational attainment, with education being the most important determinant of occupational status that could be discovered testifies to this universalism (Blau and Duncan:241).

One of the problems of introducing a new conceptual scheme of occupational mobility is that there are certain limitations. The main area of concern of the status attainment model is the capability of the model to include all relevant variables which are thought to affect occupational achievement as measured by the status of one's occupation. Since the four variables considered (father's occupation and education, respondent's education, first and present occupation) in Blau and Duncan's model accounted for less than half the variance in occupational achievement or status of the present occupation, this would suggest that other variables which are more important have not been considered. This is not to say that the statistical analysis
is at fault but rather it is the conceptual omission of variables which are not accountable in the model. It should be noted that researchers have included other variables such as intelligence, number of siblings, and motivation (Munroe et al., 1972). The explained variance nevertheless did not increase much with the addition of these variables.

A study (1975) by Cuneo and Curtis replicates and extends the Blau and Duncan status attainment model using Canadian respondents. A sample of 1022 respondents were drawn from the two largest urban centres in Canada-Toronto and Montreal. A similar pattern in the results between the Canadian and American data is seen. For both groups, respondent's education had the greatest direct effect on respondent's first job. This means that achievement in the form of educational attainment is the most important factor in explaining occupational mobility. For both studies, father's occupation and father's education influenced respondent's education. This means that ascription in the form of family background or social origins is exerting some influence but not as strong as the achievement factor.

While the patterns between the variables were similar, the interpretations for the two studies were quite different. Blau and Duncan maintain that the high correlation between respondent's education and first job means greater opportunity on the basis of achievement. Cuneo and Curtis argue that while this correlation is similar, evidently for
Canadian respondents, education as a form of achievement is influenced by social origin such as fathers' education and occupation. The Canadian researchers conclude that ascriptive variables such as family background can influence occupational mobility in a strong indirect manner via education. With this interpretation of both data sets, they claim that Canada and the United States "...are to a large extent, ascriptively oriented" (Cuneo and Curtis:17).

An interesting aspect of Cuneo and Curtis's research is the inclusion of additional variables in their model such as mother's education, ethnicity and family size. In addition, they included females in their sample. A new relationships which they found are worth noting. Mother's education has a larger direct effect on female and male francophone's education than on anglophone's education. Family size had a strong negative influence on education. The addition of these variables can introduce a more complete analysis and therefore, reveal in other ways, the importance of achievement and ascription.

turritin using a sample of Ontario respondents replicated the Blau and Duncan status attainment model with the purpose of comparing the results with American and Australian data sets. The pattern in which occupational attainment is most influenced by respondent's education was once again displayed in Turrittin's sample. This trend when compared to national studies for the two other countries.
differed only in degree. Turrittin differs with Cuneo and Curtis on the basis of his study when he concludes that "...the effect of social origin or family position in perpetrating occupational status through its effect on education is small" (Turrittin, 1974:178). In other words, father's occupation and education have only a small effect on son's first job as mediated through son's education. One should note that in order to make a comparison across countries, Turrittin did not include variables which Cuneo and Curtis found to be important in the status attainment model such as ethnicity, family size, female respondent's and son's first job. While the Australian and American data sets were representative on a national basis neither Turrittin nor Cuneo and Curtis could claim such generality and in fact emphasised that their designs were intentionally biased in certain directions.

Turrittin does raise an interesting problem with the status attainment model. While son's education and job are indicative of achievement, Turrittin objects to the interpretation or perhaps assumption that education is the only route to occupational mobility, at least as depicted in the model. He argues that education is only one of many routes to occupational achievement. This could possibly explain why the variance explained is traditionally low for most status attainment studies. Turrittin speculates that if the model persists in including only one avenue to
occupational success then perhaps it should be regarded not as achieved status but rather as an ascribed status (Turrittin, 1976:2).

The result of conceptualising occupational mobility in terms of status attainment models is constructive in isolating the effects of ascription and achievement. Unfortunately, on the basis of the available data which have been collected to date very little can be said to conclude that there is greater or less occupational or educational opportunity in Canada. On the one hand, Cuneo and Curtis have interpreted their data to mean that ascriptive factors have greatly influenced both respondent's educational and occupational attainment directly and indirectly. Turrittin interpreted his data to mean that ascription has only a small effect on occupational attainment. In light of the generally accepted view of the elitist and conservative nature of the Canadian society, the type of sample and the number of variables, Cuneo and Curtis seem to reflect a more accurate picture.

Part of the problem in arriving at a clearer picture is the lack of national and longitudinal studies using Canadian data. For this reason one cannot specify that ascription is actually increasing in importance over time. For instance, although Cuneo and Curtis found that ascriptive variables played an important part, there may be a trend toward a decline in their importance.
A second and perhaps more important criticism of status attainment models is the lack of research on structural changes. There is no acknowledgement that structural changes such as those measured in the occupational mobility tables are operating to influence the occupational level which respondents are able to attain. A hypothetical example illustrates the nature of this problem. A major trend which has already been documented for Canada is the shift from blue collar to white collar occupations (Ostry, 1967). In the past there were more blue collar positions while today this situation is reversed. Therefore the opportunity structure has been altered over time. There is the assumption that a blue collar son can achieve a higher white collar position primarily for the reason that a position now exists while in his father's time this may not have been possible since there were fewer white collar positions available.

This problem returns to the study's original question of whether occupational mobility is the result of structural changes or changes in values from ascription to achievement. The premise in the status attainment model is that an individual moves from one status level to another on the basis of achievement or ascription. There is no mention or control of structural changes. A situation may exist where a person has the inclination and ability or educational attainment but is unable to move into a corresponding occupational position. It seems inconceivable not to hold the
availability of positions constant in some manner when measuring the influence of a person's ascribed and achieved status. This view is shared by Sorenson when he states: "...there is no attempt to specify structural opportunities as a source of variation in occupational achievement in the status attainment literature" (Sorenson, 1970:338). A similar view is presented by Fararo when he says:

A fundamental conceptual difficulty of this approach is the tacit assumption that movement in social space is essentially a matter of individual choice apart from arbitrary constraint terms. The structure and process of available positions to which an actor might move is neglected. This difficulty is brought into sharp focus if a total system of positions and actors is considered. It is clear that the occupancy distribution at any time acts as either a source of, or a block to, movement by any one actor. Hence, the tracing out of a sequence of positions over time would be senseless without a simultaneous consideration of the time varying occupancy distribution (Fararo, 1973:475).

How important would structural effects be in the status attainment model? They have already been shown to be an important influence in occupational mobility. When these effects were controlled there was little or no circulation mobility which could be attributed to other effects. These effects are relevant to this research since the concern lies in the influence of structural effects on the process of
ascr i ption and achievement. Before this relationship is examined further in the discussion section of this chapter, the impact of structural and value effects will be looked at next in the area of elites and occupational mobility.

6C. ELITE STUDIES AND OCCUPATIONAL MOBILITY

A third area of research which examines occupational mobility is often referred to as elite studies. Most analyses specifically refer to mobility into elite or high prestige occupations such as the professions. Since the medical profession is considered to be in this area of the occupational hierarchy it will be productive to pursue some elite studies with the purpose of determining the relationship of value and structural changes on occupational mobility.

The manner by which individuals achieve access to the elite occupations or professions has been the focus for many sociologists (Mills, 1956; Domhoff, 1967; Tepperman, 1972; Presthus, 1972). Two additional studies will be reviewed in depth in an effort to establish the nature of the relationship between ascription, achievement and admission into the elites.

One of the forerunners of elite studies in Canada is Porter's *The Vertical Mosaic* (1965). Using 1951 and 1961
Canadian census tabulations, Porter argues that Canada is not a very upwardly mobile society (Porter:43). According to Porter, there were four basic reasons for this low upwardly mobility. First, institutions of higher learning were not completely "democratized" which means that they were governed by elite groups in society. Second, these same institutions of higher learning did not have the physical capacity to train the number of specialised workers who were needed in the growing labour market. Third, Canadians as a whole did not demand the extension of educational reform. Finally, even if there had been evidence of educational reform, it had not been very effective (Porter:46). For these reasons Porter stated that Canada has not experienced as much mobility as it could.

Porter emphasised in his book that education gives rise to opportunity. In his extensive review of certain elite groups in Canada, he discloses repetitive patterns for each of the observed elite groups. One trend, for instance, showed that most elite groups had very high levels of education. In the political elite group for example, eighty-six per cent held a university degree (Porter:388). A second trend shows that for most persons in elite groups, members come from the middle or higher social classes. For example, in the bureaucratic elite, only thirteen per cent rose from the lower class to acquire membership in the elite group. From his research on elite groups in Canada, Porter concludes that
elite recruitment and educational achievement were interdependent. That is, in order to be recruited into an elite group, one must pursue the proper educational level and in turn, one’s educational level is determined by social class. Thus in an indirect way, social class influences recruitment into the elites via educational achievement. In short, his observations reveal that middle and upper classes are overwhelmingly over represented in the elites whereas lower social classes were under represented and this was ultimately determined by social class and differential educational opportunity.

Have these trends changed since the time of Porter’s research? In a replication of Porter’s analysis on the corporate elite, Clement shows, in The Canadian Corporate Elite (1975) some interesting results of the concentration of power in Canada that has occurred over the last few years. His research shows quite dramatically the impact of ascription in recruitment to the corporate elite (Clement:33). In comparison to Porter’s 1951 data, Clement was able to depict the changes in education and social class with regard to elite members in the corporate elite. While five per cent of the 1971 Canadian population had a university degree, over eighty per cent of the corporate elite had one. In 1951 only fifty-eight percent of the elite had completed a university degree. Clement commented that the bachelor’s degree is quickly becoming obsolete for elite
recruitment and that post-graduate training and professional degrees are becoming the prerequisites for elite membership (Clement:114).

Clement also examines the social class origin of the economic elite and found that access to this small group "...has become more exclusively the preserve of the upper class over the past twenty years" (Clement:189). Perhaps more revealing is the percentage change in class origin of Canadian born members of the corporate elite from 1951 to 1961. The upper social class increased from fifty percent to sixty percent while the middle and working class both decreased three percent and twelve percent respectively (Clement:192).

Another indication of decreasing occupational mobility is the change in elite formation on the basis of their individual establishment. In 1951, Porter showed that approximately eight percent of the elite had gained membership by establishing their own firms. In 1971, only two percent of the total elite group had done so by these means. In summary, Clement presents the argument that as economic or corporate power becomes more concentrated, occupational mobility into the elite declines.

The Royal Commission On Health Services (1962) initiated a series of research projects to investigate the occupational background of students who were being recruited
into the health professions. In general, the commission found that the health professions such as medicine, dentistry, and nursing were overly represented by students with fathers in high occupational classes. For example in the dentistry profession it was determined that almost 23 percent of the dental students’ fathers were professionals whereas only eight per cent of the male labour force could be classified as professional (MacFarlane, 1965:125). In contrast, thirty percent of the total male labour force was categorised as being involved in manufacturing and mechanics while six percent of the dental student’s fathers were in that same occupational category. The difficulty of pursuing dentistry as a career for students with a father from non-professional occupations is reflected in the type of source of financial resources (McFarlane, 1965:125). Almost fifty per cent of all funds which are necessary for dentistry students comes from family sources such as parents and spouse. Only four percent originates from student scholarships. Approximately, fifty-one percent of the students in this commissioned study on dentistry reported some financial indebtedness. (MacFarlane:125). Quite clearly, there are some factors which are operating to restrict admission of all aspirants to dentistry. Financial burden and social class appear to be good indicators of being admitted.

The Royal Commission on Health Services was also interested in the type of student who was being attracted to
medicine. A survey of one thousand medical undergraduate Canadian born students, all graduate medical students and all non-native medical students was conducted in 1961. The results were similar to dentistry students. In terms of education, the fathers of the medical students who had higher education were proportionately over-represented when compared to the level of schooling for all men in the labour force (Judek, 1965:84). Another concern of the commission which is tested in the survey was the high degree of occupational inheritance. Their study found that an inordinate number of sons of doctors followed their father’s career. The survey confirmed this trend by showing that ten percent of the medical students had fathers who were doctors. This was quite high when compared to fathers in other occupations (Judek:84).

A national study of Canadian-born physicians was also conducted by the Royal Commission in an attempt to assess the prominence of occupational inheritance for established physicians. Approximately twelve percent of the respondents replied that their father had been physicians and over fifty-six percent had fathers in the professional or managerial occupations (Judek:115). The Commission concludes that inadequate financial resources prevented many aspirants from attending or applying to medical school. They also alluded to the influence of other factors such that "... young man’s social background, (and) his cultural
environment" may also affect an individual's recruitment to medical school" (Judek: 86). A study (1970), not related to the Royal Commission and completed a few years later with 1968-1969 applicants to Canadian medical schools, corroborated the high rate of occupational inheritance. Approximately, twelve percent of the applicants had fathers who were in the health professions (Nelson-Jones and Fish: 923).

A more recent study which compares accessibility to four elite professions in terms of social origin was conducted by Jones (1974). For the medical profession, a similar occupational inheritance pattern was observed. While eight percent of the male labour force was in a professional or technical occupational category, almost forty percent of the Canadian physicians in this national sample reported father's occupation in the same occupational groupings (Jones: 9a). Unlike other previous elite studies, Jones was able to create sample cohorts based on different age groups. Therefore, he was able to depict a trend over time which could measure occupational inheritance. To measure change over time and across age cohorts, an access ratio was created (Jones: 9). This access ratio was the actual percentage of physician's fathers who were professionals as compared to the percentage of professionals who were represented in the total labour force. As the access ratio approaches unity, the percentage difference between the two groups are reduced.
The advantage of Jones' study over other elite studies was that he could show that the access ratio for the medical profession was slowly moving toward proportionality across age cohorts (Jones:11a). However, it should be noted that proportionality was far from achieved. The study concluded that there may be important structural changes such as fluctuating supply and demand conditions which may have an impact on the access to elite professions. It is precisely in this area that Jones encourages further research.

In reviewing the elite approach to occupational mobility it can be seen that a more focused picture can be gained by centering on one or a few occupations at one time. Elite studies have imparted a significant contribution to the overall research on occupational mobility by gathering this detailed account of certain professions. Specifically, elite studies show very remarkably the pronounced influence of ascribed status in its various forms on recruitment to the professions. The intervening influence of social class, and differential educational and financial opportunities is well documented.

One of the major conclusions to be drawn from the studies on elites is the rather high degree of occupational inheritance. One could entertain the possibility that evolution is operating to explain this phenomena. Essentially, this perspective would suggest that the sons of elites have secured their positions on the basis of their
superior hereditary achievement. The claim that individuals in elite positions have higher ability is not in dispute here, but rather, that the opportunity to attain positions in the elite are restricted to certain socio-economic groups.

The critical question raised at this stage is "Does everyone have equal opportunity to pursue a career in an elite position in society?" The evidence given so far suggests that this is not the case.

Elite studies have some disadvantages by design. Not all professions have been examined closely. Elite studies have not yet employed sophisticated levels of analysis such as path analysis. Most elite studies are conducted only in one time frame and therefore a comparative analysis is not available to measure changes over time. Two of the elite studies which were briefly reviewed did attempt to measure changes in the recruitment to the elites, however, with contrasting results. Clement reveals a trend toward a more restricting recruitment process for the corporate elite while Jones discloses a trend toward proportionality for entrance to the medical profession. Obviously, these results are based on two different occupational groups; but, there may be some reason to believe that the contrasting trends are the result of different demand and supply factors. This is because there may be a greater occupational demand for physicians than corporate elites and therefore there may be different rates of occupational mobility. A greater rate of mobility than
another does not necessarily mean more emphasis on achievement.

7. SUMMARY OF CHAPTER ONE

The objective of this chapter has been to analyse two processes which are known to have an effect on occupational mobility. When individuals move from one occupational position to another due to changes in the size and composition of the occupations, occupational mobility is attributed to structural changes. When individuals move from one occupational position to another due to changes in shift of values from achievement to ascription, occupational mobility is more the result of a value process. The problem which is central to the entire chapter is the lack of distinction between these two processes. To better understand occupational mobility and more precisely explain the level of opportunity, it is critical to isolate these two processes. To this end, several approaches to the topic of occupational mobility were reviewed. The first approach which employs father and son occupational mobility tables demonstrates the large part that structural changes play as a cause of occupational mobility. Unfortunately occupational mobility tables do not show the influence of variables which may account for differential mobility rates and levels.

Attention was then diverted to variables which could
affect occupational mobility. In particular, educational attainment research reveals that social origin, as measured by social class, is a major barrier to educational opportunity. Educational attainment has profound effects on the level of occupational attainment. The status attainment model develops a schematic context in which to test the relationship between social origin, educational and occupational attainment. There is no general consensus in these findings except that achievement in the form of education did influence occupational attainment. The influence of ascriptive variables seem to differ from study to study which suggests some uncontrolled variable or different interpretations of the data. In any event, the status attainment models show most conclusively that occupational mobility is not the sole result of achievement.

A similar pattern is seen for studies on elite groups. For Clement, the influence of ascription was increasing as a factor influencing the entry into elite groups. A common observation of all approaches to occupational mobility is that structural changes and value changes were never completely identified or separated in an effort to explain occupational mobility. After reviewing these approaches, it appears instructive if not imperative to pursue the precise nature of the relationship between these two processes.

As it stands there is little reason to believe that
achievement does not directly influence movement of individuals caused by structural changes. That is, as a new position is created by the forces of industrialisation, one moves into this position on the basis of achievement and not ascription. The reason for this can be seen using a supply and demand perspective. Industrialisation produces new occupational positions. This means an increase in occupational demand. In response to this demand, there will be a supply of individuals to fill these new positions.

The manner by which values pervade structural changes is now presented. As a modern and industrialising society created these new positions, there is the belief that the supply of individuals who are to meet this new occupational demand will be allocated on the basis of achievement such as ability and talent. As Blishen states, "Rational use requires that ability and skill be recognised, rather than family status, religion and other ascriptive characteristics" (Blishen, 1966:72). If occupational positions are not filled on the basis of achievement, then optimal efficiency will not occur. This perspective is well grounded in Sorokin and Parsons. The value of achievement also influences the supply of individuals. As earlier indicated, education is the most recognised means for identifying and differentiating talent and ability. In short the value of achievement will affect the manner by which individuals are supplied to positions.

One is also interested in the relationship between
structural processes and values. That is, do occupational demand and educational supply influence the process of achievement and ascription? There is the assumption held by Blishen and others, that if educational supply meets occupational demand then occupational mobility is at its optimum. What are the implications if this balance between the two forces is not met? The first type of imbalance may exist when educational supply of individuals has not matched occupational demand. This situation is quite conceivable since industrialisation can rapidly alter occupational demand leaving a gap between those who are qualified and the greater number of positions. There are several implications of this imbalance. There is the possibility that these new positions may go unfilled. The second but more likely alternative would be to fill these positions with individuals who do not meet the special qualifications, but who can be trained to meet the basic requirements. If this alternative should occur, then Linton’s observations may be found to be true. That is, individuals would be assigned on the basis of ascription for practical reasons and would perform the task adequately.

The second type of imbalance may occur when occupational demand does not meet the growing educational supply. In this way, individuals of similar talent and ability are faced with a lack of positions. If these individuals are indeed similar on the basis of achieved
talent and ability then it is conjectured that ascription will play a greater part. In short, one can begin to speculate that structural processes of occupational demand and educational supply can influence the change in values in terms of ascription and achievement. At this stage, it is important to recognise that the nature of the imbalance—assuming there is one, will ultimately determine the type of values which are emphasised. The foregoing review of the processes involved for both structural and value changes as major causes of occupational mobility have set the guidelines for this research.

In a general sense, the purpose of this research will be to explain occupational mobility by identifying and measuring each of the two processes. This will be accomplished by looking at the movement of individuals into one profession, or more specifically, the entry of applicants to one medical school. In essence, occupational mobility will be measured in a very fine sense, by the admission of individuals to medical school. An analysis of the admission process will provide a basis for measuring the attempt by a group of applicants to seek entry into one occupation at one time and at one place. The acceptance of these applicants will be used to determine the occupational mobility of the individual.

The general theme of the research will be to assess the significance of ascription and achievement under
different levels of structural changes. Structural changes are defined as the supply of applicants and the occupational demand in terms of the number of available positions. The question which will be answered is whether different levels of supply and demand will have any effect on selection or achievement.

By adopting the status attainment model, many variables which are hypothesised to be critical in the admission of applicants to medical school can be statistically analysed. It is hoped that if one can see differences in occupational mobility as a result of structural changes, then status attainment models will eventually have to contend with rather than ignore, conditions of educational supply and occupational demand.
NOTES TO CHAPTER ONE

1. For a discussion of the concept of industrialization see W. E. Moore, 1965:5-6.

2. There is the assumption that new and greater technological demands will create more skilled occupations. However, technology can sometimes reduce the number of occupations at the same time, usually the less skilled occupations. In general, technological demand functions to constantly create and upgrade occupational positions at the expense of less skilled positions.

3. Implicit in this perspective is that there is greater opportunity to move under the process of achievement rather than ascription. There can be mobility under ascription but there is certainly greater equality of opportunity under achievement.

4. Structural mobility is usually measured by the index of dissimilarity. This index is calculated by taking one half the sum of the absolute values of the differences in percentages of fathers and sons in each of the occupational categories (Matras, 1975:402).

5. See especially Duncan, "Methodological issues in the analysis of Social Mobility." See also Chapters Two and Three of Blau and Duncan, The American Occupational Structure for a good summary of the problems associated with mobility tables.

6. Lipset’s observations about Canada’s elitist and conservative values are not unanimous. Truman countercharges that the U.S. is less elititarian than Canada (Truman, 1971). Pineo and Gouder on the other hand find that there is little difference between Canada and the U.S. in terms of universalistic values (Pineo and Gouder, 1973:171).

7. There is one Canadian cross sectional study of social mobility but to date only preliminary findings have been published.


10. The other occupational categories are primary, service, transportation, and communication which account for remaining
25 percent of the labour force. White collar workers include managerial, professional, clerical and sales occupations. Blue collar workers include craftsmen and labourers.

11. Pineo remarks that it should be "problematic sociologically" to find similarities in the social mobility between Canada and the U. S. since there are major differences in terms of immigration, ethnicity, regionalism, education and the family. (Pineo, 1976:4).


13. It should be noted that the number of occupational categories used in calculating social mobility can influence the degree of structural and circulation mobility.

14. While social class and I. Q. are closely associated, Porter states in The Vertical Mosaic that "there is no convincing evidence however, that motivation and intelligence are a genetic endowment of the middle and upper classes,..." (Porter, 1967:173). The point which Porter stresses is that there are greater numbers of the more highly intelligent people in the lower classes than in the higher classes. If these intelligent people in the lower social classes are not given an equal opportunity as are individuals in the other classes, then a society will not develop as efficiently as possible. Even the measurement of I. Q. is widely criticised. See Tyler, 1977:76-98.

15. Path analysis is one interpretation of regression analysis. The definition and use of path analysis is explained in detail in chapter four.

16. Of course, a person may be occupationally mobile by applying to other medical schools or to other occupations and be accepted. However, the score of this study prevents an extended analysis of determining the level of success for each individual and instead concentrates on the success of a group of individuals for one institution.
CHAPTER TWO

THE PROBLEM

1. CAUSE OF STRUCTURAL IMBALANCE

In Chapter One, it was suggested that there exists an important relationship between structural processes, that is, educational supply and occupational demand, and value processes such as the emphasis on achievement or ascription. Once the relationship is analysed, the influence of each process upon occupational mobility can be explained more clearly. There is wide acceptance as seen in Chapter One that achievement influences the movement of an individual into an occupational position which has been made available by structural change. What is not clearly understood is how structural processes of occupational demand and educational supply influence the type of value process or the emphasis on achievement or ascription.

In an effort to pursue this problem, this chapter will examine the possibility of an imbalance within the structural processes as a means of demonstrating the type of value process which is present. The second section of this chapter will examine the implications of this structural imbalance upon value processes. Implicit in this argument is
the premise that there should be a balance between occupational demand and educational supply. That is, there is the belief that there should be a correspondence between the recognition of ability in the educational system on the one hand, and the utilisation of this ability within the occupational sector on the other. The educational system is responsible for differentiating among levels of ability and talent. In turn, the occupational sector absorbs this supply according to the differential demand for the ability and talent.

There are two conditions which could arise in the case of an imbalance between supply and demand forces. Porter has already referred to the first condition where the educational system has been unable to provide equal educational opportunity in Canada. In this situation, a potential pool of ability and talent remains unrecognised and therefore, this group of individuals is unable to exercise this talent accordingly in the labour force. The second unbalanced condition may occur when a society is industrialising. In this case, there is a lack of growth in certain parts of the occupational sector (e.g., Professions) as compared to education. Thus, the occupational sector (e.g., Professions) does not parallel the growth in the educational sector, particularly in those occupations which can best utilise the supply of more highly educated individuals. At this stage, it is difficult to assess the
nature of the cause of an imbalance without first demonstrating that there is an imbalance. This will be done by looking at the growth patterns for the educational and occupational sectors before arriving at a more definite conclusion as to whether a balanced or an unbalanced situation does indeed exist. The various trends which reflect educational growth will first be shown followed by the growth patterns for the occupational sectors.

When Porter claimed in *The Vertical Mosaic*, that the Canadian educational system was inadequate one should recall that his remarks were based on data collected in the 1950's and early 1960's. One should not assume that the educational system has not changed to allow more individuals to attain an education. A brief glimpse at retention rates, educational investments and educational backgrounds of students should provide good indications as to the level of change since Porter's earlier observations.

One trend in demonstrating greater educational opportunity is the retention rates of secondary school students in Canada. The retention rate until Grade 13 is rapidly increasing for students in Ontario (Porter et al., 1973:196). In 1947, only 20 percent of the Grade 9 student population managed to remain in the educational system until Grade 13. In 1966, 40 percent of the students who began high school were able to complete the final grade. A more recent source shows that 50 percent of the males and
almost 60 percent of the females who first entered the Canadian educational system will remain until high school graduation (Perspective Canada, 1974:74). In 1972, approximately 6 percent of the Canadian population over 14 years of age had completed a university degree (Perspective Canada:69). This university completion is twice that of 1960. Another trend which reflects greater educational emphasis is the change in school attendance (Kubat and Thorton, 1974:9. The percentage of the school aged population five to twenty-four years of age attending school increased from 52 percent in 1951 to 74 percent in 1971. The percentage of the 18 to 24 age group enrolled in university has increased from 5 percent in 1951-52 to 19 percent in 1971. This latter post-secondary age group represents an extraordinary increase of over 400 percent in twenty years!

In terms of financial investment in educational services, total expenditures in 1951 for all levels of education in Canada were one half billion dollars or 2.4 percent of the gross national product (Canadian Manpower Review, 1974:28). In 1974, total expenditures rose to 11 billion or approximately 8 percent of the gross national product. As one can see, educational investment has grown both absolutely and relatively over the last two decades.

Although these trends display a greater emphasis on educational services, they do not necessarily mean that greater educational opportunity follows. That is, there may
be more students attending school but the level of equality of opportunity for all has not necessarily increased. One study looks at the father's occupational background of Canadian post-secondary students for 1968-69 (Kubat and Thorton:129). For two diverse occupational categories—professional and technical, and labourers, there is an equal representation of fathers. Almost 15 percent of the post-secondary students had fathers in the professional and technical occupations whereas those students who had fathers in the labouring occupations represented 14 percent of the total for that occupational sector. On the basis of this study, students of two extreme occupational backgrounds demonstrated equal educational attainment. Unfortunately, no other time period is available to establish any trends. In short, one may conclude that definite educational changes have taken place since Porter's remarks. A greater number of persons are participating in the educational system. This of course, does not mean greater equality of education for all groups. However, it is one indication that suggests a change in that direction.

The question which is now raised is whether or not the occupational sector has grown in proportion to the observed expansion within the educational sector. The answer lies in the growth of major occupational groups over the last two decades. The general objective of looking at the occupational groups is to trace growth patterns and to see if
this growth is uniform across groups. The professional and technical occupational group is central to this scrutiny since it is this group which hypothetically absorbs many of the increased number of students from the educational sector. Medicine, in particular, is a good example of a profession which requires applicants with a post-secondary education.

In TABLE II-1, the number of individuals within each of the nine major occupational groups in Canada for 1951, 1961, and 1971 is outlined.
<table>
<thead>
<tr>
<th>Occupation Category</th>
<th>1951</th>
<th>%</th>
<th>1961</th>
<th>%</th>
<th>1971</th>
<th>%</th>
<th>Change 1951-1971</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manasseral</td>
<td>420,181</td>
<td>7.98</td>
<td>538,131</td>
<td>8.33</td>
<td>372,215</td>
<td>4.31</td>
<td>-11</td>
</tr>
<tr>
<td>Professional - Technical</td>
<td>584,778</td>
<td>7.29</td>
<td>627,624</td>
<td>12.50</td>
<td>1,075,435</td>
<td>12.50</td>
<td>+172</td>
</tr>
<tr>
<td>Clerical</td>
<td>578,137</td>
<td>10.98</td>
<td>833,173</td>
<td>12.90</td>
<td>1,375,563</td>
<td>15.90</td>
<td>+137</td>
</tr>
<tr>
<td>Sales</td>
<td>286,889</td>
<td>5.44</td>
<td>410,409</td>
<td>6.35</td>
<td>815,740</td>
<td>9.45</td>
<td>+184</td>
</tr>
<tr>
<td>Transportation And Communication</td>
<td>330,890</td>
<td>6.27</td>
<td>391,539</td>
<td>6.36</td>
<td>438,915</td>
<td>6.87</td>
<td>+36</td>
</tr>
<tr>
<td>Service - Recreation</td>
<td>514,412</td>
<td>9.75</td>
<td>794,115</td>
<td>12.30</td>
<td>934,955</td>
<td>10.80</td>
<td>+81</td>
</tr>
<tr>
<td>Primary</td>
<td>1,042,439</td>
<td>19.77</td>
<td>826,072</td>
<td>12.79</td>
<td>635,745</td>
<td>7.71</td>
<td>-36</td>
</tr>
<tr>
<td>Labourers</td>
<td>351,298</td>
<td>6.61</td>
<td>344,433</td>
<td>5.33</td>
<td>354,480</td>
<td>3.87</td>
<td>-4</td>
</tr>
<tr>
<td>Craftmen</td>
<td>1,363,557</td>
<td>24.70</td>
<td>1,827,129</td>
<td>23.85</td>
<td>1,908,030</td>
<td>22.10</td>
<td>+46</td>
</tr>
<tr>
<td>All</td>
<td>5,276,439</td>
<td>100%</td>
<td>6,453,156</td>
<td>100%</td>
<td>8,626,925</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

2. S. Ostry, Pt. 56-73.
4. This is the percentage change in absolute numbers from 1951 to 1971.
5. Because of a re-classification in the census occupational categories there is a problem in comparing 1971 census data with 1961 and 1951 census data. The major difference appears to be that some managers in 1951 and 1961 are classified as sales occupations in 1971. This should account for the above average increase in sales occupations and a below average increase for managerial occupations. See Statistics Canada, The Labour Force, Ottawa: 71-001.
This table indicates that the total number of individuals in the Canadian labour force has increased from 5.3 million in 1951 to 8.6 million in 1971. This represents a 63 percent expansion in the two decades which, in turn, reflects a growing industrial society. Within this period of rapid growth, it may prove fruitful to analyse the different growth levels for each occupational sector, to detect if this growth is uniform. From 1951 to 1971, the sales occupational group showed the largest increase in these two decades with an 184.3 percent increase. Not too surprisingly, the primary occupational sector which includes lumbering, fishing and farming suffered the greatest decrease with a 36.1 percent decline. Perhaps the most important trend from this table is the large increase for the professional and technical occupational group second only to sales. While sales occupations increased the most, there are more individuals in the professional and technical occupations.

A more detailed analysis of the professional and technical occupational category is shown in TABLE II-2. In this table, the change of positions within these selected seven occupations are given from 1951 to 1971.
Table II-2. 1971 Blishen Scores and Percentage Change of the Canadian Labour Force From 1951 to 1971 For Seven Professional and Technical Occupations

<table>
<thead>
<tr>
<th>Occupation (1951-1971)</th>
<th>Blishen Score</th>
<th>% change$^s$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dentists</td>
<td>74.69</td>
<td>+38.4</td>
</tr>
<tr>
<td>Doctors</td>
<td>74.22</td>
<td>+39.4</td>
</tr>
<tr>
<td>Lawyers</td>
<td>72.73</td>
<td>+116.0</td>
</tr>
<tr>
<td>Engineers</td>
<td>70.00</td>
<td>+170.1</td>
</tr>
<tr>
<td>Nurses</td>
<td>51.31</td>
<td>+116.7</td>
</tr>
<tr>
<td>Teachers</td>
<td>61.22</td>
<td>+217.3</td>
</tr>
<tr>
<td>Medical technicians</td>
<td>53.83</td>
<td>+320.7</td>
</tr>
</tbody>
</table>

4. This is the percentage change in absolute numbers from 1951 to 1971.
5. When there were subcategories of the occupation, the Blishen scores were averaged. For example, elementary teachers, high school teachers, and teachers other than university professors were averaged in order to arrive at one Blishen score for teachers.

Low and medicine have been chosen to represent the trend for traditional professions in the labour force. Dentistry and engineering have been chosen to represent contemporary professions. Nursing and teaching have been selected to represent emerging or semi-professions. Medical technicians have been selected to represent technical occupations. Altogether these seven occupations hold relatively high
Blishen socio-economic scores.

The figures in TABLE II-2 indicate that the higher the Blishen socio-economic scores of the occupation, the lower the percentage growth over the two decades. In contrast, medical technicians and teachers who have lower Blishen scores exhibit well above average growth. Nursing and engineering are about par to the overall professional and technical sector growth. In short, although there is an overall trend for the professional and technical occupational category to increase substantially over the twenty years, occupations of higher socio-economic status such as dentistry, doctors, and lawyers have revealed slower expansion rates when compared to occupations of lower socio-economic status such as teachers and medical technicians.

This type of growth for the professions can be seen in another way. In 1951, the professional and technical occupational category represented 7.3 percent of the total labour force and was the sixth largest occupational group. In 1971, this same occupational group jumped to 12.5 percent of the total labour force and was now the third largest occupational category.

A closer look in TABLE II-3 for the seven occupations within the professional and technical occupational category will show a more precise picture of the changes.
TABLE II-3, Seven Selected Occupations As A Percentage Of The Total Professional And Technical Occupational Categories For 1951, 1961 And 1971.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dentists</td>
<td>4,608</td>
<td>5,463</td>
<td>6,425</td>
<td>-50,0</td>
</tr>
<tr>
<td>Doctors</td>
<td>14,325</td>
<td>21,286</td>
<td>28,580</td>
<td>-29,7</td>
</tr>
<tr>
<td>Lawyers</td>
<td>9,635</td>
<td>12,889</td>
<td>20,815</td>
<td>-22,8</td>
</tr>
<tr>
<td>Engineers</td>
<td>29,960</td>
<td>42,990</td>
<td>80,925</td>
<td>-3,6</td>
</tr>
<tr>
<td>Nurses</td>
<td>35,138</td>
<td>61,553</td>
<td>94,795</td>
<td>-3,5</td>
</tr>
<tr>
<td>Teachers</td>
<td>110,089</td>
<td>188,796</td>
<td>349,295</td>
<td>+13,6</td>
</tr>
<tr>
<td>Medical Technicians</td>
<td>5,604</td>
<td>13,713</td>
<td>17,980</td>
<td>+15,2</td>
</tr>
</tbody>
</table>

2. S. Ostrey, Pp. 56-73.
4. This column refers to the relative change in percentages from 1951 to 1971.

By comparing seven selected occupations as a percentage of the total professional and technical occupational groups for 1951, 1961 and 1971, one can easily find a pronounced decrease in the representation for each of the occupations with the exception of teachers and medical technicians. The number of dentists in proportion to the total number in the professional and technical occupational categories decreased the greatest from 1.2 percent in 1951 to .6 in 1971. This is a 50 percent decline. Doctors, lawyers, engineers and nurses
declined in the professional and technical labour force representation over the same time period by 22.7, 22.8, 5.6, and 3.5 per cent, respectively. Only teachers and medical technicians actually proportionately gained. Teachers and medical technicians increased 15.6 and 15.2 per cent, respectively. In short, TABLE II-3 discloses, once again, that occupations of lower socio-economic status are the source of the greatest growth in the professional and technical occupational category. The least growth is shown for occupations or professions with higher socio-economic statuses.

Another perspective can be gained by comparing the growth of the seven occupations as part of the total labour force rather than just the professional and technical occupational labour force. In TABLE II-4, several trends can be seen.
TABLE II-4, Seven Selected Professions As a Percentage of the Canadian Labour Force for 1951, 1961 and 1971.

<table>
<thead>
<tr>
<th>Occupation</th>
<th>1951</th>
<th>1961</th>
<th>1971</th>
<th>% change 1951-1971</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dentists</td>
<td>4,609</td>
<td>5,463</td>
<td>6,425</td>
<td>0.07 -22.2</td>
</tr>
<tr>
<td>Doctors</td>
<td>14,325</td>
<td>21,266</td>
<td>38,580</td>
<td>0.53 +22.3</td>
</tr>
<tr>
<td>Lawyers</td>
<td>9,633</td>
<td>12,889</td>
<td>20,815</td>
<td>0.24 +33.5</td>
</tr>
<tr>
<td>Engineers</td>
<td>29,969</td>
<td>42,990</td>
<td>80,925</td>
<td>0.93 +63.2</td>
</tr>
<tr>
<td>Nurses</td>
<td>35,138</td>
<td>61,553</td>
<td>94,795</td>
<td>1.10 +66.6</td>
</tr>
<tr>
<td>Teachers</td>
<td>110,089</td>
<td>189,796</td>
<td>349,295</td>
<td>4.04 +93.3</td>
</tr>
<tr>
<td>Medical Technicians</td>
<td>5,604</td>
<td>13,713</td>
<td>17,886</td>
<td>0.21 +51.3</td>
</tr>
</tbody>
</table>

2. S. Ostry, Pr. 56-73.
4. This column refers to the change in relative percentages from 1951 to 1971.

With the exception of dentistry, all other occupations experienced slower proportional increases from 1951 to 1971 when compared to the total labour force. Again teachers and medical technicians showed the highest relative increase with 93.3 and 90.9 percent respectively. The lowest increases were 22.2 and 33.3 percent, for doctors and lawyers, respectively. The number of dentists actually decreased 22.2%. High-prestige occupations increased the least and the lower-prestige occupations increased the most when all were
compared to the total labour force. There is one exception.
From 1931 to 1971, the number of doctors remained at a
constant proportion to the total labour force. In other
words, the relative number of doctors to the number of people
in the labour force has neither increased nor decreased over
the last decade.

It may be argued that these occupations cannot be
compared with the growth of other occupations in the labour
force. Instead, one should compare these selected occupations
to other bases such as the gross national product or
population. In TABLE II-5, the relative increase in the size
of the selected occupations to the per capita income over
time is presented.
TABLE II-5. Number Of Individuals In Seven Selected Occupations As A Ratio Of The Per Capita Income For Canada For 1951, 1961, And 1971.

<table>
<thead>
<tr>
<th>Occupation</th>
<th>1951</th>
<th>1961</th>
<th>1971</th>
<th>% Change 1951-1971</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dentists</td>
<td>4.2</td>
<td>3.7</td>
<td>2.3</td>
<td>-45</td>
</tr>
<tr>
<td>Doctors</td>
<td>12.9</td>
<td>14.4</td>
<td>10.3</td>
<td>-20</td>
</tr>
<tr>
<td>Lawyers</td>
<td>8.7</td>
<td>8.7</td>
<td>7.5</td>
<td>-14</td>
</tr>
<tr>
<td>Engineers</td>
<td>27.2</td>
<td>29.4</td>
<td>29.1</td>
<td>7</td>
</tr>
<tr>
<td>Nurses</td>
<td>31.9</td>
<td>41.7</td>
<td>34.1</td>
<td>7</td>
</tr>
<tr>
<td>Teachers</td>
<td>99.8</td>
<td>128.7</td>
<td>125.6</td>
<td>726</td>
</tr>
<tr>
<td>Medical Technicians</td>
<td>5.1</td>
<td>9.3</td>
<td>6.5</td>
<td>127</td>
</tr>
</tbody>
</table>

2. This column refers to the change in relative percentages from 1951 to 1971.

One can see in this table that the ratios for dentists, doctors and lawyers declined from 1951 to 1971 when per capita income was used as a denominator. One might expect to find certain occupations which would grow as the per capita income grew. That is, the greater the per capita income, the greater the demand for goods and products associated with such occupations as engineers and medical technicians. This growth is seen for medical technicians but not for engineers. In fact, engineers and nurses share similar growth patterns and yet they serve different demands.
for products and services. In short, the same pattern evolves; occupations with higher socio-economic status show little or no growth increases while occupations with lower socio-economic statuses reveal the largest growth.

In TABLE II-6, the size of the population is used in order to compare the growth of the occupations relative to population growth. It may be argued that certain groups would grow relative to population rather than changes in the per capita income.

TABLE II-6, Seven Selected Occupations As a Percentage Of The Canadian Population, 1951, 1961 And 1971.

<table>
<thead>
<tr>
<th>Occupation</th>
<th>1951</th>
<th>1961</th>
<th>1971</th>
<th>% Change (1951-1971)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dentists</td>
<td>.03</td>
<td>.03</td>
<td>.03</td>
<td>00</td>
</tr>
<tr>
<td>Doctors</td>
<td>.10</td>
<td>.10</td>
<td>.13</td>
<td>+30</td>
</tr>
<tr>
<td>Lawyers</td>
<td>.07</td>
<td>.06</td>
<td>.10</td>
<td>+43</td>
</tr>
<tr>
<td>Engineers</td>
<td>.21</td>
<td>.20</td>
<td>.37</td>
<td>+43</td>
</tr>
<tr>
<td>Nurses</td>
<td>.25</td>
<td>.29</td>
<td>.44</td>
<td>+75</td>
</tr>
<tr>
<td>Teachers</td>
<td>.78</td>
<td>.88</td>
<td>.82</td>
<td>+108</td>
</tr>
<tr>
<td>Medical Technicians</td>
<td>.04</td>
<td>.06</td>
<td>.08</td>
<td>+100</td>
</tr>
</tbody>
</table>


Although most occupations increased over time relative to population; doctors, dentists, lawyers and engineers who
represent the higher socio-economic position increased the least as compared to teachers, nurses and medical technicians. In short, regardless of which base is used to chart the relative increase, occupations of higher socio-economic status increased the least or experienced a decline.

To summarise, some of the more important trends in the Canadian occupational structure over the last two decades are briefly reviewed. Since 1951, there has been a 43 percent increase in the total labour force. There appears to be a substantial expansion for the whole professional and technical occupational group. This is to be expected for an industrialising society. Further analysis, however, determines that higher prestige professions such as medicine, law, dentistry and engineering are not expanding as rapidly as the total rate for the professional and technical group. In fact, the relative proportion of these professions when compared to other lower prestige occupations within the same group are actually declining. When these seven selected professions are compared to the total labour force, the higher prestige occupations increased the least with two noteworthy exceptions: dentistry which actually declined and medicine which remained constant.

These occupational trends and in particular the below average expansion of certain selected professions demonstrate reasonable cause to suspect that there is a structural
imbalance between occupational demand and educational supply. This conclusion is based on the premise that there has been an increase in the educational system particularly in the post-secondary stage. Conversely, the relative increase in elite occupations such as in law, medicine, engineering and dentistry have been much lower. One would have expected that these occupations would have kept pace with changes in the professional and technical occupations, increases in per capita income or population change.

There is perhaps the argument that greater economies of scale have been attained. Thus, fewer professionals are required to meet the demand since a greater degree of service is available from a constant number of individuals. It is likely true for all occupations. There is reason to believe that economies of scale cannot be the primary cause of the slow growth (Pickerings, 1973:46). The reasons for this will be discussed in Chapter Three.

Porter's previous warning of an imbalance between the educational and occupational sectors can be sustained over time. The point of departure from Porter's warning is that the cause of the imbalance lies not with the educational sector as Porter first argued; but rather, the cause of the imbalance rests with the lack of growth in important professions in the second largest occupational sector, which requires highly educated individuals. The observed lack of growth for these professions means a diminishing demand for
there highly educated individuals and thus a waste of talent and ability for individuals who cannot secure a position.

However, there are other possibilities. Applicants who are not admitted into one profession may apply to other professions. As it will be shown in Chapter Three, one of the important characteristics of a profession is an extended formal period of education which usually entails the selection of prerequisite courses. That is, one must take specific courses in order to be considered for assessment. If refused, then one can either (sometimes) repeat the courses or take more courses to qualify for another occupation. If the refusal of the applicant is based on the failure of the profession to expand the number of positions, then one may consider this a waste of talent and ability. For example, the reliance on immigrant physicians has caused considerable concern within the medical profession. The Ontario Council of Health says that this reliance cannot be justified particularly when "...a significant number of highly qualified (Canadian) applicants cannot be accepted." (Ontario Council of Health, 1974:11).

Another example of potential waste is the over supply of teachers. Teacher colleges are are filled to capacity while at the same time teachers presently in the educational system are being laid off. In other words, the supply does not equal demand and this situation leads to a waste of talent and ability.
In the aggregate the number of highly educated individuals and the number of corresponding positions which can best utilize this talent and ability are inversely related. As Collins (1971) argues, while there has been an upgrading of the educational requirements, this development has not been accompanied by a proportional increase in the number of highly qualified positions or skill requirements (Collins:122). The over supply of university graduates to available positions in the labour force is well documented (Harvey,1974). In short, one may argue, even at the aggregate level, that educational qualifications are not being utilised or recognised, and therefore, there is a potential waste of ability and talent.

In summary, one can say that Canadian society does show a trend toward industrialisation as seen in the patterns of growth for most occupational sectors. One of the more important occupational sectors associated with this pattern of industrialisation, the professional and technical occupations, appear to have matched the overall growth pattern. When the higher prestige professions were isolated however, this growth pattern was not observed. This lack of growth for the professions as compared to an increase in the supply of talent and ability from the educational sector leads to the conclusion that there is an imbalance between educational supply and occupational demand. The next section will discuss how this imbalance will form the context for
this research.

2. STATEMENT OF THE PROBLEM

The previous section has set the basis for establishing an imbalance between educational and occupational sectors within Canadian society. It was determined that although there was a considerable growth for most occupational sectors, the high prestige occupations which could readily use the expansion from the educational sector had not increased proportionately to other occupational sectors. The purpose of this section will be to specify the implications and consequences for this problem of imbalance as it relates to the profession of medicine and in particular, the recruitment of applicants to a medical school.

As mentioned in Chapter One, occupational mobility is described as more a product of achieved status than ascribed status especially in an open, mobile, industrialising society. As a society industrialises, there is greater mobility. Much of this mobility is credited to achieved status such as educational attainment rather than ascribed status such as family background. In reviewing occupational mobility studies, it was seen that there was no universal consensus in the level or direction for these two processes.
in Canadian society. Although education and present or first job were highly associated with occupational attainment, other non-achieved statuses were also found to correlate both directly and indirectly with occupational mobility.

It would appear informative and productive to analyse the mobility pattern of only one occupation in a context of specified conditions of supply and demand so that any changes in ascribed or achieved status could be observed and identified. In effect, how would ascribed and achieved statuses vary in their influence on occupational entry in different situations of supply and demand and what is the nature of this relationship? To attend to this task, this research will centre on one occupation which can fulfil certain important conditions. Factors of supply and demand for the one occupation must be identified and measured. Achieved and ascribed status must be identified and measured. As well, this occupation must be one which can best use the expanded talent from the educational sector and yet at the same time show very little growth as compared to other occupations. To satisfy these conditions, the recruitment of individuals into the medical profession has been selected to test the relationship between structural imbalance and value processes.

The major focus of this research will be on the entrance or the recruitment of applicants into a medical school. Three immediate concerns come to mind for choosing
the medical profession. Why select this profession over other professions experiencing the same rheumatic growth? What conditions suggest an imbalance between supply and demand? What status factors are prominent in the entrance to medical school? Responses to these questions will be briefly stated at this time but will be elaborated upon in a later section. First, the medical profession has a very high prestige and for reasons associated with this prestige, there are many hopeful aspirants. Secondly, as a profession, the pursuit of medicine demands post secondary educational training before one can apply. Thirdly, the medical profession has been used as the pre-eminent model of the ideal profession and therefore what occurs in the medical profession may have repercussions for other occupations which are attempting to professionalise their status.

What trends suggest an imbalance between supply and demand factors in the Canadian medical profession? In the past one may have argued that there was an acceptable balance between the supply of eligible applicants and the demand or the number of positions in the Canadian medical schools (Clarke and Fish, 1967:1934). Students who wanted to enter medical school and who also demonstrated high academic performance were usually admitted (Judek, 1964:176). In retrospect the competition for available positions was keen, but such competition was only among very few applicants. In all likelihood, this balance between the supply of
applicants, and demand in terms of positions, was attributed more to a lack of educational opportunities. Consequently, by default, the reduced number of competitors matched the demand. For example, the Royal Commission on Health Services in Canada states the following about the kind of limited opportunity which was present in its findings.

All these references to socio-economic background of medical students, the under-representation of those from lower socio-economic classes and lower representation from rural and smaller urban centres, would suggest that there is a financial deterrent to attendance at medical schools (Judek 85-86).

Improved educational opportunity in the form of greater educational enrollment in the last two decades has created a different situation which suggests an imbalance where the supply outstrips the number of positions. Today, there are a growing number of individuals who aspire to higher prestige occupations (Breton 1972:230). In fact, one recent study has found that one in five high school students consider taking medicine (Toronto Star, 1974:18). How qualified are these new applicants? The Canadian Medical Association has released a statement which declares a 250 percent increase in "...highly qualified Canadian applicants who could not be accepted into first year" because of the limited number of positions (Canadian Medical Association, 1973:n.).
The relationship between ascribed and achieved statuses as major determinants of the selection process for medical admission has not been totally or clearly understood. In the competition for entry to medical school, one presumes that achieved status is the only determinant operating in the recruitment process. However, as will be discussed at greater length in the next chapter, a certain amount of suspicion has been cast on the implicit and explicit use of ascribed status. For example, one has already seen a link between social class and medicine in the study by Jones. One may reconcile this link on the premise that these medical students who do come from high social classes are selected solely for their achieved status. In any event, the relationship between ascribed and achieved status appears to be ambiguous and therefore, the identification and measurement of these two statuses would help to clear up much of the confusion.

The context of the problem can be seen hypothetically. For reasons which have not yet been specified, there appears to be an imbalance between the supply of individuals who express a desire to pursue medicine as a career and the number of positions available or the demand for these individuals. The cause of this imbalance seems to be one sided. One can see that changes in equality of educational opportunity have produced a substantial increase in the number of applicants. What has not been
specified so far is the cause for the slow growth in the
demand for these individuals by the medical profession. This
cause will be discussed in Chapter Three.

What evolves from this imbalance regardless of the
cause gives rise to a very interesting problem. The problem
can be stated in a series of related questions. If there is
greater educational opportunity and this results in a
considerably large number of individuals attaining higher
levels of education, how will this affect the medical
admission’s recruitment process? The implications of this
oversupply of applicants to medical positions may create
problems in the selection of medical applicants. What would
happen if this large group of applicants demonstrate similar
levels of education and educational performance? On what
basis will the medical school be able to differentiate
medical applicants for admission? In short, what will occur
when the medical school is faced with an imbalance in the
number of applicants relative only to a limited number of
positions?

If alternative criteria are adopted in place of
educational performance, to what extent will these reflect
individual achievement and not ascription? Is there a
possible connection between the level of imbalance between
supply and demand, and the emphasis on achievement or
ascription? In other words, will an imbalance between
occupational demand and educational supply directly influence
the importance of ascribed or achieved status in the selection of applicants to medical school? Why are additional criteria required in a situation of a growing supply of medical applicants? Do these criteria reflect a greater emphasis on the status of the applicant? These questions will be examined most closely in Chapter Three.

The statement of the problem can now be presented. In a situation of imbalance where qualified applicants increasingly exceed the number of available positions, what will be the relative influence of achievement and ascription in the selection of candidates to a professional school? More specifically, what is the relative influence of ascription and achievement in the selection of candidates to one medical school? There is the assumption that applicants who are admitted to medical school will eventually become members of the medical profession.

The use of alternative criteria suggests that there are other valid bases of achievement. If education, as the foremost indicator of achievement, has been shown to be influenced by ascriptive factors, to what extent will other criteria reflect similar ascriptive influences? If these criteria reflect ascription, what will be the total effect of the ascription? For every criterion added to the admissions process, the possibility of ascription increases accordingly. One can only speculate at this point about the degree of an increase in ascription as it depends on the number of
criteria and the degree of importance attached to each. This research study is in an advantageous position to look at this problem for two reasons. First, the level of occupational aspiration can be held constant. As indicated in Breton's study, occupational aspirations were closely linked to socio-economic background. Inequality of opportunity had blocked many occupational aspirations. More recently, however, a greater number number of students have been able to pursue a post-secondary education and at least reach the stage from where they can apply to medical school. In essence, applicants to medical school represent an ideal group where socio-economic factors have not prevented them from applying to this critical stage.

A second advantage of this study is that it can be longitudinal. That is, the process of admission into medical school can be analysed over time and therefore in different situations of supply and demand. In the case of this study, one medical school has been selected to exemplify this process. For this reason, supply and demand take a slightly different connotation than the more general educational supply and occupational demand which was discussed previously. Supply is defined as number of applicants who are eligible to apply to medical school. Demand will be defined as the number of positions that the medical school has to offer these applicants.
3. SUMMARY AND DISCUSSION OF CHAPTER TWO

The objective of this chapter was to pinpoint the cause of structural imbalance between occupational demand and educational supply. At first glance, one may argue that there have been remarkable changes in both the educational and occupational sectors. If both these sectors are evenly matched there is the assumption that social mobility is at a high level. However it was pointed out that high prestige occupations in the professional and technical occupational category did not increase when compared to other occupational groups as one would expect during industrialisation.

This imbalance has certain consequences for the medical profession. Greater educational participation has resulted in a greater number of medical applicants. This represents many more applicants than available positions. The medical school is faced with the task of selecting only a small number of individuals from this growing supply of applicants. This task is made more difficult if the supply of medical applicants exhibits similar educational attainment. If the traditional criterion of selecting applicants on the basis of educational attainment does not adequately differentiate the applicants, other criteria must be introduced to supplement or to take the place of educational attainment.

The implication of using additional or alternative
criteria is only proposed at this stage. What should happen if the additional criteria should measure ascription rather than achievement of the applicant? Since achievement in the form of educational attainment has been shown to be influenced by ascription or social background, one may suggest that other criteria will also be influenced if not more strongly. This will be seen more clearly in the next chapter. The importance of achievement relative to ascription in terms of influencing occupational mobility is predicted to decline. The implication of this problem is that the greater the imbalance, that is, the greater the educational supply to occupational demand, the greater the importance of ascription on occupational mobility. With reference to medical school, the greater the number of medical applicants relative to the number of available positions, the greater the influence of ascription in the assignment of applicants to positions.
NOTES TO CHAPTER TWO

1. The assumption is that education and occupational status are closely linked. This is generally true. See Blau and Duncan, 1967:184. However, ability and talent can be recognised by other means such as apprenticeship and self-learning programs.

2. Expenditures for the post-secondary level rose 548% from 1960 to 1970. This will exceed the increase in expenditures for the elementary and secondary levels (Statistics Canada, 1973:67).

3. The absolute number of fathers for the professional and technical occupational categories for 1968 based on sample estimates are 36,063 and 35,603, respectively.

4. A balanced situation does not mean equality. The high cost of professional schools prevent many students from applying.
CHAPTER THREE

POWER AND THE PROFESSIONS

1. INTRODUCTION

The professions as compared to other occupations have been a focal point in describing and analysing important changes in society such as industrialisation, specialisation and bureaucratisation. In Chapter Two, it was suggested that the number of available positions in the professions and the over supply of aspirants to these positions means that social mobility into the professional sector was not as high as expected because of this unbalanced situation. The reasons for this imbalance will unfold in this chapter. The purpose of this chapter is threefold. The first section includes an explanation, on a theoretical level, of why the professions have failed to keep pace with the educational supply. In order to reach this explanation, one should know how and why the professions have been able to attain a prominent position in society in terms of power and prestige. The rise of the professions and their unique characteristics as described by Spencer, Reader, Marshall, Hughes and Moore provides the basis for understanding how an imbalance can exist in the professions. The second section in this chapter includes an
examination of the problem of an imbalance with reference to
the applicants to Canadian medical schools. The last section
looks specifically at one medical school. The propositions
are presented as a result of the discussion of the
consequences of the imbalance for the medical school.

2. THE RISE OF THE PROFESSIONS AND THEIR UNIQUE
CHARACTERISTICS

For some time, the professions have been separated from
other occupations for several reasons. Spencer was one of the
first sociologists interested in the problem of explaining
why the professions were so unique in society. His
formulation of the issue was resolved on the basis of the
functions which the occupations provided. For Spencer the
primary goal in life is the "maintenance of the life of a
society". Once this is achieved, there is only one main
function which prevails and this is what Spencer refers to as
the "augmentation of life". It is this very function that the
professions offer over other occupations; physicians can cure
diseases and prolong life, and musical composers or poets can
clicit pleasurable feelings which "increase life". The source
of the power acquired by the professions is derived from a
superior knowledge and intellectual capacity. The products or
feats of the professionals then exceed the ability of others
to achieve or understand these feats. This exceptional
"cunning" gives professional members the status of a leisureed
class where they do not have to work as others do for their subsistence; but rather, they are able to devote their time to intellectual labour (Spencer:18).

Quite another perspective as to the rise and dominance of the professions is proposed by Reader (1966). Reader claims that the professions are a Victorian era creation in which the gentleman class was created. Individuals in this class did not have to work for an income but instead they were mostly supported by family estates (Reader:3). Of course the only worthy occupation of a gentleman was a profession. Access to the professions was restricted to those individuals who were able to afford both time and money in pursuing a liberal education based on the classics (Reader:10). Therefore, only individuals of independent wealth could gain admission to the professions.

In this Victorian era, there were no systematic means of learning the knowledge and skills appropriate to the profession. As Reader comments, "It was after all, assumed that a gentleman who had a liberal education could learn the rest fairly easily when the need arose" (Reader:12). Thus, according to Reader, the professions in these times were regarded as pursuits or activities of the gentleman class. By establishing oneself in a profession, a gentleman would be in a better position to make the necessary connections with the state and all of this would inevitably lead to more profitable income (Reader:23-24).
The gradual transformation of the professions from a leisure class in the Victorian era to that of another social class was inevitable according to F. H. Marshall. The amount of leisure as a symbol of aristocracy eventually declined (Marshall:1939:326). Instead, the professional began to confer a service to the client as an acceptable form of activity. An unusual relationship between the client and the professional was established. It was the development of a code of ethics which bonded this relationship. Such a code of ethics included "...the duty to offer service whenever and wherever it is required; to give only the best; to abstain from competition, advertisement and all commercial haggling and to respect the confidence of the client" (Marshall:327).

It is this code of ethics and the principles underlying it which separate the professions from other occupations according to Marshall; that is, because of this code of ethics, service relationships could be made on the basis of trust and are not specified or contracted (Marshall:328). In return for this trust by the client, the professional assumes total responsibility. His service becomes individualised unlike that of a manufacturing line. As Marshall elaborates:

The professional man cannot spread his services; he cannot, except within narrow limits, distribute his skill through subordinates. He is unable to go into mass production and is forbidden to offer cheap lines for slender purses (Marshall:332).

In short, Marshall has provided an explanation for a drastic
shift in the function of the professions which allows them to
assume even greater prominence. The establishment of a code
of ethics and a new relationship between clients and
professionals based on trust have produced a new role for the
professions.

Hushes (1971) renowned for his work in the area of
occupations, differentiates professions from other
occupations on the basis of the degree of two
characteristics. These characteristics are called a "licence"
and a "mandate". A licence, in the most general sense,
consists of a claim by a group of individuals to conduct
certain activities which other individuals are either not
allowed or expected to do (Hushes:287). That is, a licence
gives a group of individuals the right to lead a certain
style of life or to follow an unusual pattern of behaviour.

The second characteristic or the mandate refers to the
claim of the group to define "proper conduct with respect to
the matters concerned in their work" (Hushes:287). Ideally,
this mandate gives the group of professionals the right to
decide what is right or what is wrong in their area of
expertise. For example, physicians have been able to obtain a
licence to practise medicine but in their mandate they are
able to inform their patients and the general public what is
right or wrong with regard to their personal and public
health. The important aspect of these two characteristics is
that the attainment of a licence and a mandate cannot be
easily claimed by one group. Nor is it automatically
conferred on any group. Rather, this claim must be socially
gained and usually only after a considerable time period in
which the public is convinced of their worth or value to
society.

One trend which has gained momentum in the last few
decades and corroborates the powerful position of the
professions within the social structure, is the attempt by
other occupations to assume, sometimes rather unsuccessfully,
professional characteristics. That is, many occupations are
trying to professionalise themselves with the hope of raising
their status and usefulness in society (Etzioni, 1969;
Vollmer and Mills, 1966). An interesting aspect of this trend
for this research is whether the opportunity to enter these
professionalising occupations is affected in the same manner
as the level of opportunity for entering the professions. If
this trend of professionalisation is as widespread as
suggested, is the sluggish growth in the professions as seen
in Chapter Two a clue as to what will happen for the
professionalising occupations as well? In brief, the sluggish
growth of the professions may have serious repercussions for
other occupations which are attempting to imitate certain
characteristics of the professions. If certain
characteristics of the professions are found to inhibit
growth, can there be serious consequences in the level of
opportunity for those trying to enter these occupations? To
certain those characteristics which could be influencing the slow growth pattern of the professions, a description of an ideal profession is offered as a basis for discussion.

The scale of professionalism by Moore (1970) presents an excellent background for identifying major characteristics of an ideal profession. Essentially, there are six main values or characteristics on Moore's scale of professionalism (Moore: 22-34). All are considered necessary for an occupation to achieve professional status although each value may vary in importance for any one profession. The first value on the scale is the condition that the occupation is pursued full time and is the principal source of earned income. This would mean that the profession is distinct from other sets of activities which are neither full time or a basic source of income for the individual. The second value on Moore's scale is a commitment to a calling. This commitment involves an acceptance by the individual of appropriate norms, standards and identification with professional peers and the profession as a collectivity. The third value in the scale of professionalism is the existence of a professional organisation which establishes conditions of employment, recruitment, maintenance and protection of the profession. The fourth value is the expectation of an extended period of formal education for the individual whereby prerequisite courses are expected to be selected prior to admission. The fifth value is the total support for a service oriented
relationship between a professional and a client; that is, the client’s well being is the determining factor in a professional’s decision and actions. But the most important value on Moore’s scale of professionalism is autonomy. Autonomy is defined as the degree of control that the profession has over its own members and that of the community.

It is autonomy which separates the professions from other occupations (Johnson,1972). This autonomy includes the right to determine its own standards of professional education, discipline, and admission procedures. As Goode states, the practitioner (professional) is relatively free from lay evaluation and control (Goode,1960:903). Certainly the professions like other occupations are ultimately responsible to the state but if anyone closely examines the relationship between the state and the professions, one would find that most legislation is initiated, motivated and supported by the profession (Goode:90; Moore,1970:59).

An excellent example of this autonomy is the type of relationship between the medical profession and the state in Ontario. The Ontario Council of Health has been established to advise the Ministry of Health. The council is "...designed to support the overall thrust toward improved health services..." (Health Manpower, Supplement no.3,1970:v). Most of the members on this council are physicians or are individuals who are actively involved in health related
politics. The recommendations of this council are usually followed by the Ministry and are published in full by the Ontario Department of Health.

One could argue that since the inception of the universal health schemes by the government, there has been an increasing infringement of the medical profession's autonomy. Marsden (1977) argues that "this government intervention has not significantly affected the autonomy of the medical profession, but has rerouted the expression of autonomy through more centralized bureaucratic organizations..." such as the Ontario Council of Health and the College of Physicians and Surgeons who more than adequately represent the interests of the medical profession (Marsden:8). Marsden also points out that the government's fiscal policy and the medical school's control over the number of applicants do not necessarily diverse (Marsden:20).

If these six values or characteristics represent an ideal profession, in what way can they influence the supply and demand of members for a profession? Those values which are seen to affect the supply of members will be discussed first, followed by factors which are thought to affect demand. The first source which can severely restrict the supply of potential members to a profession is the process of self selection. This process refers to the conscious decision by an individual not to pursue a profession in favour of another vocation. Several negative reasons can be found in
The various requirements of the professions. Many individuals are not desirous to devote their entire life to one full time occupation or are unwilling to commit themselves to one occupation at their present educational stage. Others cannot visualise themselves submitting to a commitment to a calling where they are obliged to learn new values and standards which may be foreign or in conflict with their present values. Still others will not, by choice, spend a rather extended period of their life in the educational system. Some are reluctant to assume a role where their behaviour is not governed primarily by self interest as compared to client interest. In brief, one may assume that self-selection plays a major role in determining the level of supply to the extent that self-selection may cause an inadequate supply of potential professional members.

A second factor which could influence the supply of professionals is the regulation of the professional organisation by its members. Seen as one of the characteristics of the profession, the organisation is charged with the responsibility of maintaining professional standards and protecting the naive or sullible client (Moore, 1970:111). Hence members may lose their licence to practise if the profession determines that there are any professional improprieties. It should be acknowledged that very few cases of this kind are disciplined to the extent of delicensing (Elliot, 1972:123-124; Grove, 1969:178-184;
There is great difficulty in proving incompetence or unethical practices. Many of these cases are handled informally before they draw serious public attention (Moore, 1970:127). For if there were a frequent number of disciplinary problems, the public might start to question, or at least doubt, the level of competence for other members in the profession. Unfortunately, these cases are not usually published and thus it is impossible to adduce any trend (Blishen, 1969:88). One may reasonably conclude that the prevalence of delicensing is not that widespread. In short the supply of professionals is not adversely affected by the disciplinary actions of the professional organisation.

The third possible characteristic which can have an effect on the supply of members is the selection process. It is here that the profession gains complete control or autonomy in deciding who shall constitute its future members and even more importantly how many members (Grove, 1969:84). As Moore points out, it is much easier to select, govern, and control admission to an occupation than to keep current competence under close observation (Moore, 1970:129). The way in which applicants are selected can have repercussions for the entire membership. The relationship between the professional value of autonomy and the selection process is most evident. Just as the client is not in a position to judge the competence of the professional, only the profession can select potential members and decide the criteria for
admission. Therefore, the one process that can directly affect the supply of professional members is the admissions process (Barlant, 1975:180). The creation of high standards and the definition of these standards or criteria will have a direct bearing in the growth of the profession. For example, if the standards were set too high, possibly only a few members would be admitted.

Some of the criteria used by professional schools are briefly reviewed to understand how criteria can influence the admissions process. One of the most widely used criteria to assess potential members for entry into the profession is the level of academic ability which is usually measured by formal educational performances or standardised entrance tests (Moore, 1970:10). This was not always the case. In the 19th century, as Reader points out, prospective members of a profession were obligated to purchase qualifications. A system of patronage existed where one had to be nominated by a professional member before one could purchase his entrance to the profession (Reader, 1966). As he states, "...what the older professions seem to have conceived of themselves as doing, when they let in new members was admitting educated gentlemen to small, self-governing groups of their social equals, to whom they would be personally known and by whom their fitness would be judged" (Reader, 1966).

Certainly this era of patronage and nepotism has changed into a more universal system of entry. This does not mean
that this system is entirely fair or devoid of influence. In fact, one may argue that an applicant does not have to purchase his professional position anymore but perhaps in an indirect way, one must be able to finance a lengthy and expensive period of formal educational training. Even if an applicant is accepted into medical school, the cost of medical training or deferment of income is prohibitive to many students. In other instances, references which are required by most selection committees in the professions today are often written by prestigious and influential people in the community, and within the profession. It may be difficult to separate the objective and subjective nature of the reference and therefore one may argue that this constitutes a subtle form of nepotism. In brief, the most common standard for entry to the profession seems to be the assessment of the applicant's academic ability as measured by the applicant's formal educational training.

The basic assumption underlying any criterion for selection is the hope that the applicant will continue to serve the values and ideals of the profession. In this way, applicants will pursue their career as a full time occupation; they will be able and willing to learn the profession's norms and values; they will be willing to pursue a formal period of education of some duration; and they will assume a role of devoting their service to the client. In short, admission criteria for all professions serve to screen
Applicants in such a way as to serve the best interests of the profession—or as Spencer succinctly describes it, the survival of the profession. It is the profession which has the autonomy to choose the criteria which are used to select new members so as to safeguard the future existence of the profession by maintaining high standards for admission.

Not only are the criteria rigorously controlled but the actual number who are to be admitted is also carefully specified by the profession. Ideally, the number of positions which are available to future members should match the additional demand for services which faces the profession. If stringent criteria are applied by the profession to screen out the incompetent applicants, then an ideal match would not take place since the demand for services would be high and the supply of potential candidates would be low. Accepting more applicants into the profession in order to meet the high demand could only be done by lowering the standards for admission and this would undoubtedly jeopardise the profession's prestige and position in society. In effect what could happen is that the professions would lose their licence and mandate. One of the major characteristics of a profession is a lengthy formal education period prior to entry. To produce a professional takes several years of training. Therefore, fluctuating demands for professional services may so unfulfilled in the short run unless these demands have been projected and accounted for. Would it be possible to
match supply and demand in the long run?

Perhaps the answer to this predicament lies with the demand side for the professions. Resorting to the characteristics of the professions one can see that one of the major functions of a professional organisation is to maintain the existence of the profession. One way this is done is to ensure a demand for professional services (Carr-Saunders and Wilson, 1933:303). Without a demand, the usefulness of the profession and its members is called into question. It would be highly unlikely for a profession to exist without a continuous demand for professional services. The introduction of new techniques, programs, cures, and solutions can produce an increase in the demand for services. Only the profession can convince the public that its service is necessary.

As the demand for a profession increases, relative to its supply, so do its prestige and status (Moore, 1970:57). Therefore, if the profession intentionally tries to reduce the demand for services, there is a risk that its existence or at least its prestige may be challenged. Consequently, it is not in the best interest for the profession to lower the demand. Quite the contrary, it is in the best interest to sustain or improve the demand for its professional services.

This control over the supply and demand by the professions leads to a paradoxical situation. The professions
are entrusted by the public with a licence and a mandate. In return, the professions assure a high level of competence. This level is reflected in the stringent admission requirements. However, such a high level may directly affect the number of applicants who can enter. The consequences of using these criteria is that a fewer number of applicants than expected or projected are allowed in.

The other professional characteristic which is operating to complicate this process is the profession’s interest to increase demand. Hence it is almost impossible to foresee a situation where supply can ever match demand. This perhaps explains why the professions fall short of meeting demand as Caplow observes in the following statement:

The supply of professional practitioners is, in the short run, unchangeable. What is more surprising is the tendency of the supply to decrease in the presence of increased demand. An increase in demand for professional service tends to strengthen the entire system of professional controls. One of the first consequences is the elimination of substandard training centers, and the tightening of eligibility requirements for professional candidates. Given the autonomy of the well-established profession...there is a tendency to restrict further and further the supply of new practitioners (Caplow, 1954:170).

Thus, in order to maintain an important position in society, it would appear impractical for several reasons, for the profession to alter the supply of its membership toward
some form of balance with demand for its services. First, increasing the members via recruitment may be conducive to lowering the standards. This would obviously be detrimental to the profession if it desires to maintain its license and mandate. Second, reducing the demand for these professional services would not be in the best interests of the profession and therefore is an unlikely event. Consequently, because the professions wish to keep their unique position in society, a balance between the forces of supply and demand is unlikely to be forthcoming. In all likelihood, the supply will always be restricted and the demand will always be inflated.

An irony of this predicament is that the greater the mismatch, the higher the prestige of the profession and consequently the greater the number of applicants who will be attracted to the profession. That is, by attracting more potential members to the profession, the standards of competence must be raised to restrict the number of applicants. As predicted in Chapter Two, traditional or past criteria such as academic performance will be rendered ineffective with a new curse of applicants. When the professions adopt alternative or additional methods of assessing applicants, certain unforeseen or unintended consequences may evolve especially with a high supply of applicants. It may be suggested that as new criteria are used, ascriptive criteria will play a more important part.

In summary, the purpose of this section was to explore
on a theoretical level some of the reasons why the professions did not show a comparable growth with the trend of industrialisation as seen for other occupations. The very character of the professions which has resulted in their unique position in society also produces a situation where supply and demand are unlikely to be evenly matched. That is, demand will generally outpace supply. Certain trends which cause this situation are: a restricted number of new recruits controlled by stringent standards; a growing number of applicants; and a growing demand for professional services which are necessary to the profession's survival. Attention is now turned to the Canadian medical profession in an effort to establish the existence of an imbalance between supply of applicants and professional demand.

3. ENTERING THE MEDICAL PROFESSION

The passage of a person into a profession from the educational system can be arduous and lengthy. The recruitment of new members for the medical profession in Canada can exemplify the complexity of the entire process where an eligible applicant to a Canadian medical school has to meet general qualifications and standards which may vary from one school to another (Grove, 1969:101-108). The applicant is expected to have completed secondary school and in some cases a university degree. Some medical schools
Insist that prospective applicants take pre-requisite medical courses in the first few years of university. Science courses such as biology, chemistry, physics and mathematics are often obligatory or heavily stressed in order to qualify for admission. Therefore, the decision to enter medicine is usually made before entrance to university.

Once the applicant has been accepted by a medical school, there follows a very demanding medical training which can last at least four years in most cases. After a set time, the medical student is required to pass the Medical Council of Canada examinations. The final responsibility of this passage of medical student to medical physician lies with the province. For most provinces, this right is transferred to a provincial licensing body-usually known as the College of Physicians and Surgeons. This college, in turn, delegates the responsibility to the Medical Council of Canada (MacFarlane, 1965:85).

The degree of autonomy for the Canadian medical profession can be seen not only in the power of licensing responsibilities, but also in the degree of control over the entrance criteria. Although all doctors are considered qualified and competent to practice medicine once they have passed the national licensing examination, there is no universal agreement among the 16 Canadian medical schools about the type of qualification and competence required of applicants which is necessary for entry into the medical
profession. The common denominator for all admissions criteria would have to be academic performance (McFarlane, 1965:69).

One of the problems of using past academic grades is that there is a complete lack of standardisation across high schools and universities for all provinces and even within provinces. Some educational institutions release marks in the form of percentages while others may release them in the form of alpha or numeric categories. Some simply are classified credit or non-credit. One study (1965) on applicants to Ontario medical schools has concluded that "No other aspect of the evaluation of the applicant presents so much difficulty as the evaluation of the academic standing..." (Fish and Macleod:703). In response to this problem, the Ontario Medical School Application Service for all Ontario medical schools has constructed a table which intends to convert academic grades into one standardised score; still, many grades are left unconverted (see Appendix A). Even after conversion, these scores do not represent an equal weighting for the number of courses, the level of difficulty of the course or program, the number of years at an university or the type of courses taken by the applicants.

The reaction to using academic marks in the selection of applicants to medical school has sometimes been most critical. A former Deputy Minister of Health and Welfare and Dean of one of Canada's medical schools revealed that "...the
type of person who is good at these subjects (biology, physics, mathematics and chemistry) is not necessarily the type who makes a good doctor. It is often the opposite" (Medical Post, 1974, vol. 10:1). One study (1962), which raised certain doubts about employing academic marks as a criterion, found in a follow-up of a graduating class of medical students that "...there is no statistically significant relation between academic performance as a student and professional achievement as a physician (Hunter et al., 1962: 865). One medical school which relies almost entirely on academic performance has been chastised for using a selection criteria which attracts the "least flak".

A second most common form of evaluation used in admissions procedures is the personal interview which is usually used in conjunction with academic marks. Over three-quarters of the Canadian medical schools conduct some type of interview with the medical applicant (Association of American Medical Schools, 1973). According to the Medical School Admission Requirements Handbook 1975-1976, the interview serves three purposes: first, the applicant can clarify or elaborate on submitted information; two, the applicant can learn more about the specific operation of the medical school such as the type of training or the nature of the course work; three, the interview provides additional information on which to judge a marginal applicant or to corroborate previous achievements (Association of American
medical school. It should be noted that most interviews are conducted with only a small number of applicants who are initially screened by reference and/or written tests.

The interview is one of the major criteria for admission to medical school has been subject to considerable criticism. The Royal Commission on Health Services states in its observations that "The use of personal interviews is general although most chairmen of selection committees doubt their value for predicting academic performance. They are useful perhaps, to spot gross inadequacies in applicants...." (MacFarlane, 1965:49). The personal interview as an instrument of assessment has also been suspect in terms of reliability and validity. A certain degree of subjectivity is prevalent in all interviews and ratings could drastically differ from one person to the next. J.H. Steiner, Professor of Medical Education comments on the success of interviews to the University of Toronto medical school. He states, "We found that not only was there great intra-group disagreement...but there was also disagreement if a single student was interviewed by three different groups. The three groups couldn't agree with each other." (Medical Post, Vol.19, 1974:40).

The third criterion which is sometimes used in assessing applicants is the Medical College Admissions Test. This test is an attempt to standardize aptitude scores in the four general areas of quantitative ability, science, general
information and verbal ability. Only 11 of the 16 Canadian medical schools request applicants to take this test and even then these results are not weighted too heavily. The relationship of the M.C.A.T. results to other criteria is confusing and ambiguous; for example, one study (1966) of Western medical schools found that better scores on the M.C.A.T. did not improve the applicant's chances of admission and in one of the medical schools there actually appeared a negative relationship between scores and admission (Anderson et al., 1966:1374).

Other criteria along with academic performance, interviews and M.C.A.T., have been introduced with little discernible effect. Letters of recommendations, submissions of theses, group seminars and personal correspondence have been used in part by most medical schools. Steiner exemplifies the views expressed by many critics for these other admissions criteria when he says, "The alternative systems that have been attempted are unrepeatable, inconsistent, and tremendously subjective" (Medical Post, Vol. 10, 1974:40). His solution to the problem is that, since all these students are so "indistinguishable", and in order to be fair to all, medical schools should adopt a lottery system where all applicants have an equal chance of being admitted.

Another suggestion comes from a former Associate Dean of Medicine at the University of Toronto. He advocates that the patients and hospital staff would make better judges of
medical students than university selection committee (Toronto Star, 1971:5). Regardless of the alternative selection device used, the Royal Commission on Health Services concluded that as yet there was no completely accurate means of predicting completion of program or contribution to medicine (MacFarlane, 1965:70). In short, the autonomy of the medical profession is well demonstrated in both the diversity and the interpretation of admission criteria which are used by the Canadian medical schools in the assessment of future members to the profession. Attention is now turned to the attempt of using selection criteria which are formulated from the profile of an ideal physician.

The ideal representation of the best medical applicant is almost as elusive as defining the best qualities of a physician (Miller, 1961:23). The Royal Commission on Health Services indicates that the foremost trait which best characterises the ideal physician can be integrity but unfortunately it is a "...virtue not easily discernible by interview or any other series of tests or examinations" (MacFarlane, 1968). Sometimes, the completion of the long and gruelling medical training is thought to indicate competence. In this way, medical schools would use criteria which would select students who would be best able to finish medical school. However, the attrition rate is negligible no matter which criteria are adopted. By passing the licensing exam, everyone becomes a competent physician. Thus medical schools
are reluctant to draw a direct relationship between a student who can simply finish a medical course and a physician who can practice medicine well. As one selection committee member {
frustratingly\} remarks:

When I came into this job, I was sure
that given a half hour with someone, I
could say whether he'd be a good doctor
or not. I have no confidence in that now.
I went back and looked through the
interviews with reference to some of our
disasters and some of our major
successes. The correlations are just
zero. I shouldn't have been surprised
because I have had experience in
personnel selection in other fields
(Medical Post, 1974, Vol. 10:40).

Several other attempts have been made to capture the
ideal character of the best physician. One medical school has
defined these traits to include motivation, idealism,
compassion, and responsibility to the community as being
critical for selection. These qualities were eventually
discarded in favour of academic marks for the basic reason
that even if the student exhibited these traits upon entering
medical school "...he stands a good chance of having these
traits pounded out of him" (Medical Post, vol. 23, 1974:40). One
study attempted to survey the selection committee members of
four medical schools on how they rate the importance of
various qualities of medical applicants (Evans and
Anderson, 1967:477). The results of their survey show that
academic achievement was rated the highest and the following
items were rated in descending order of importance: strength
of drive for academic achievements, character, and interest, and motives with physical characteristics being rated the lowest. The level of confidence for rating each of these subjective qualities was scored very low (Evans and Anderson, 1967:178).

The different methods and interpretations of selection criteria and the problem of defining common traits or qualities that could predict the best qualities of a physician have resulted in a divergent array of acceptable applicants to medical schools across Canada. Clarke and Fish comment in their study (1967) on the discrepancy in assessments for 1963-67 applicants to Canadian medical schools. They state:

Of the 505 multiple applicants in 1966, three-fifths (61%) received different evaluations from various schools. Of particular interest are the cases of "polarized" applications where applicants were rated as clearly acceptable by one school and clearly unacceptable by another. These polarized evaluations still accounted for a sizable (19% or 95 persons) of Canadian multiple applicants (Clarke and Fish, 1967:232).

The varying degree of evaluations of medical students attracted the interest of The Committee for the Healing Arts. They too were baffled by the variations in acceptability especially when the formal requirements for the Ontario medical schools were clearly specified and very similar in nature (Grove, 1967:105-108). The Committee on the Healing Arts noticed the level of success for one medical school when
it created what it called "the good quality applicant." A good quality applicant was less than 30 years of age; had no previous academic failures; attained a 60 percent or greater pre-requisite average and a 60 percent or greater overall college grade average. Over 20 percent of the students who met these minimum requirements were not accepted by four medical schools which were surveyed while 17 percent of the available places were eventually filled by applicants below even the minimal standards (Anderson et al., 1966:1374).

How can applicants be evaluated to be acceptable at one medical school and unacceptable at another and then all graduate to become competent physicians? It seems highly unlikely that different selection criteria or different emphasis of the criteria would create such a diverse rating of the applicants. Clarke and Fish tried to account for the divergencies across medical schools. They arrive at these interesting comments.

Discussion with admissions officials regarding the standards which they set for entry to the medical course, however, indicates that these differences rest primarily with varying premedical course requirements, evaluations of the institution in which the premedical education was taken, and differing attitudes to personal characteristics such as age, rather than with any basic differences in levels of academic accomplishment required (Clarke and Fish:1932).

Different attitudes concerning personal characteristics
may be functioning in the form of quotas which is another possible reason for the differences in evaluations of medical applicants. The existence of quotas on the basis of sex, religion, citizenship and age have been a reality in the past (Hall, 1946; Grove, 1969). In the last few years, quotas have not been actively applied although citizenship and area of residence are two prevalent exceptions. Sometimes quotas are not openly disclosed and therefore it is difficult to substantiate any claim to the contrary. The Committee on the Healing Arts did find one obvious case of quotas operating at one Ontario medical school. The medical school’s calendar indicated that there was no consideration of applicants on the grounds of race, religion or sex. In blatant contrast to this declaration the calendar went on to say that there was "a maximum of ten places which are allocated to women students" (Grove:107).

In all fairness to medical selection committees, much effort has been made to eliminate intentional acts of bias or intervention by outside forces. One move in this direction has been the diffusion of responsibility in the selection process by increasing the number of members who participate. In this format individual biases, although they still may exist, are diminished. One attempt to overcome any partiality is a study by Chipman and Steiner (1967) in which they designed a computer program where all applicants are judged impartially, consistently and independently of other
applicants. So far this computer selection procedure has not been widely accepted. One medical school tried to overcome the problem of partiality by using only academic marks as selection criteria. By doing so, it was found that certain ethnic groups were well over-represented. Somewhat ironically, the medical school was criticised by the press for "acting in an undemocratic, discriminatory way against the taxpayers of the province" (Medical Post, vol. 10, 1974 01).

Perhaps the answer to this problem of high flexibility across medical schools lies in other areas than in the possibility of discriminatory practices of admission. It may be suggested that the answer may lie more directly with another problem which was outlined in Chapter Two. This problem is the tremendous surge of applicants to medical school which has created an over supply relative to the number of positions. The problem can be conceptualised in the following manner. There is reason to believe that the most widely used criterion, that of academic ability, can no longer be a sufficient indicator for selecting medical applicants in a high supply situation. This is because academic performance fails to distinguish the applicants in an adequate way. That is, there is no longer a clear distinction between high and low academic scores which make a decision much easier. Although there is always some computational distinction by which academic scores can be calculated to two decimal places, the question is whether or
not an applicant who scores 3.65 will make a better physician than another applicant who scores 3.04. Related to this problem is the concern that academic grades or standardised grade point averages do not necessarily predict a desirable type of physician.

In reaction to this problem of differentiating applicants on the basis of academic ability, medical admissions committees are faced with the dilemma of using other, and possibly less objective criteria in the assessment of applicants. A growing reliance on non-academic performance does not necessarily mean that this form of assessment is not a valid method of differentiating among applicants, but considerable doubt is cast by the level of subjectivity which is thought to intervene in the process. To what extent are the interpretations of these alternative criteria adversely influenced by irrelevant or unintended factors? The Committee on the Healing Arts questioned the degree of influence of these factors in the admissions process and especially the lack of any analysis of them. It states:

...it may be true that the different interpretations of acceptability are little related to differences in the academic standards demanded, but that is hardly the point. It is not academic standards that are in question so much as how the schools go about interpreting "personal characteristics such as age..." and so forth...it is precisely here we lack hard facts (Grave, 1969:105).
It has been conjectured in Chapter Two that the use of criteria other than traditional academic performance or educational attainment will involve a greater use of ascribed factors. The chances that ascribed factors are already influencing academic performance is also real but as pointed out earlier these influences seem to be on the decline. One of the prime reasons for this decline has been greater educational opportunity. This has resulted in a wider base for students who can apply to medicine and thereby reduces the probability of ascribed influences which have dominated in the past. If academic achievement becomes only a necessary condition rather than a sufficient condition, then alternative methods must be employed in making a finer distinction among applicants. If this should occur, what are the influences which could be operating if the assessments are made on a subjective basis? Could these methods account for the apparent divergencies in the acceptability of applicants? Steiner summarizes the problem very concisely when he states:

We then had a pool of applicants in excess of the number we needed, whom we designated as clearly acceptable, usually six to seven hundred. We still had to select 250 from among these. ... to do that, we used various bits of information—references, summer jobs, letters which had been written. All these factors are taken into consideration, but basically we end up with what might be called a lottery because the group of students we are looking at are really indistinguishable (Medical Post, 1974).
In summary, several problems have been raised with reference to the recruitment procedures of Canadian medical schools. The degree of autonomy as reflected in the control and diversity over the admissions process and different interpretations of the admissions criteria and together with the vagueness in the definition of competence have resulted in an unusual diverseness of acceptability. To ensure fair and non-discriminatory selection practices in a context of a high supply versus low demand of applicants, medical admissions committees are turning to additional criteria in an attempt to differentiate students. The key issue is whether or not ascribed status, which played an important role in the past in educational opportunity, still plays an important role in the context of the additional criteria. The next section will bring the reader one step closer to the actual application of the problem at one medical school. The consequences of adopting alternative criteria at this medical school will also be examined.

4. McMaster Medical School

The purpose of this section is to examine the policy and procedures of the admissions process of applicants to the undergraduate M. D. Program at McMaster Medical School. It is
necessary, before one begins the analysis, to see if McMaster Medical School fulfills the conditions of the problem which have been outlined in Chapter Two. To this end, several questions are posed and answered. Is there a growing supply of applicants to McMaster Medical School? What is the relative importance of ascertainment and achievement in the admissions process? What other criteria have been introduced into the admissions process as a result of the growing supply of applicants? In answering these questions, some of the advantages and disadvantages of using the admissions process at McMaster as a database are discussed. The consequences of the conditions as seen at McMaster will be postulated in a final section in this chapter.

McMaster School of Medicine is the newest of the five Ontario medical schools. The first year of the undergraduate program began in 1969. As a new school, it has experienced initial growth pains in an effort to reach its full potential in order to meet the increasing demand for physicians. This would explain why the number of first-year positions in the medical program has grown from 20 in 1969 to 100 in 1975.

The medical school is not unlike other medical schools in that it shares a common goal of graduating the best possible physician. To accomplish this general goal, McMaster introduced an innovative medical curriculum which incorporates new methods and ideas in the teaching of medicine to medical students. It is described as a
non-traditional school; not only because of its curriculum, but also because of its open and flexible admissions policy. For example, applicants need not have a science background in order to be considered in the admissions process.

The philosophy of the medical school is the driving force which makes McMaster unique. The philosophy of the medical school emphasizes self-directed and problem-based learning. Self-directed learning refers to the responsibility of the student to "...define his own learning goals, select appropriate experiences to achieve these goals and be responsible for assessing his own learning process. Problem-based learning means that, instead of learning blocks of classified information in an organized sequence, the learner selects a problem which attracts him and wrestles with it" (A Guide for Admission Interviewers, 1976:1 and 3).

The teaching methods reflect the particular philosophy. Medical applicants are told that there are no compulsory lectures, grades, laboratories or book lists (Letter addressed to Medical Applicants). One instruction booklet warns applicants of its approach. It states:

Our purpose is to try and select those who will succeed in this particular system. Remember it sounds great, but it is not for everyone and not everyone can adapt to this method although he in fact could flourish in the traditional type of school (A Guide for Admission Interviewers, 1976:14).
In place of traditional teaching approaches, students are divided into small groups where they are encouraged to present and discuss what they have learned. Audio-visual devices are extensively utilised. The function of the faculty is to be a "learning resource personnel or guide" (McMaster School of Medicine Calendar 1975-76-77:3). In short, McMaster Medical School provides an interesting alternative to the traditional medical education approaches of other medical schools. However, the graduates of this school like those of other medical schools in the country must pass the Medical Council of Canada examinations before they can be licensed to practice medicine (McMaster School of Medicine Calendar 1975-75-77:14).

What are some of the advantages of analysing the admissions process at McMaster Medical School? The conditions at McMaster suggest three basic advantages. First, in terms of structural changes, there has been an increase in the supply of applicants as well as an increase in the demand for the number of available positions in the M.D. program. To put these changes at McMaster in context, the growth patterns of applicants and positions for Canadian medical schools are given in TABLE III-1.
TABLE III-1. Absolute and Relative Number Of Applicants and Positions For Canadian Medical Schools: 1970 And 1975.

<table>
<thead>
<tr>
<th>Year</th>
<th>Applicants</th>
<th>Positions</th>
<th>Applicants' Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>3537</td>
<td>1386</td>
<td>2.6</td>
</tr>
<tr>
<td>1975</td>
<td>7377</td>
<td>1785</td>
<td>4.1</td>
</tr>
<tr>
<td>Change</td>
<td>+3840 (108.6%)</td>
<td>+399 (28.7%)</td>
<td>+1.6 (62.0%)</td>
</tr>
</tbody>
</table>

1. These figures represent applicants only. In contrast, the total number of applications in 1970 were 8970 (Collinshaw and Grainsler, 1972: Table II).
2. These 1975 figures represent only applicants. The total number of applications for Canada in 1975 was 19,714 (Lemarche and Deschenes, 1976: Table vi, 13).

In 1971, there were 3537 applicants vying for 1386 positions at all Canadian medical schools. This represents an applicant/position ratio of 2.55. Five years later, the number of applicants rose to 7377 while the number of positions grew to 1785. The applicant/position ratio advanced from 2.55 in 1971 to 4.13 in 1975. In this short period of time, the ratio of applicants to positions has almost doubled. The rise in the ratio is clearly attributed to a greater growth in the number of applicants as compared to the number of positions.

How does this growth in applicants and positions at McMaster compare with other Canadian medical schools? Rather large increases in both applicants and positions, which are shown in TABLE III-2 have been recorded at McMaster.
TABLE III-2. Absolute and Relative Number of Applicants and Positions For McMaster Medical School, 1970 and 1975

<table>
<thead>
<tr>
<th>Year</th>
<th>Applicants</th>
<th>Positions</th>
<th>Applicant/ Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>500</td>
<td>40</td>
<td>12.5</td>
</tr>
<tr>
<td>1975</td>
<td>2243</td>
<td>100</td>
<td>22.5</td>
</tr>
<tr>
<td>Change</td>
<td>1750 (+349%)</td>
<td>60(+150%)</td>
<td>10.0(+81%)</td>
</tr>
</tbody>
</table>

1. Lamarche and Deschenes, 1976: Table vi, 12.

From 1970 to 1975, the number of applicants has jumped from 500 to 2243. This represents a 349 percent increase as compared to a national increase of 193 percent. The number of positions at McMaster grew from 40 to 100 representing a 150 percent increase which is in contrast to the national growth of 29 percent over the same five years.

Although McMaster Medical School has experienced an above average growth in applicants and positions, the increase in the applicant/position ratio is quite similar to the increase in the national ratio. The Canadian and McMaster ratios increased, from 1970 to 1975, 62 and 81 percent, respectively. The outstanding difference is that in 1975 there are 23 applicants for each available position at McMaster while there are, on the average, only four applicants competing for a position at other schools. In brief, the number of applicants and positions has grown absolutely and relatively. The ratio of applicants to
positions demonstrates a substantial growth over five years (12.5 to 22.5).

How does McMaster's growth in applicants and positions compare with the rest of the Ontario medical schools? The number of applicants and positions for Toronto, Ottawa, Queen's and Western medical schools is shown in TABLE III-3.

**TABLE III-3: Absolute And Relative Number Of Applicants And Positions For Ontario Medical Schools, 1970 And 1975.**

<table>
<thead>
<tr>
<th>School</th>
<th>Applicants</th>
<th>Positions</th>
<th>Applicants/Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ottawa</td>
<td>516</td>
<td>30</td>
<td>6.5</td>
</tr>
<tr>
<td>Queen's</td>
<td>701</td>
<td>70</td>
<td>10.1</td>
</tr>
<tr>
<td>Toronto</td>
<td>1115</td>
<td>203</td>
<td>5.4</td>
</tr>
<tr>
<td>Western</td>
<td>599</td>
<td>85</td>
<td>7.1</td>
</tr>
</tbody>
</table>

1975

<table>
<thead>
<tr>
<th>School</th>
<th>Applicants</th>
<th>Positions</th>
<th>Applicants/Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ottawa</td>
<td>2323(+359%)</td>
<td>94(+5%)</td>
<td>27.7(+326%)</td>
</tr>
<tr>
<td>Queen's</td>
<td>2142(+204%)</td>
<td>76(+9%)</td>
<td>28.2(+175%)</td>
</tr>
<tr>
<td>Toronto</td>
<td>2323(+108%)</td>
<td>240(+15%)</td>
<td>9.7(+90%)</td>
</tr>
<tr>
<td>Western</td>
<td>1917(+220%)</td>
<td>105(+35%)</td>
<td>18.3(+158%)</td>
</tr>
</tbody>
</table>

1. 1970 figures are from Collinshaw and Greenier, 1972:Table ii.
2. 1975 figures are from L'Amarche and Deschones, 1976:Table v.
In 1970 and 1975, the number of applicants and available positions for each of the four other medical schools are given along with the applicant/position ratio. One can readily see the increase in the number of applicants for all four medical schools over the five years. Only Ottawa has experienced a greater increase (359%) in the number of applicants when compared to McMaster (349%). However, McMaster's increase in the number of positions surpasses all other Ontario medical schools. The pattern to note is that the number of positions has increased very little as compared to the number of applicants for the four medical schools over the five years. The applicants/position ratio reveals a different pattern of growth. While McMaster had the largest ratio (12.5) in 1970, it was exceeded by Ottawa (27.7) and Queens (28.2) in 1975. It should be noted that if McMaster had not increased the number of available positions by 25 percent in 1975, the applicant/position ratio would have been the highest of all Ontario medical schools.

In general, McMaster has been part of, if not a vanguard for, a remarkable growth pattern for both applicants and positions. This growth is well above the national average. McMaster shares a similar increase in the applicant/position ratio over the same time period with other medical schools. Most of the increase in the ratio originates with the increased flood of applicants as seen in TABLE 11-4.

Two anomalies in the McMaster pattern of growth need to
be explained. In the first year of the M. D. Program, the
applicant/position ratio was unusually high (20 applicants
per position). This ratio is attributed to the publicity
surrounding the opening of a new medical school and the novel
approach to medicine. Once again, the denominator or the
number of positions had also not reached full potential.

The second anomaly is the sudden dip in the
applicant/position ratio (29.4 to 22.5) from 1974 to 1975.
Two probable reasons account for this decline. First, the
number of available positions was increased by the medical
school from 80 to 109. This is a jump of 25 percent in one
year.

TABLE III-4. Absolute And Relative Number Of Applicants And
Positions For McMaster Medical School, 1969 To 1975

<table>
<thead>
<tr>
<th>Year</th>
<th>Applicants</th>
<th>Positions</th>
<th>Applicants/ Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>1969</td>
<td>400</td>
<td>20</td>
<td>20.0</td>
</tr>
<tr>
<td>1970</td>
<td>500</td>
<td>40</td>
<td>12.2</td>
</tr>
<tr>
<td>1971</td>
<td>1066</td>
<td>63</td>
<td>16.9</td>
</tr>
<tr>
<td>1972</td>
<td>1376</td>
<td>80</td>
<td>17.2</td>
</tr>
<tr>
<td>1973</td>
<td>1996</td>
<td>80</td>
<td>24.5</td>
</tr>
<tr>
<td>1974</td>
<td>2332</td>
<td>80</td>
<td>29.4</td>
</tr>
<tr>
<td>1975</td>
<td>2250</td>
<td>100</td>
<td>22.5</td>
</tr>
</tbody>
</table>

Second, the number of applicants decreased due to
policy change in the eligibility requirements of the medical school. Instead of a "B" average in their last undergraduate year, applicants were required to have an overall "B" average for all of their undergraduate years. The change in eligibility and the sudden increase in available positions caused the applicant/position ratio to dip slightly in 1975. In sum, the growth in the applicants and positions at McMaster medical school provides an over supply relative to demand situation.

The second advantage of examining the admissions process at McMaster Medical School is the use of criteria other than academic marks. In chapter Two, it was suggested that an over supply situation would cause great difficulty in differentiating students who share similar academic scores. Therefore, it was conjectured that other criteria would have to be adopted. McMaster has adopted several criteria over and above academic scores with the purpose of selecting applicants who are more suitable to their unique M.D. program. While the establishment of these criteria may not necessarily be the direct result of an oversupply, these alternative assessment criteria are readily applicable to large groups of applicants.

There are basically three assessment stages in the McMaster admissions process. Looking at the admissions process for 1975, these three stages are briefly presented. The first stage is referred to as the interview stage. The
The second stage of the admissions process is called the collation stage. To reach collation, applicants are assessed on their performance in a personal interview and a simulated tutorial. A simulated tutorial is a situation where five applicants are assessed in terms of their ability to function in a group and to solve problems.

The last stage is admission into the medical program. The one stream leading to admission is collation. Once applicants have successfully scored well in the personal interview and the simulated tutorial, several pairs of the medical school's admission members review all the collated information which is in the applicant's file. There is usually one pair of admission members assigned to one applicant. Recommendations are made on the basis of all information which is available.

The three stages and various assessment routes provide the process which reduces the total applicant pool from 3300 to 100. The advantage of these three stages is the
opportunity to inspect the relative importance of aspiration and achievement in the different assessment routes to the three stages.

The third advantage of analyzing the admissions process at McMaster is the openness and flexibility of the selection criteria. As pointed out earlier, students from diverse backgrounds are eligible to apply. There are no pre-requisite medical courses. Selection is not governed by race, religion or sex. The degree of openness is also reflected in the type and number of assessors. In 1975, there were over 400 individual assessors who volunteered their services to evaluate applicants. Each applicant at every assessment stage is evaluated by a team of assessors consisting of one faculty member, one student and one community member. By including over 400 assessors in the three assessment stages, the analysis can be conducted with the assumption that criteria based more on quotas or personal intervention are not intentionally operating. For example, it would be difficult or impossible to find that one person has received preferential treatment from all assessors in all three stages.

The last but perhaps obvious advantage in the selection of McMaster Medical School is the availability of data. The medical school, in its constant review of policy and procedures, has collected a considerable body of data over the years. The admissions committee has been most
cooperative in supplying all relevant material necessary for
this research.

For every type of research, there are certain
disadvantages in choosing one route over another. Some
arguments which may be raised in objection to the selection
of McMaster Medical School as a basis for analysis need to be
closely examined. The first argument is that McMaster is
unique in many respects and is therefore not indicative of
other medical schools. This statement is generally true as it
applies to the philosophy, the curriculum and the teaching
techniques.

What is not unique about McMaster, and this is critical
to this research, is that all applicants are considered on
the basis of their achievement and not ascription. Of course,
medical schools differ in their use of selection criteria as
pointed out in the previous section. Some medical schools may
use the same criterion such as personal interviews but
perhaps each would emphasise or use a personal interview in
quite different ways. Regardless of the criteria, the
underlying dimension of these criteria is the achievement of
the applicant.

A second important trend which is not unique to McMaster
is the oversupply of applicants relative to demand or the
number of available positions. In short, while McMaster does
have unique characteristics, nothing in this uniqueness
suggests that the selection of applicants is accomplished by selecting applicants on the basis of their ascribed characteristics. However, this actually may occur unintentionally by adopting alternative criteria. This will be explained more fully in the next section.

Another suggested limitation in the use of the admissions process at McMaster Medical School is the changing admission procedures over the years. While uniform comparisons across years are rendered more difficult because of these changes, the emphasis on achievement has never been changed regardless of what form it assumes. That is, given the various types of assessment routes, to what extent does achievement relate to admission? Fortunately, the two major routes to interview have not been changed since 1970. Thus, academic scores and personal qualities as measured by the autobiographical letter have been consistent over most years. Simulated tutorials were added in 1974. In short, changes in the adoption of criteria other than academic marks were expected. The important condition for all of these criteria is that they do not intentionally measure the applicant's ascription.

Another possible problem is the argument that the pattern of growth for applicants to positions cannot be adequately traced in only seven years. A major constraint of extending this pattern, at least retroactively, is that the medical school began in 1969. It was in this time period
however that the supply of applicants throughout Canada increasingly exceeded available positions. In fact, the establishment of McMaster Medical School was in part a response to the necessity of making more positions available. In short, the growth pattern of an oversupply relative to demand can be demonstrated over the last few years particularly at McMaster Medical School.

In closing this section, the problem of this research will be reformulated in the form of two propositions. As stated in Chapter Two, the relationship between ascription and achievement and structural conditions are a central issue. The admissions process at one medical school has been chosen as a basis for representing this relationship. The structural conditions have been defined as the supply of applicants who want to enter medical school. Demand is defined as the number of available positions. Achievement is measured by the use of various assessment criteria such as personal interviews, simulated tutorials and autobiographical sketches of the applicant. Ascription of the applicant is never intentionally used as a criterion as outlined in the medical school’s admission policies.

The problem can now be restated using the admissions process at McMaster Medical School. When the supply of applicants exceeds the demand or number of available positions, certain consequences will ensue. Traditional criteria such as academic scores will be less useful in
selecting good candidates for the reason that it is difficult to differentiate among applicants solely on this basis. Consequently other criteria will be introduced in the assessment of applicants. If academic scores or the traditional route to professional school are known to reflect ascription of the applicant, to what extent do these additional criteria reflect ascription as well? To this question the following proposition is offered.

The greater the supply of applicants relative to available positions, the greater the influence of ascription in the various assessment stages of the admissions process in which the applicant is evaluated.

The purpose of this section was to establish conditions which are requisite before any analysis can be initiated. The first condition is that there is an over supply relative to demand. This is well shown in the applicant/position ratio for McMaster Medical School from 1969 to 1975. Another condition is that only achievement, in whatever form, is used by the medical school. The adoption of other criteria provides an excellent opportunity in which to measure the relative importance of ascription and achievement. While there are some limitations in selecting the admissions process at McMaster, it is believed that the advantages outweigh the disadvantages.
SOURCE OF VARIATION OF THE APPLICANT’S ASSESSMENT

This last section of Chapter Three will explain the consequences of using alternative criteria. A discussion of the involvement of outside members in the admissions process as a cause of these consequences will also be explained. In the previous section, the diverse range of acceptable applicants was noticed. The first proposition suggests that the inclusion of alternative criteria will lead to the use of the applicant’s ascriptive qualities as a source of variation for the range of acceptability. This section suggests that part of the variation in assessment of applicants originates with the type of assessor and their interpretation of the alternative criteria which are used to assess applicants.

For a profession to maintain an influential position in a society, there should be a high level of autonomy, according to Moore’s professionalism scale. Various examples of autonomy have been described in the recruitment of applicants to Canadian medical schools. As was noted, the medical profession, and more precisely the medical school, has considerable control over the admission criteria; the number of applicants who will be admitted and the type of education once they have been accepted into the program. Implicit in all of these examples is that only members of the medical profession can recruit, train and regulate its own members.

Once this autonomy has been achieved, the professions
are always concerned about losing this special status. Professionalism and above all autonomy is not instantaneously acquired but is achieved by possessing strict control over the members. Part of this control is the result of a process of socialisation. The medical profession is an example of a cultural group where new members must adopt the group's or profession's normative behaviour as one of the conditions for admission. The medical student is expected to learn the medical profession's set of values and roles. Since the learning stage occurs much later in a person's life, this stage is commonly referred to as 'adult socialisation'. Merton defines this term in the following manner.

The profession of medicine, like other occupations, has its own normative subculture, a body of shared and transmitted ideas, values and standards toward which members are expected to orient their behavior. The norms and standards define technically and morally allowable patterns of behavior, indicating what is prescribed, preferred, permitted or proscribed (Merton, 1957:71).

Strict regulation of the new members by means of this rigorous route is one of the reasons why the professions have been able to claim a licence and a mandate. In general, the profession must control its own members simply because no one else has the knowledge or competence to judge or to assess the competence of the members. In this way the judgement by
professorial members does not necessarily coincide with those of the clients (Moore, 1970:197). An example of this difference of opinion can be seen in the admissions process. The medical profession, as a profession, argues that only professional members are competent or qualified to judge the qualities of new members. The rationale behind this argument is stated by one research group in the form of the following recommendation.

The ideal size for a selection committee is likely six to eight members, consisting of the Dean, Assistant Dean and two or three representatives from both the clinical and pre-clinical years. There seems to be little justification for having non-medical representatives, as these members are not knowledgeable about the training program for which the applicants are being accepted (Evans and Anderson, 1967:479).

This practice of exclusion is not uncommon where the admission committee consists primarily of a small group of senior physicians. This method of assessing applicants becomes impractical in a situation where there are many applicants and consequently many interviews but only a handful of physicians to conduct the interviews. It has already been conjectured that as the number of applicants increases, and simultaneously the level of academic achievement becomes indistinguishable, then admission committees are faced with the problem of more practical forms of assessing applicants. That is, other criteria along with
more admission members are necessary. It becomes evident that a small elite group of physicians simply cannot cope with the task of selecting a few successful applicants from an increasing pool. What are the consequences of allowing additional members into the admissions committees? How will these new committee members and new criteria affect the recruitment process?

McMaster University Medical School once again provides a good case study for further analysis of this problem. The involvement of additional members over the last few years in the medical school parallels the growth of medical applicants. In 1975, as already noted, there were over 400 individuals who assumed the role of assessor. An applicant who has successfully passed through all stages of the admissions process may have been evaluated by over 12 assessors.

The participation of these assessors is made possible by the overall aim of the medical school. As stated in the calendar, the objective is to meet "current and anticipated health needs both qualitatively and quantitatively" and "Since neither the evolution of these needs nor wisdom in selection are professional prerogatives, students in course and members of the community as well as faculty members, are involved in the review of the applicants" (McMaster School of Medicine Calendar, 1975-76-77:4).
The premise of the above argument for allowing the participation of outside members deserves closer scrutiny. Professional values dictate both current and future health needs and will always be the jurisdiction and prerogative of the medical profession. The only qualified group which has been given the licence and mandate to inform the public about such needs is the medical profession. Thus McMaster Medical School seems to have committed professional heresy in light of certain professional values. On closer inspection, this heresy may be seen to have not really taken place. Community members when broken down by occupation include part-time, full-time and retired physicians. Nurses and other health related members are also classified as community members. As for medical students, many of them come from families where a parent was a physician. In short, when one inspects the occupational background of the "outside" community members, one is faced with a very homogeneous group of health related individuals dominated mostly by physicians.

Furthermore, the different criteria which are used in the various stages of admission are not imposed by non-members of the profession but rather, the medical school which decides by what means applicants will be assessed. In short, the criteria for admission are controlled by the medical profession and not by outside members such as the state or other professions.

When the assessor is asked to evaluate applicants, the
criteria are explicitly stated by the medical profession. A training session is given to all assessors and in fact if the assessors do not attend, they are sometimes not allowed to participate in the particular assessment stage. The assessor is briefed on the philosophy of the medical school, the desirable characteristics of applicants, and a list of guideline criteria or questions to ask. The object of this complex task is to ensure a high level of uniformity in the assessments. In short, while McMaster Medical School has diffused the responsibility for assessing applicants, there is a high degree of control over the criteria and training of assessors.

The composition of the assessors suggest that there may be some concern in arriving at a uniform consensus in the assessment of applicants. The question still remains as to whether or not non-members of the profession are competent or qualified to assess potential members of a profession regardless of how explicitly the criteria for admission is specified. When the assessors are subdivided in terms of professional affiliation three distinct groups emerge: they are (1) physicians, either full-time, part-time or retired (2) students, potential members of the medical profession (3) community members, non-physicians.

These three groups should have three different levels of affiliation with the medical profession. It is conjectured that members of the medical profession will emphasise or
interpret the criteria differently as compared to non-members of the profession. Since there is a subjective element in assessing students, there is reason to believe that there will be differences of opinion. These differences will be predicated on the degree of attachment to the profession.

If ambiguity occurs, it is suggested that physicians and to a lesser extent medical students, will rely more on their professional values. The non-professional members will be unable to identify with these professional values. Consequently, these assessors will rely more on non-professional values or ascriptive qualities of the applicant. To this end, the following proposition is offered.

The greater the affiliation of the assessor to the medical profession, the greater the emphasis on professional values in the assessment of applicants in the admissions process. Conversely, the lesser the affiliation of the assessor to the medical profession, the greater the emphasis on non-professional values such as ascriptive values.

6. SUMMARY OF CHAPTER THREE

The general purpose of Chapter Three has been to transform the problem from a theoretical context to a more specific situation. This was accomplished in three phases. The first phase was to explain why the professions have not kept pace with the growth of other occupations in the labour
force. To accomplish this task, one has to understand the
development of the characteristics associated with the
professions and consequently the type of power and autonomy
which they have over the control of their own members and
profession.

The critical theoretical point in this chapter is to
realise that the professions' power and autonomy are the
result of increasing demand and a restricted supply. To alter
either the supply or demand will have negative consequences
on the existence or at least the prestige of the profession
in society.

The next phase describes the unbalanced supply and
demand situation for the Canadian medical profession. The
increasing supply of applicants to Canadian medical schools
relative to the slow growth in positions has revealed an
increasing reliance on non-academic selection criteria. It is
posited that there is a direct relationship between an
oversupply situation relative to demand and the use of
ascriptive qualities of the applicant.

The following phase examines the problem of the
unbalanced situation of supply and demand at one medical
school. Two propositions which describe the manner by which
ascriptive criteria increase in importance in the admissions
process at McMaster are given. The next chapter deals with
the operationalisation of the problem as it applies to the
The last section of Chapter Three examined the role of the assessor as a possible source of the variation in the assessment of the applicants. It is argued that professional affiliation will determine the level of emphasis of ascription and achievement in the assessor's assignment of the applicant's score.
NOTES TO CHAPTER THREE

1. The reason for this is because clients or laymen do not or are not supposed to know when professionals are incompetent.

2. By supply, Berlant means numbers, but numbers also affect quality. The argument is that the greater the number of applicants who are allowed into medical school, the less the level of quality of education which can be provided. Hence supply refers to both quantity and quality.

3. The Royal Commission on Health Services determined in the early 1960's that the high cost of education and lack of applicants were closely connected. High tuition and few bursaries and fellowships discouraged many applicants (Judek, 1964: 77). In 1975, the same problem seems to persist as seen in the following statement from the McMaster medical calendar: "The school of Medicine cannot assume this (financial obligation) responsibility and students may have to draw upon their savings, accept assistance from their families, wives (sic) and banks, or face the prospect of withdrawing from the programme." (McMaster University Medical Calendar, 1975: 17).

4. Laval, Sherbrooke, Montreal, McMaster and Ottawa do not require this test. The use and interpretation of the test varies according to medical school (Association of American Medical Colleges, 1974: 20-21).

5. The McMaster M.D. Programme is only one of several programmes offered within the McMaster School of Medicine. The McMaster School of Medicine, the McMaster Medical School and McMaster, for the purposes of this research, will all refer specifically to the undergraduate M.D. Programme at McMaster.

6. The five Ontario Medical schools are: Ottawa, Queens, Toronto, Western and McMaster.


8. The proportion of applicants with no science backgrounds is 60%. The proportion of successful candidates admitted to the 1975 M.D. Program with no science backgrounds is 56%.

9. After the fourth year, medical students become interns for one year before they are allowed the licentiate of the medical council of Canada (L. M. C. C.) by the College of Physicians and Surgeons so that they may practice medicine
indiesendently (Grove, 1969:110).

10. The average, by its very nature, conceals differences, for individual differences among medical schools for applications per place see Lamarche and Boschman, 1974, Table v:12.

11. Actually, there are two other routes to interview. Some applicants are chosen on the basis of their references and some are chosen randomly. Because so few applicants are chosen by these two means, they are not included as part of the major routes to interview.

12. For example, of the 51 community letter readers, 16 or 31 percent were physicians.

13. Other occupations which were represented were high management, and clergy.
CHAPTER FOUR

CONCEPTUALISATION AND OPERATIONALISATION
OF THE PROBLEM

1. INTRODUCTION

In the previous chapter, the first proposition formulated the argument that an increasing supply of applicants would result in a greater emphasis on ascriptive criteria due to the inclusion of alternative criteria in a high supply relative to demand situation. The purpose of this chapter is to provide a conceptual and methodological basis for testing a number of hypotheses which are derived from this first proposition. In essence, the hypotheses are constructed to test the type of relationships which are thought to exist between ascribed and achieved factors on the one hand and admission to medical school on the other. These relationships are specified in a context of a growing supply (or the number of applicants) relative to demand (or the number of available positions).

A comparison between the admissions model and the status model is given because they both try to explain occupational mobility in terms of ascription and achievement. The intention of this comparison is to show how certain
concepts such as structural change in the admissions model can prove to be useful in the status attainment model. The use of path analysis to measure the influence of ascribed and achieved variables in the admissions model is discussed followed by a brief description of the data sources for the research.

The relationship between ascribed and achieved variables within the admissions model is presented in the form of six hypotheses. The conditions which are imposed on the presentation of the hypotheses are outlined. Preceding each hypothesis is a discussion of why certain qualities or ascriptive characteristics should become more pronounced over time within the various admission stages. That is, why should females perform better in letter scores over time as compared to males? This is not to say that ascription has not been a factor in the past in the selection process of medical applicants. Certainly, as Chapter Three shows, quotas or restrictions were in force which prevented or discouraged various groups from applying.

Medical schools today, at least in Ontario, have ceased using quotas either explicitly or implicitly. The introduction of alternative criteria such as personal interviews, letters and simulated tutorials to assess applicants gives the impression that any major bias would be difficult to achieve intentionally. However, it is the contention in this research that these very criteria will
foster the emphasis of ascriptive qualities of the applicant. How this can happen is the essence of this chapter.

One assumption which will not be tested until Chapter Six is that the criteria which are used to judge applicants are standardized for all applicants. That is, the score which is assigned to the applicant within each of the stages of assessment is uniformly applied. The participation of students and community members along with physicians in the admissions process suggests that any individual bias in applying a score to an applicant is offset by the presence of the other members. There is also the knowledge that all assessors in recent years are requested to attend an orientation session in which the criteria and sample cases are presented and discussed. The possibility that the criteria are not uniformly interpreted or applied is explored in Chapter Six. In short, the emphasis in this chapter is that the use of criteria such as letters, personal interviews and simulated tutorials have allowed certain groups to do better than others for reasons which are specified in each hypothesis.

The important overall point of this chapter is that contrary to expectations which were presumed to be true in Chapter One, ascriptive criteria will increase in importance, not decrease over time, as the supply of applicants increases relative to demand or the number of available positions.
2. CONCEPTUALISATION AND OPERATIONALISATION OF THE MEDICAL ADMISSIONS MODEL

The model in section one is conceptualised as those factors which influence the admission of applicants to McMaster Medical School. In order to demonstrate the influence of these factors in a context of supply and demand, the model or parts of it are replicated over seven years. The data which will be used in section one have been collected and stored by the medical school from 1969 to 1975.

As shown in Chapter Three, these seven years reflect a period of increasing supply relative to demand. Supply is operationalised as the number of individuals who apply each year. Demand is operationalised as the number of first year positions which are available in the medical schools for the corresponding years.

For reasons of presentation and availability of the data, those factors which are hypothesised to influence admission will be discussed for each stage of the admissions process where it is felt that they may have the greatest effect. An examination of these three stages parallels the movement of an applicant through the admissions process. One must bear in mind that not all stages exist for all years, that is, from 1969 to 1975. Perhaps more important to remember, is that not all factors or variables in each assessment stage of the admissions process have an equal
weighting across years. That is, while academic marks may have been an important factor in 1969, it is only one of many factors in 1975. The weighting or importance of each factor has changed.

In the last few years, the applicant must have passed through three stages in the admissions process at McMaster. This is schematically shown in the following diagrams. Each stage of the admissions process is labelled by the nature of the dependent variable in each diagram.

DIAGRAM IV-1 The Three Stages Of The Admissions Model

Diagram IV-1a IV-1b IV-1c

The factors which represent the applicant's achievement in each of the stages are now described and operationalised. There are two major routes to the first
stage or what is referred to as the interview stage (See DIAGRAM IV-1A). Since 1971, applicants have been asked by the medical school to write a letter about themselves which is to include relevant activities and information which would be useful in assessing their acceptability into the program. These letters are evaluated and assigned a score by three independent assessors who represent faculty, students and community members, respectively. The applicants with the highest combined letter scores are invited to interview.

The second major route to the interview stage is via the applicant's academic performance as measured by their grade point average in their undergraduate years at university. To be eligible for consideration regardless of the route to interview, applicants must have at least a "B" average and a minimum of three years of university. While the academic requirements have been altered slightly over the seven years, academic achievement is operationalised here to reflect the academic or composite score which the medical school used or calculated for each specific year.

The second major stage of assessment in the admissions process, which an applicant must pass through, is called collation (see DIAGRAM IV-1B). There are two major routes to collation in which an applicant's achievement is measured. All applicants in this second stage must pass through the two criteria and receive a high enough combined assessment in order to proceed to the third stage. The first
criterion is the personal or individual interview. The purpose of the interview is to tap "...the personal characteristics and qualities of the applicant—his strengths and weaknesses—and to identify those who are most likely to achieve in the career of Medicine" especially within the context of the McMaster philosophy (A Guide for Admission Interviewers, 1975:1). Since 1970, applicants have been evaluated by faculty, student and community assessors by means of a personal interview. The score given to the applicant in the personal interview by the assessors for the respective years will be operationalised as the personal interview score for the purposes of this research.

The second criterion necessary to reach the third stage has only been in operation since 1974 (experimentally initiated in 1973) and is referred to as the simulated tutorial. The simulated tutorial differs from the personal interview in terms of criteria for assessment and purpose. Applicants in groups of five are asked to discuss a problem and attempt to arrive at a group consensus. Each applicant is assessed by a team of admission members on the basis of how well the applicant performs in a small group problem solving situation. Group functioning skills and problem exploration ability are emphasised rather than individual competition. The scores, which are assigned to the applicant by the team of assessors for 1974 and 1975, are operationalised to represent the applicant's simulated tutorial score. A
combined score, in which the simulated tutorial score represents 1/6 of the assessment and the personal interview score represents 5/6, determines the progress of the applicant to the third and final stage in the admissions process.

The last stage for the applicant is the final admission to McMaster Medical School (See DIAGRAM IV-1C). The manner by which an applicant is assessed is called collation. Collation refers to the review of all the collected information in an applicant’s file. The dependent variable is admission or the decision by the collation assessors to accept or refuse an applicant. Admission is operationalised in the form of a dichotomy; offered and not offered.

In all three stages, the admissions model reflects the applicant’s achievement as the applicant progresses through the three assessment stages. All factors such as letter scores, academic marks, personal interview scores, simulated tutorial scores and collation scores are conceptualised and operationalised as levels of achievement. These factors represent the major criteria for admission.

It has been suggested earlier that as the supply of applicants increases relative to demand, ascriptive factors as well as achievement factors, as previously discussed, will come into play and ultimately influence admission. Since ascription is not utilised by the medical school in any stage
of the admissions process, the only way it could influence admission is indirectly via achievement variables. It has already been documented in Chapter Two that education and social or occupational mobility are directly related. However, occupational mobility is affected by a person’s social class indirectly via education. In a similar way, an applicant’s passage through the various assessment stages in the admissions process is indirectly influenced by an applicant’s ascription via the different stages of achievement. Ascription is operationalised as the applicant’s sex, age, social class, citizenship, family size and geographical place of residence.

These ascriptive variables are conceptualised as influencing the applicant’s achieved performance in each assessment stage. An important part of this research is to determine the relative strength of the ascriptive variables especially in a changing context of supply to demand. In short, as the admissions model is now conceptualised, two major questions are posed. To what extent do ascriptive variables influence the applicant’s measured achievement in each stage of assessment in the admissions process? For example, how does the social class of an applicant influence an applicant’s letter score and indirectly affect the applicant’s chances of getting to interview. Secondly, how strong are the ascriptive variables as the supply to demand ratio increases?
There are several problems in operationalising this model in the above manner. Not all ascriptive variables associated with the applicant have been collected by the medical school for all seven years. Only sex and age have been consistently collected since 1969. The applicant's place of residence was first collected in 1972. Data about the applicant's citizenship began in 1971. Father's socio-economic status was collected by various means for only 1969, 1970, 1971, and 1975. Family size is available for 1969 and 1975 only.

Another problem in operationalising the model is the change in criteria or types of assessment over the seven years. For this reason, only the first stage of the admissions model can be analysed for all years except 1969. That is, only ascriptive and achievement factors associated with the applicant which are thought to influence the applicant's letter score and academic mark are examined. In the second stage of the admissions model, only the use of the personal interview has remained constant since 1970 as the major criterion in order to reach admission or collation. Therefore, those factors, both ascribed and achieved, which are thought to influence personal interview are analysed. Factors influencing collation will be analysed from 1973 onwards. Since simulated tutorials scores were not collected until 1974, factors influencing this assessment will include only two years of analysis.
There are other problems identified with the admissions model. For example, the medical school did impose some restrictions or conditions which directly affected the application or passage of the applicant to interview. While older applicants (over the age of 35) may apply, they are scrutinised more closely than younger applicants. This does not appear to be a major problem since very few applicants over 35 actually do apply. The medical school also applies a weighting factor to the applicant’s place of residence. That is, applicants are assigned a score depending on their place of residence for a certain length of time. Applicants from the Hamilton Health region and North Western Ontario may be considered for interview even though they have lower letter or academic scores. This weighting factor on the basis of geography applies only in the first assessment stage. The other three geographical areas are Other Ontario, Other Canada, and Foreign. To obtain an interview, higher academic and letter scores are required.

In summary, the admissions model is conceptualised as a series of three consecutive assessment stages in which the applicants’ achievement is measured by the medical school in various forms. These forms include letter scores, academic marks, personal interview scores, simulated tutorial scores, and collation scores. Ascription is measured by the applicant’s sex, age, father’s socio-economic status and education, family size, and place of residence. The purpose
of the admissions model is to determine the relative strengths or weaknesses of ascribed and achieved factors associated with the applicant in different contexts of supply relative to demand.

3. A COMPARISON OF THE STATUS ATTAINMENT MODEL AND THE ADMISSIONS MODEL

Since the admissions model measures occupational mobility in a very restricted way (mobility into one occupation at one place), it would be beneficial to compare this model with the classical status attainment model in order to point out any differences and similarities. The most glaring dissimilarity which intentionally occurs is the dependent variable. For the status attainment model, the dependent variable is a hierarchy of occupational prestige or socio-economic scores. The general purpose of the status attainment model is to measure the factors which influence movement in the occupational hierarchy or the dependent variable. In direct contrast, the admissions model examines the movement of a group of individuals into only one occupation and the factors which cause this movement.

The admissions model, in a very modest way, parallels the general intent of the status attainment model and has the added advantage of analyzing one occupation in detail. This is considered an advantage because ascription and achievement
may vary from one occupation to another. Therefore an array of occupations in the status attainment model may disguise individual trends which the admissions model hopes to highlight.

Another difference between the status attainment model and the admissions model is the operationalisation of the intervening variable. For the former, achieved status is measured in terms of the level of schooling. For the latter, achieved status is measured more finely in terms of academic standing. It is assumed that most applicants in the admissions model will have similar educational levels since it is a basic requirement for eligibility. As well, other forms of achievement such as letters, personal interviews and simulated tutorials will be included in the admissions model.

Another point of departure for the two models is the introduction of specific ascribed variables in the model. A cursory glance at occupational mobility studies reveals that the respondents are separated in the analysis by sex, race, and geography (see Blau and Duncan, 1967:113; Treiman and Terrell, 1975:174). This essentially means that minorities, females, farm and institutional individuals are not considered in the mobility picture along with the other groups. The argument for this separation is that these excluded groups do not share the same occupational mobility processes. For example, in the case of females, they have been traditionally socialised into different role patterns.
which in turn would affect their mobility patterns. That is, education was not valued. Marriage was strongly encouraged and, once married, females were to assume a full-time domestic role. If they did not marry, they were allowed to pursue a career but were restricted to only a handful of traditional occupations such as elementary teaching and nursing. There is the assumption that marriage and career were mutually exclusive activities. Consequently, occupational mobility studies were restricted only to males. The assumption is that the wife attains a particular social or occupational position which is equivalent to the social standing of her husband.

This traditional role of the female is not as prevalent today. Both males and females are encouraged to pursue an education. The emphasis on marriage is not as strong. Marriage and career are no longer mutually exclusive of one another. There are now more working married females than working single females. One of the more dramatic changes has been the keen competition of both sexes for the same occupational position. It should be acknowledged, however, that there is still less than equal opportunity for women to pursue any occupation.

Certainly, there is a reluctance for some males to enter traditionally female occupations and the same is true for females entering male occupations. However, the fact is that almost 40 percent of the labour force is female and to
exclude this group, a complete picture of occupational mobility is not achieved. One researcher argues the following about status attainment models.

Treating males and females separately in studying the permeability of the stratification system may lead to contradictory or erroneous conclusions; the same is true with respect to treating majority and minority groups. That is, members of minority groups may experience obstacles to social mobility that are not experienced by the majority...and any measure of the 'openess-closure' of the stratification system ought to reflect these differences (Abrahamson et al., 1976:213).

Therefore, the strategy of the analysis is to see if sex plays an important factor in occupational or status attainment and in particular to determine if there are any obstacles for one sex. To this end, a number of ascriptive variables such as sex are included in the admissions model and are conceptualised as important variables that indirectly and directly influence the admission of an applicant to medical school.

In summary, the status attainment model and the admissions model share the general purpose of explaining ascribed and achieved factors of occupational mobility. Both models have the flexibility of adding variables to raise the level of explanation. Both models are presented in a way that there is a logical sequence of events which describes specified relationships.
4. LEVEL OF ANALYSIS

One way to describe and interpret direct and indirect relationships between ascribed and achieved variables and the various assessment criteria in the admissions process is the use of path analysis. Path analysis has been applied in other disciplines and has been extensively adopted in sociology since its introduction by Duncan (Duncan, 1966). Path analysis, very simply stated, is a method which decomposes and interprets linear relationships among a set of variables which in the case of the admissions model will be ascribed and achieved characteristics of the applicant (Nie et al., 1974:383).

Path analysis is employed with the knowledge that there are several statistical and causal assumptions. Since the path analysis method uses multiple regression techniques, the statistical assumptions for path analysis are identical to those of regression techniques. A brief discussion of these assumptions of path analysis within the admissions model is now presented.

The first statistical assumption is that the measurement possesses interval properties (Land, 1969:33). Unfortunately, this ideal level of measurement rarely occurs in sociology. Instead ordinal forms of measurement are often treated as interval measurement (Labovitz, 1970; Boyle, 1970;
Borrnstedt and Carter, 1971). In the admissions model, only
age and family size can be classified truly as interval
levels of measurement among the ascriptive variables. As for
the achieved variables, (academic scores, personal interview
scores, letter scores and simulated tutorial scores) it is
assumed that they represent interval levels of measurement
although they are ideally only ordinal. Sex and citizenship
are dichotomised into 1 or 0 and therefore take the form of
an interval scale. The applicant's socio-economic status is
treated as interval based on the Blishen scores which are
assigned to the father's occupation. Geographical place of
residence is a categorical measurement. Dummy variables are
used to transform these variables into dichotomous levels of
measurement in an effort to meet the assumption of interval
properties. This is not an uncommon practice in the
discipline, especially in occupational mobility studies
(Suits, 1957; Nie et al., 1974).

The second statistical assumption underlying the use
of path analysis is that all relationships between variables
are linear; or at least can be transformed to meet this
condition (Heise, 1969). This means that a change in one
variable should occur as a linear function of other
variables. One should not assume a curvilinear relationship.
The creation of dummy values for some variables such as place
of residence avoids the predicament of a non-linear
relationship using nominal data. A test of linearity was
conducted with independent and dependent variables which were thought to be non-linear (such as age). All relationships approximated linearity.

Several conditions which are unique to path analysis are also discussed in relation to the admissions model. The first assumption is that there is a causal ordering of the variables in the model such that the causal ordering is recursive or unidirectional. This means that one variable cannot simultaneously be a cause and an effect of another variable. This condition avoids the predicament of reciprocal or feedback relationships which are sometimes difficult to measure and separate. In the admissions model, ascribed variables are causally linked to achieved variables in one way relationships.

The second condition of path analysis is that all relevant variables are conceptualised in the model (Duncan, 1966:3). Since it is difficult to account for possible combinations that are a part of reality, path models incorporate unknown or unspecified causes of variables in the form of residuals (Kerlinger, 1973:309). The greater the level of explanation with the variables in the model, the lower the size of the residual.

The path coefficient is the standardised regression coefficient. This is usually interpreted to represent the direct effect of one variable on another variable. The path
coefficient indicates the amount of expected change in the dependent variable as a result of a unit change in the independent variable while all other specified variables are held constant (Kerlinger:310). The total or gross effect is the simple Pearson correlation between the two variables. The indirect effect is the difference between the gross and direct effect. A path diagram in which three variables are hypothetically posed is given in DIAGRAM IV-2. The three variables are: X1, the independent variable; X2, the intervening variable and X3, the dependent variable.

DIAGRAM IV-2 Path Diagram Of Three Variables
In this example, X1 may directly affect X3 but there may be an indirect effect of X1 on X3 via X2. In fact, the direct relationship between X1 and X3 may be nil only because all of the effect of X1 on X3 is mediated through the intervening variable, X2. In short, the application of path analysis to the admissions model isolates or decomposes not only the direct effects or path coefficients but can also measure the indirect effects of variables within the model.

Although multiple regression techniques are used as the statistical basis of path analysis, it should be emphasised that there is a subtle difference when path analysis is adopted. Path analysis is an interpretative tool while regression analysis is a statistical technique (Kerlinger:314; Duncan:7). In regression analysis, a dependent variable is usually regressed with all known or specified variables. With path analysis, more than one regression is required. This is because there is a specified causal ordering of the variables. The point in which the independent variable comes into the analysis will have an effect on the level of the path coefficient.

The design of the admissions model which represents a series of steps is a progressive model. These steps eliminate many of the applicants from progressing to the next stage. As well the criteria for each step differs in importance. Therefore, it is not desirable to run one multiple regression
of admission with all known variables. Since the order by which the variables are entered into the admissions model has an effect on the dependent variable, a causal model which incorporates path analysis can provide a more meaningful interpretation of the data. As Kerlinger states

...one starts with the cause that is most remote from the dependent variable and successively enters variables in the direction of the causal flow, moving closer and closer to the dependent variable. It is thus possible to determine the increments in the proportion of variance accounted for by each variable when the order in which they are entered into the analysis is determined by a given causal model. Moreover, it is possible to note whether, after having entered a set of remote causes, the increment due to a cause which is closer to the dependent variable is meaningful (Kerlinger:326).

In summary, the application of path analysis to the admissions model will provide a more meaningful level of interpretation in explaining the type of relationships which are hypothesised in the admissions model.

5. DATA SOURCES

There are basically three data sources. Most of the information pertaining to applicants from 1969 to 1974 originates from files which were collected and stored on card or tape at the time of the applicants’ application. Such
information as sex, place of residence, age and citizenship is considered valid and reliable since the medical school usually cross-referenced these items with references, letters and academic records from other institutions.

Two important bits of information which were collected only in the first year were father's occupation and education. Fortunately, the Canadian Medical Association has conducted a national study of Canadian medical applicants in 1969, 1970 and 1971. In the study, the applicants were asked for their fathers' occupation. The association was most generous in supplying these data under the principle of confidentiality.

The third source of the data is a survey questionnaire which, as part of the research, was administered by mail to both assessors and applicants who participated in the admission process at McMaster in 1975. It was felt that a personal interview would be too inconvenient for physicians and training medical students in terms of time. Therefore, a survey questionnaire was either mailed to or dropped off with respondents enabling them to complete the questionnaire on their own time. The assurance of anonymity resulted in very frank responses and comments that may not have been the case with an interviewer present.

The purpose of the survey as stated in the questionnaire, was to determine the different types of social
and academic influences that contributed to the process of selecting applicants at McMaster Medical School. To fulfil this purpose, several questions concerning the admission criteria were asked (see Appendix B and C).

Since the number of applicants was too great (2250), a sample of 182 were randomly selected from all those who were unsuccessful in their bid to enter McMaster (see Appendix D). This number matches the number of students who were offered a position plus an extra 50 which was predicted as non-response. All of the successful candidates who were offered a position were mailed a questionnaire. Almost all of the 394 assessors who took part in the evaluation of the applicants' letters, personal interviews and simulated tutorials were surveyed (See Appendix E).

The response rates were most favourable. The return rate for assessors, unsuccessful candidates and successful were 73, 82, and 60 percent respectively (See Appendix F and G). Many of the respondents not only took the average 45 minute time period to fill out the questionnaire, but many also wrote extensive comments at the end to clarify or elaborate on questionnaire items and or responses. The high response rate is attributed to a sample which was keenly interested in the subject matter since they all participated in one way or another, and also to the fact that they were a very well educated and literate group. A discussion of the effects of non-response is given in Appendices F and G.
6. THE HYPOTHESES

The relationship between the ascriptive variables of the applicant and the various types of measured achievement in the three stages are presented in the form of six hypotheses. Preceding each hypothesis will be a discussion on the direction and strength of the relationship in a context of increasing supply to demand.

It is important to note four conditions which are placed on the formulation of the hypotheses. First, all of the achieved and ascribed variables in the admissions model are said to causally influence admission in a context of multiple relationships. For instance, one variable which may influence a following variable may be influenced, in turn, by many preceding variables or even simultaneous variables. The potential number of possible relationships could be complex and perhaps even confusing. To overcome this problem, the hypotheses will be stated in bivariate form keeping in mind that this relationship exists in a multidimensional context of causes and effects with other variables.

One consideration in the discussion of each hypothesis is that the relationship between the two principal variables is to be visualised as occurring over time. In this way, the relationship can be said to be increasing or decreasing and as a consequence of an increasing supply
relative to demand which changes over time. Part of the results of the survey questionnaire are included in the discussion preceding each hypothesis. While the hypotheses are stated temporarily, it is hoped that a glimpse of the results for one year only can give us some insight as to what to expect for previous years. One should bear in mind that these results do not control for the effects originating from other variables as will the regression results which will be presented in the next chapter.

The last concern in presenting the hypotheses is that to explain the changing relationships between variables in a context of changing supply relative to demand, it is first necessary to state why ascriptive variables should increase in importance in both the medical profession and the McMaster Medical School admissions process. With these conditions in mind, the following six hypotheses are proposed.

6A. HYPOTHESIS ONE

In Chapter Two, academic performance was described as a necessary condition but not a sufficient condition for entry to medical school. The reason for this statement derives from the argument that the supply of applicants is becoming more homogeneous with respect to academic marks. With a growing supply of applicants over time, it becomes an extremely difficult task to differentiate students solely or
primarily on their academic performance. On this basis, hypothesis 1A is given.

As the supply of medical applicants increases relative to demand, academic marks or scores will become more homogeneous.

The degree of homogeneity is measured by the mean, the standard deviation and the coefficient of variability which are shown in TABLE IV-1.

TABLE IV-1. The Mean, Standard Deviation And The Coefficient Of Variability Of Academic Scores Of Applicants To McMaster Medical School, 1970 To 1975

<table>
<thead>
<tr>
<th>Year</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>N</th>
<th>Coefficient Of Variability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>52.53</td>
<td>11.85</td>
<td>478</td>
<td>.23</td>
</tr>
<tr>
<td>1971</td>
<td>2.76</td>
<td>.79</td>
<td>1017</td>
<td>.28</td>
</tr>
<tr>
<td>1972</td>
<td>8.98</td>
<td>1.64</td>
<td>1264</td>
<td>.18</td>
</tr>
<tr>
<td>1974</td>
<td>8.81</td>
<td>1.80</td>
<td>2209</td>
<td>.20</td>
</tr>
<tr>
<td>1975</td>
<td>2.94</td>
<td>.47</td>
<td>2163</td>
<td>.16</td>
</tr>
</tbody>
</table>

1. For 1969, academic scores were not available.
2. For 1970, the scale for academic scores ranged from 10 to 100.
3. For 1971, the scale ranged from 1 to 4.
4. For 1972, the scale ranged from 4 to 12.
5. For 1973, the scale ranged from 1 to 13.
6. For 1974, the scale ranged from 4 to 12.
7. For 1975, the scale ranged from 1.00 to 4.00.
Though the mean academic scores can be seen to generally decrease over time for the extreme years and from 1973 to 1975, there is, however, considerable variation in the mean scores due to the different scales being used from 1970 to 1975. For example, in one year there was a four point scale as compared to a 90 point scale in another year.

When the academic scores were measured in standard deviations, a general decline with some variation was seen. By dividing the standard deviation of the academic score by the mean, the coefficient of variability can be calculated. This measurement provides a finer index relative to the means of each score. Once again, there is a steady drop from 1971 in the coefficient score with the exception of 1972. There is no significant correlation between the number of applicants and the coefficient of variability.

The difficulty in differentiating among applicants can also be seen in the change in the number of applicants who have received an A in their last undergraduate year at university. Approximately 24 percent of the total applicant pool received an A in their third year in 1970 whereas in 1975 almost half of the applicant pool had received an A (See Appendix H). It is presumed, at least in this stage, that this homogeneity in academic scores will mean a greater reliance on alternative criteria for selecting applicants which may in turn reflect ascriptive status to a greater extent.
If academic marks become only a necessary but not a sufficient condition to enter medical school, one would expect the overall relationship between academic scores and the various assessment stages to decline over time. This would be partly true by design for the reason that the medical school has decreased the importance of the weightings of academic scores in the admissions process over the years. For example, in earlier years, a high academic mark may have meant direct entry into medical school whereas presently, a high academic mark may mean an applicant obtains an interview. However, academic performance along with other relevant information in the applicant’s file is considered in the final assessment stage where an applicant undergoes collation. Therefore, in this final assessment stage, one would expect the influence of academic scores to diminish in influence on the basis of homogeneity. To this end, hypothesis 1B is offered.

As the supply of applicants increases relative to demand, the positive relationship between academic score, or achievement, and admission will decline in the collation assessment.

6B. HYPOTHESIS TWO

The increasing supply of medical applicants and the changing values toward females in terms toward participation
in the labour force appear to be closely connected. The reasons for an increasing female participation rate in the labour force and the growing number of female applicants to medical schools will be discussed first.

A phenomenal increase in the number of female workers has been characteristic of modern industrial societies (Ostry, 1968; Oppenheimer, 1970). There are several reasons for this sudden surge in participation. Ostry states that higher education, re-entry after marriage and husband’s unemployment status are the principal factors which underly this new trend. A few statistics outline the dimension of this trend in female labour force participation. The female participation rate rose from 29.0 percent in 1962 to 37.7 percent in 1972. In the same time period, the male participation rate declined. A majority of the female workers are not single but married (Labour Canada, 1973:iii-iv).

The distribution of female workers by occupational category indicates the degree of over or under-representation. In 1962, female workers represented 62.7 percent of the total labour force in the clerical occupational category. This percentage increased to 72.0 percent in 1972 revealing that this trend of over-representation is worsening (Labour Canada, 1973).

An article by Gelber entitled "Sex Ghettos in the Health Professions" emphasises the under-representation in
the professional health occupations. Approximately 91 percent of practising physicians are male and for dentists the percentage is 97 percent. According to Gelber, only South Vietnam, Spain and Madagascar have proportionately fewer women doctors than Canada (Labour Canada, Women's Bureau, 1973:16).

The right of women to gain entry into medicine (and other professions) has been a prolonged struggle. Many of the problems which were encountered are well documented in The Indomitable Lady Doctors (1974) by Hacker. Strict societal norms and values of the past discouraged even the thought of applying to medical school although nursing was strongly endorsed. In apparent justification of the times, it was ascertained that no woman in the early twentieth century:

...could dissect the different parts of the human body or listen to anatomical and physiological lectures in the presence of young men without outrage to delicacy and sense of modesty of both sexes (Grove, 1969:53).

In light of these views, it is not too surprising that the first woman who was able to practise in Canada was disguised as a male. Not until her death was her charade uncovered (Hacker:3). Since this era, some progress has been made by females into the medical profession. A recent incursion into the male dominated profession is seen in the percentage distribution of female medical students enrolled in Canadian
medical schools. In 1957-58, seven percent of the students were female and in 1975-76, the figure rose to 28.3 percent.

One further indication of the changing role of the female in the medical profession is illustrated by the past position of Bette Stephenson, who was recently president of the Canadian Medical Association and a former Minister of health in the Ontario provincial government. What are some of the reasons which have fostered a more amenable climate for females to apply to medical school? One reason is that the stereotyped role of the female remaining at home or at best working only part-time to supplement the husband's income is slowly eroding. A major obstacle which paralleled and reinforced this belief was the open quotas for females who were allowed to enter medical school. The reluctance to accept female applicants is shown in the submission by one Ontario medical school to the Committee on the Healing Arts. It states:

Experience has shown that, although the academic failure rate is lower among women than among men, the attrition, due to changes in career plans, is approximately twice as high. Women often leave medical studies on getting married; men seldom do (Grove, 1969:10).

Two recent studies which looked at the work patterns of female physicians found that the stereotyped image of the female physician, having children and quitting her practice is not upheld. One national study of 2191 female physicians
indicated that 87 percent were using their medical training in some way (MacDonald and Webb). Another study conducted at one Ontario medical school in 1972 corroborated the above trend. The results showed that 85 percent of all female graduates of the school were engaged in medical work (66 percent full-time and 19 percent part-time (Buck et al., 1966:712).

Another factor which favours females in the medical profession is the type of desired characteristics which is now demanded. Male and female physicians may exhibit different personal qualities. In a comparison of male and female applicants to one medical school, certain significant personality differences were discovered (Fruen et al., 1974). Personality tests were administered and males scored significantly higher in qualities of dominance, exhibition and order. Females scored significantly higher in qualities of harm avoidance, impulsivity, nurturance, understanding and a need for a change (Fruen et al., 1974:142). The authors of this study conclude that such non-academic scores as indicated in the personality tests deserve special attention. There is the suggestion that female personality attributes would be more compatible to the desired role of the ideal physician.

Another reason for an increase in the number of female physicians is their high academic standing in comparison to males (Fruen et al., 1974:39). In terms of academic standing, female applicants received a higher composite score
based on eleven predictors (e.g., grade 13 marks, M.C.A., T. test scores). Therefore, it is not too surprising to see that though fewer females apply to medical school, a greater percentage are eventually admitted when compared to males. Fruen attributes this to self-selection. That is: many potential female applicants discount medicine on the basis of it being too demanding or interfering with family or marriage responsibilities. The result is that only a small, determined but academically superior number of females end up applying. In contrast, more determined and academically lower, males often apply to many medical schools hoping to get in somewhere.

Self-selection appears to be operating at McMaster Medical School in light of the responses given by the 1975 applicants. Overall, females applied to fewer medical schools. Approximately 40 percent of the females applied only to one medical school (McMaster) as compared to only 18 percent of the male applicants. A sex difference is also seen in the determination to re-apply. Almost 40 percent of the male applicants had applied previously to McMaster as compared to 30 percent for the female applicants. It also should be noted that females had higher academic scores. In short, self-selection seems to result in fewer but better qualified female applicants.

The breakdown of the total applicant pool by sex from 1969 to 1975 is given in TABLE IV-2.
TABLE IV-2. The Percentage Of Applicants By Sex To McMaster Medical School From 1969 To 1975.

<table>
<thead>
<tr>
<th>Year</th>
<th>% Of Males</th>
<th>% Of Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>1969</td>
<td>92</td>
<td>8</td>
</tr>
<tr>
<td>1970</td>
<td>88</td>
<td>12</td>
</tr>
<tr>
<td>1971</td>
<td>86</td>
<td>14</td>
</tr>
<tr>
<td>1972</td>
<td>80</td>
<td>20</td>
</tr>
<tr>
<td>1973</td>
<td>78</td>
<td>22</td>
</tr>
<tr>
<td>1974</td>
<td>74</td>
<td>26</td>
</tr>
<tr>
<td>1975</td>
<td>70</td>
<td>30</td>
</tr>
</tbody>
</table>

One can see that the proportion of female applicants has increased. Over the seven year period, the proportion of females to the total applicant pool has grown 275 percent. Conversely, the proportion of male applicants has decreased.

Some of the reasons for the increase in the number of female medical applicants at McMaster are now considered. The medical school appears to be in the vanguard for accepting a greater proportion of females as compared to other medical schools. A former head of the admissions committee at McMaster suggested that this high proportion existed "...because women who applied made their decision more carefully and had the commitment we were looking for."
(Hamilton Spectator, 1974:55). Commitment or self-selection may be important factors but other reasons are possible especially given the type of admissions policy which is offered at McMaster.

One reason is that McMaster has a policy of admitting students who do not have a science background. Since science courses are usually pursued by male students, the number of females with a science background who also want to enter medicine has been most limited. Fruen found as late as 1974 that females reported more interest in literature, music and art while males expressed greater interest in physics (Fruen et al.:143). With a predominance of females with a non-science background, the applicant pool has probably swelled at McMaster because of the removal of this traditional science limitation. If this were not the case, subject or course preferences would still restrict females from applying.

The flexibility in the type of course or program with which the applicant may apply has allowed more females to qualify than what normally would be the case. Most applicants had taken at least one science course. There are differences by sex. The percentage of females who have not taken at least one undergraduate course in biology, physics, chemistry and mathematics is 13, 38, 21 and 33 percent respectively as compared to 7, 14, 8, and 10 percent for male applicants. Quite clearly, male applicants have concentrated more on
science courses than females.

A possible reason for the high acceptance rate of females is that attitudes toward female physicians have experienced a broadening base of support, especially with females and children. Trenholme (1967) in her study of female physicians, reports that a majority of the patients were adult females while only 10 percent were males. Her results indicated that females were generally accepted and that this was attributed to "...a greater ease and understanding of family, marital and other emotional problems, as well as to less embarrassment about physical examinations, particularly gynecological" (Trenholme, 1967:51). An overall positive response was recorded by women physicians in the physician-child relationships. One physician remarked to Trenholme that "Children seem to be less afraid of female doctors" (Trenholme:51).

A final factor which may contribute to the high female application rate at McMaster is the type of practice for which the medical school trains its students. Most studies on female physicians show an overwhelming prevalence for general medicine, i.e. family medicine, obstetrics, and pediatrics (Buck et al., 1966; Trenholme, 1967). If this is the case at McMaster, then it can be expected that a larger number of female students would eventually pursue family medicine. In the medical school's calendar, it is stated that there is no streaming of students. The students are
responsible for developing their own career goals. However, if the trend for females entering family medicine is correct, then the commitment or decision has already taken place prior to admission.

The results of the 1975 survey confirm the presence of this commitment. Both male and female applicants indicated a high preference for family medicine. When given other areas, many more males than females indicated a preference for areas of specialisation such as surgery and psychiatry and even obstetrics. In short, most of the applicants have already decided on which course they would pursue in medicine.

In conclusion, the rapidly growing female labour force and a growing acceptance of the working female have direct consequences for the female applying to medical school. The growing number of female applicants, the factor of self-selection, and the adoption of criteria which might favour qualities associated with the female role leads one to suspect that females would do better in most assessments. This is true with respect to the 1975 female applicants. They scored higher in letters, personal interviews and simulated tutorials. In light of these observations, the following hypothesis is given.
As the supply of applicants increases relative to demand, and as alternative criteria are used, the relationship between female applicants and the various assessments in the McMaster admissions process should positively increase over time.

The hypothesis is expressed over time to reflect the introduction of the alternative criteria. One may attribute the better performance of females to greater self-selection but this hardly seems the case since in the past there was an even greater self-selection of females in which only a few females would apply.

6C. HYPOTHESIS THREE

In the last decade, values and attitudes have been revised with respect to many conditions such as sex, language and ethnicity in the employment of individuals in the labour force. One condition which is slowly gaining a more positive emphasis is a person's age. Historically, the prevailing attitude was that the older you were the less likely you could change your employment or career. While age may seem to limit the mobility chances of individuals, there appear to be certain advantages which are concomitant with age. A brief look at the reasons for the unfavourable attitudes toward older applicants and the new evolving attitudes toward age will be discussed in an effort to explain the significance of age as an important factor in the admissions process.
The traditional route into medicine has been the direct entry of an applicant from university to medical school. Although the time and length of university training may differ, most students apply as soon as they are able to meet the minimum academic requirement. When surveyed in 1964, the four Ontario medical schools preferred to take students who were in their early or middle twenties (Fish and Macleod: 1965). This preference was based on the premise that the younger the applicant, the greater the time which could be invested in medical practice.

Age as a criterion for admission did not automatically disqualify anyone at McMaster, but good justification was required for older applicants. The 1969 admission policy for McMaster informs applicants the following: "Applicants older than thirty years of age will be interviewed and carefully scrutinized with respect to their motivation and their reasons for not applying at an earlier age" (McMaster University Medical School Calendar: 1969:7).

There was the suspicion that past erratic career changes were not good indicators of a life long commitment to medicine. This suspicion is evidenced in the following study of 1968-69 applicants to Canadian medical schools. The study found that there was a significant difference with respect to age between accepted and registered, and rejected applicants (Nelson-Jones and Fish, 1970).
In the last few years, several new trends have evolved which reflect some changes in the attitudes to older individuals. Students at universities were not finishing their programs in one continuous block. Instead, many students took a leave of absence in order to travel or to work temporarily. Eventually, at a later point in time, many of these students would continue where they left off. Many of these students continued their schooling part-time. When the 1975 applicants were subdivided into younger and older respondents, differences of opinion regarding admissions criteria could be seen. The older age group moderately agreed that it should be considered an advantage to have worked at least a year prior to admission. The younger age group slightly disagreed with this criterion. This is not very surprising since very few young applicants have had the opportunity to have worked while most of the older applicants have been employed. In short, the traditional non-stop education has been altered into different educational patterns. Consequently, applicants to professional schools will exhibit higher age medians.

Another change worth noting is the positive emphasis on older applicants. An older applicant is one who is likely to be more mature and hence would likely be more aware of his "personal assets, potential limitations and emotional reactions" criteria which are asked of all applicants at McMaster. An older applicant is considered to be more
responsible and dependable. Today, the applicant who does not proceed directly into medicine from university is seen to have gained useful practical experience which could not be taught inside the classroom. Both older and younger applicants in the survey agreed with the statement that older applicants demonstrate more maturity and confidence. The inference is that if personal interviews measure confidence and maturity, older applicants will receive higher scores.

Ironically, older applicants with a family may show a greater degree of commitment than younger applicants. An older individual who is willing to forego one’s income, and instead, incur an expense of over $4000 with one or more dependents is indicative of the seriousness of the applicant’s intentions.

Another change which affects attitudes toward age is the length of the medical program at McMaster. The program operates almost all year (therefore no summer interruptions which is the case at other medical schools). In this way, a medical degree is obtained in less than three years. This would be advantageous to an older applicant who could not afford a lengthy training period.

The age distribution of applicants to McMaster Medical School is given in TABLE IV-3.
TABLE IV-3. Age Percentage Distributions Of Total Applicant Pool To McMaster Medical School.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>1973</th>
<th>1974</th>
<th>1975</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;20</td>
<td>1.7</td>
<td>2.4</td>
<td>2.2</td>
</tr>
<tr>
<td>20-24</td>
<td>57.5</td>
<td>65.3</td>
<td>70.8</td>
</tr>
<tr>
<td>25-29</td>
<td>21.6</td>
<td>24.6</td>
<td>20.0</td>
</tr>
<tr>
<td>&gt;30</td>
<td>6.3</td>
<td>7.7</td>
<td>7.0</td>
</tr>
</tbody>
</table>

The percentage of applicants who were over 30 was so negligible in the first four years that the medical school only recorded age in gross categories of over and under 25. In 1973, the medical school began to recognize more categories. One can see that for the last three years (1973 to 1975), the proportion of older applicants has remained fairly constant.

One can see a growing number of advantages which an older applicant may have over younger applicants especially with regard to the addition of personal interviews and letters as criteria in the admissions process. Since maturity is a prime concern, older applicants should, by design, receive higher scores. The results of the 1975 survey bear this fact out. Older applicants received higher scores in letters, personal interviews and simulated tutorials whereas younger applicants received higher academic scores. In light of the advantages for older applicants as realized by the use
and increasing emphasis of alternative criteria, the following hypothesis is offered.

As the supply of applicants increases relative to demand, and as alternative criteria are used, the relationship between older applicants and the various assessment stages will increase positively.

The relationship is expected to increase only gradually in a positive direction since attitudes by older applicants will change very slowly. In other words, the transition will occur over a long period of time. It is unlikely that many older applicants will begin to apply although some conditions have been made easier. For example, an older applicant can obtain loans and grants. In many cases the spouse is working and therefore expenses are not the primary concern. Many older female applicants show an interest in medicine when their children have entered school or day care centres. Most of the conditions did not truly exist in the late sixties or early seventies.

If age and maturity go hand in hand, one would expect older applicants to fare much better in assessments where maturity would be an asset. This would mean letters, personal interviews and simulated tutorials. It is difficult to state how well older applicants will do in cullation since age as well as all other factors are considered. Age may also be influencing collation and admission indirectly. That is, age
may directly influence letter scores, personal interviews and simulated tutorials which in turn may affect collation and admission. The indirect and direct effects of age will be presented schematically in the next chapter.

6D. HYPOTHESIS FOUR

Another variable which may change in emphasis in the admissions process, as the supply of applicants increases, is the place of residence. In a highly mobile society, many students are able to apply to medical schools far from their place of residence. In fact multiple applications to more distant medical schools may enhance the applicant’s desire of success. Therefore, one suspects that part of the increased supply originates with students who are applying from greater distances.

The results of the 1975 survey show that respondents from the Hamilton Health Region and the North Western Ontario area apply to 3.2 medical schools, on the average, compared to other areas who had a higher mean application score of 4.8. One of the prime reasons why outside regions have a higher average is because of lower qualifications. Applicants who resided outside the Hamilton Health and North Western Ontario regions scored lower in letters and academic marks.

Most medical schools impose some form of geographical limitation usually based on the area and length of residence
of the applicant. An extreme example of geographical restriction is the policy of the University of Western Ontario's medical school which does not consider applicants from outside Canada unless "there are special circumstances" (Grove, 1969:39). McMaster uses a less severe geographical weighting system. As previously mentioned, applicants from outside the Hamilton Health Region and North Western Ontario need higher academic and letter scores to be considered for interview.

A geographical weighting reflects a reinforcement of community or local needs. That is, there is the implicit obligation between the medical school and the applicant. In the same way that medical schools recruit applicants from within surrounding boundaries, the medical school also expect applicants to practise within these boundaries or in areas not serviced by other medical schools. It would be difficult to rationalise the provision of an expensive medical education and then condone the migration of medical graduates to areas serviced by other medical schools, or even worse, other countries (Grove, 1969:111).

One study found that most medical students tended to return to their home area. This trend is also seen for the 1975 sampled applicants. The degree of willingness to remain in the Hamilton Health Region is much higher for applicants living in this area than for applicants who do not.
The percentage breakdown of all applicants to McMaster Medical School by geographical place of residence is shown in TABLE IV-4.

<table>
<thead>
<tr>
<th>Place Of Residence</th>
<th>1972</th>
<th>1973</th>
<th>1974</th>
<th>1975</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hamilton Health Region</td>
<td>14.2</td>
<td>20.2</td>
<td>18.2</td>
<td>21.5</td>
</tr>
<tr>
<td>North Western Ontario</td>
<td>2.1</td>
<td>2.2</td>
<td>1.9</td>
<td>1.6</td>
</tr>
<tr>
<td>Other Ontario</td>
<td>40.3</td>
<td>39.6</td>
<td>39.2</td>
<td>41.4</td>
</tr>
<tr>
<td>Other Canada</td>
<td>21.0</td>
<td>18.2</td>
<td>20.0</td>
<td>23.0</td>
</tr>
<tr>
<td>Foreign</td>
<td>22.4</td>
<td>19.6</td>
<td>20.7</td>
<td>12.4</td>
</tr>
</tbody>
</table>

Over the four years, the proportion of applicants from each of the five geographical areas has remained fairly constant. The largest proportion of the applicants originate from within Ontario but outside the Hamilton Health and North Western Ontario areas. In essence, most of these applicants are from Toronto. The number of foreign applicants plunged from 1974 to 1975. This may be attributed to difficulty in obtaining student visas as well as an increase in the application fee.

It was not until 1972 that McMaster started to identify applicants on the basis of their geographical place of residence. While a weighting does occur in the initial assessment stage by design, it is not supposed to be a factor
in personal interviews, simulated tutorials or collation. However, because place of residence has important connotations placed on it such as degree of commitment or citizenship, the following hypothesis is offered.

As the supply of applicants increases relative to demand, and as alternative criteria are used, the relationship between geographical place of residence and various assessment stages will increase positively.

By this, one would expect that applicants from the favoured geographical areas will have a growing positive relationship in two assessment stages which contain personal interviews, simulated tutorials and collation. Similar to sex and age, place of residence may have an indirect effect on admission and collation through intermediate variables such as academic marks and letters. This will be shown in the next chapter.

6E. HYPOTHESIS FIVE

One of the results of greater educational opportunity is that more than one family member is able to pursue higher education based solely on merit rather than financial ability. This trend in part may account for a larger number of applicants. Traditionally, family size diminishes opportunities for younger members of larger families. Several studies have shown a negative relationship between family
size and educational achievement, mental ability, social mobility, educational and occupational aspirations (Linton and Bendix, 1969; Breton, 1972; Duncan, Featherman, and Duncan, 1972). Today, with the assistance of financial aid, many younger family members can apply to the professions without burdening their parents or older siblings. In short, all members of large or small families should experience equal opportunity in applying to medical school.

The findings of the survey reinforce this trend toward greater equality of opportunity, at least with regard to family size. Approximately 60 percent of the applicants came from families with three or more brothers and/or sisters. While there appears to be greater opportunity, this does not mean applicants from larger families will do better in the various assessments in the admissions process. One suspects that their motivation is less than for first or only children. That is, parental encouragement will be lower if the parents already have one child in medicine or in another profession.

According to Blau and Duncan, first born children put a premium on occupational achievement (Blau and Duncan, 1967:308). They perform better in the academic system and therefore do better in the labour force. When one examines the breakdown of the various assessments of achievement in the admissions process, it is noticed that applicants from smaller families perform consistently better. For these
reasons, the following hypothesis is suggested.

As the supply of applicants increases relative to demand, and as alternative criteria are used, the relationship between family size and various assessment stages should increase negatively.

It is speculated that family size will have a decreasing effect upon academic score since there is a counter trend of greater equality for all children in a family. However, the introduction of other assessment criteria will more than offset the declining influence of family size. There is also the assumption that larger families are indicative of lower socio-economic classes, but this is not necessarily true. The effects of family size and social class will be controlled in the section on path analysis.

6F. HYPOTHESIS SIX

Several studies have linked social class as a major variable influencing many dimensions such as educational and occupational aspiration (Breton, 1972). Social class as defined by Porter (1965) is said to exist "...when people within a particular income range, or at a particular skill or educational level are grouped together, (and) it will be found that they behave in ways different from people grouped together in another income range or at another skill or
income level" (Porter, 1967). The most common indicators of social class are parental education and occupation and sometimes the income, prestige and education associated with the occupation (Blishen, 1962; Blishen, 1970; Fino and Porter, 1967).

Within the admissions model, social class is thought to relate to the applicant's academic achievement, family size, and place of residence. The basis of the relationship between social class and achievement is explained in this manner. Occupations form the basic foundations of social class. They also provide a concrete example to which younger members of the family may aspire. According to Moore (1968), the father's occupation generates "a generalized set of expectations" that tend to influence occupational choice. The child models the occupational role of the father and the entire process is reinforced by the parents.

Pavalko states that occupations which are indicative of certain social classes provide greater exposure and familiarity to children in the same social class than to children in other social classes. This process is not necessarily enhanced by parental expectation as Pavalko elaborates:
The suggestion is that without any overt or intentional planning or intervention on the part of parents or others, young persons whose fathers are in these comparatively professionalized occupations grow up in distinctive subcultures about which they are knowledgeable and in which they move with greater ease than can persons who have grown up in other occupational subcultures (Pavalko, 1971:75).

Studies which show the effects of social class on occupational choice for medicine are well documented as has been discussed in Chapter One. Many of these studies were conducted some time ago. In light of this time lapse, two questions are posed. Is social class still a major determinant in the selection of medical applicants? How has a growing supply of applicants affected the influence of social class in the admissions process? Several trends suggest that the influence of social class is diminishing. The four trends are briefly discussed.

First, as indicated earlier in Chapter One, greater educational opportunity has been made available to students regardless of social class in the Canadian educational system. Financial aid in the form of loans, grants and scholarships has enabled an increasing number of lower social class applicants to attend post-secondary institutions. In short, financial inability is now not as great a factor as in the past.

Second, if familiarity and exposure to the
physician's role are conducive to occupational inheritance; then the greater the participation by the general public in health related matters may be another source of encouragement to the candidate. More people are better informed about medical practices and procedures. As well, mass media consistently reinforces the glamour and positive role of the physician in books, television and movies.

Third, there may be a shift in value orientation in the relationship between physician and son. Rosoff found that although the sons of physicians are among the first to think of a medical career they also took longer to decide definitely to select medicine as compared to others who had fathers who were not physicians. Rosoff suggested that this could be explained by an initial non-conformity to the family tradition of following in the father's footsteps.

Another explanation for this hesitation is that the pressure to inherit the father's occupation has diminished. The physician may actually try to discourage offspring to follow medicine because of unfavourable working conditions. One study that shows that a majority of middle aged physicians would strongly or somewhat discourage young people to enter the medical profession (Pickering, 1973:327). In short, offspring of physicians may be negatively reinforced by the unfavourable side of the occupation and the lack of parental support.
The final factor which is said to reduce the influence of social class in the selection of medicine is the changing nature of the Canadian labour force. Due to shifts from primary to tertiary occupations in the labour force, one would believe that all social classes would be equally represented. This proportionality would occur, however, not because the medical profession is allowing in more lower social class applicants, but because there are simply fewer labour force members in the lower social classes or primary occupations. In other words, it's not that individuals from lower social classes are not being admitted to medical schools, but rather, it is because fewer applicants originate from the lower classes proportionately.

The social class distribution of sampled applicants to McMaster Medical School is shown in TABLE IV-5.

<table>
<thead>
<tr>
<th>Social Class</th>
<th>1969</th>
<th>1975</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>22.9</td>
<td>18.1</td>
</tr>
<tr>
<td>Middle</td>
<td>27.1</td>
<td>21.7</td>
</tr>
<tr>
<td>Upper</td>
<td>50.0</td>
<td>60.2</td>
</tr>
</tbody>
</table>

1. Blishen scores which were assigned to the father's occupation were reclassified such that prestige scores between 20 and 39 would represent the lower social class and scores between 40 and 59 would represent the middle social class and scores between 60 and 79 would represent the upper social class. The cutoffs were arbitrarily chosen.
The proportion of lower social class applicants has declined from 22.9 to 18.1 percent. The proportion of upper social class applicants has increased from 50 to 60 percent. While only two years are given, the trend appears to be toward a higher social class applicant.

While there are indications that there is greater opportunity for lower social class applicants in reaching admission stage, there is little evidence to suggest there is a corresponding increase in opportunity given the use of new admissions criteria. How will lower social class applicants fare with criteria other than academic marks? Based on his analysis of various studies, Jencks says that there are sizable differences in the cognitive skills between the most and least economically advantaged. He states: "...this interpretation is reinforced by examining specific questions included on most standardised tests. Answering these questions often requires at least vicarious familiarity with middle-class life and culture" (Jencks, 1972:79). How well did lower class applicants do in the letters, personal interviews and simulated tutorials? For all three assessments lower class applicants did less well than upper social class applicants. In light of these observations, the following hypothesis is offered.
As the supply of applicants increases relative to demand, and as alternative criteria are used, the relationship between social class and various assessment stages in the admissions process will increase in influence.

In summary of this section, the hypothesised relationships between certain achieved and ascribed criteria associated with the applicant in the various assessment stages have been discussed and formulated. The hypotheses have been presented under several conditions which should be kept in mind. The greater emphasis of specific ascriptive statuses of the applicant is attributed to the use of alternative criteria which is the result of a growing supply of medical applicants to a medical school. The relationships between ascribed and achieved variables and the different assessments are bivariate in form; but the direct and indirect influences, as suggested within each hypothesis, indicates that the model is truly multivariate. The results of the 1975 survey reveal that applicants of certain ascriptive characteristics do better in criteria other than academic achievement. That is, applicants who are female, older, reside within the Hamilton Health or North Western Ontario regions, come from smaller families and originate from upper social class backgrounds will do better in letters, personal interviews and simulated tutorials. It is presumed that the alternative criteria have allowed these groups to perform better than others. Since the results of
the survey are for 1975 only and the fact that the variables are not controlled; a path analysis of the ascribed and achieved variables with the different assessments which standardises the effects over time will be presented in the next chapter.
FOOTNOTES TO CHAPTER FOUR

1. Only 1.3 percent of the entire 1975 applicant pool were over 35 years of age. Only 2 of the 282 sampled applicants were over 35 years of age.

2. By this, most applicants will have at least a bachelor’s degree.

3. Institutional refers to individuals who, at the time of the study, were in the armed forces, hospitals or were incarcerated.


6. For the procedures on how dummy variables may be created, see Nie et al., 1974 or Miller and Erickman, 1974.

7. This test of linearity was statistic 2 of the S. F. S. S. Program called breakdown.

8. Non-recursive feedback in models is less prevalent since it is difficult to measure non-recursive or reciprocal effects. See Strotz and Wold, 1971.


10. Taking one science course, of course, does not mean that they were in a science program.

11. The median age for all applicants was 22.2. Younger applicants were between 18 and 22 while older applicants were between 23 and 47 years of age.

12. Many of the 274 assessors viewed rural Ontario and northern Ontario as under supplied with M. D.’s.

13. There is no difference for upper and lower social class families as measured by father’s socio-economic status.
CHAPTER FIVE

DATA ANALYSIS

1. INTRODUCTION TO CHAPTER FIVE

The purpose of this chapter is to test the hypotheses which are related to the first proposition which states that the greater the supply of applicants relative to available positions, the greater the influence of ascription within the three stages of the admissions process.

In the previous chapters, certain conditions have already been established. The supply/demand ratio for McMaster medical school has been documented in Chapter Three. The lack of variability (differentiation) in the applicant's academic score has been shown in Chapter Four. The introduction of alternative criteria by McMaster Medical School provides an excellent opportunity to explore the influence of ascription within personal interviews, simulated tutorials, letters and collation.

The analysis in this chapter is divided into two sections. The first section includes a bivariate analysis between sex, age, socio-economic status, geographical place
of residence and family size of the applicant and the various achievement scores of the applicant within the three admissions stages. Also in this first section is a presentation of the type of relationship which exists between the applicant's academic score and admission status as well as the applicant's academic score and collation score for 1975 only.

The second section examines the same relationships in greater detail but for 1975 sampled applicants only. Path analysis is adopted to construct the direct and indirect effects of the ascriptive variables upon the achievement variables while the effects of other variables are held constant. A discussion of the results will follow the second section of analysis.

2. BIVARIATE ANALYSIS OVER TIME

The objective of presenting bivariate Pearson correlations between variables in the three stages of the admissions process is to obtain a general overview of the significant effect of variables over time. It was hypothesised that academic scores would become less important as the variability diminished (or as the differentiation declined). This hypothesis is tested in two ways. The first way is to measure the relationship between academic scores and level of admission for all sampled applicants for all
available years. The second way is to test the type of relationships observed between academic scores and admission for only those sampled applicants who reached the third stage of the admissions process which is collation.

The Pearson correlations between academic scores and the level of admission are given in TABLE V-1.

TABLE V-1 Pearson Correlations Between The Applicant's Academic Scores And The Level Of Admission From 1970 To 1975.

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Admision Level</td>
<td>.56</td>
<td>.32</td>
<td>.33</td>
<td>.25</td>
<td>.40</td>
<td>.35</td>
</tr>
<tr>
<td>N</td>
<td>110</td>
<td>152</td>
<td>170</td>
<td>198</td>
<td>186</td>
<td>275</td>
</tr>
<tr>
<td>p</td>
<td>.001</td>
<td>.001</td>
<td>.001</td>
<td>.001</td>
<td>.001</td>
<td>.001</td>
</tr>
</tbody>
</table>

1. Correlation Coefficient
2. N
3. Any figure under .05 is considered to be significant
4. See Appendix J for coding of admission levels and academic scores

The actual academic score assigned by the medical school is used in the correlation along with the level of admission status. Four levels of admission have been chosen to represent the success of the applicant in the admissions process. The first level represents applicants who were not offered a position in the medical school. The second level of success represents applicants who were put on the waiting list but nevertheless were not offered a position. The third
level represents applicants who were put on the waiting list and eventually were offered a position. The last and highest level represents applicants who were given initial offers of admission. This last category also includes those who were given offers of admission but the applicants declined and probably went elsewhere.

Where possible, admission was recoded into these four levels of admission to reflect the order or priority given to the applicant by the medical school. For the codings of admission reflecting these four levels, see Appendix J.

These four levels of admission are not truly interval which is an assumption of regression analysis. While there is reason to believe that some error will occur if ordinal data (which these four levels of admission are) are treated as interval data, there is some support in the literature that a more powerful level of interpretation can be obtained (Boyle, 1970; Bohrnstedt and Carter, 1971).

The correlations in this table show a general decline from .56 in 1970 to .35 in 1975. A test of the difference between the two correlations indicate that the difference is significant. However, there is no significant relationship between the number of applicants and the correlations for all years. This decline is expected as alternative criteria are introduced in the admissions process.

What part do academic scores play in collation? All
information in the applicant's file is considered in this stage. The correlations between academic score and collation score for applicants who have reached collation are given in TABLE V-2.

TABLE V-2 Pearson Correlations Between The Applicant's Academic Scores And The Level Of Admission For Applicants In Collation Stage From 1971 To 1975.

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.31</td>
<td>.22</td>
<td>.11</td>
<td>.15</td>
<td>.04</td>
</tr>
<tr>
<td>88</td>
<td>107</td>
<td>54</td>
<td>94</td>
<td>124</td>
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</tr>
<tr>
<td>.002</td>
<td>.01</td>
<td>.22</td>
<td>.07</td>
<td>.33</td>
<td></td>
</tr>
</tbody>
</table>

1. Correlation Coefficient
2. N
3. Any figure below .05 is considered to be significant.
4. Data for 1969 and 1970 were not available
5. See Appendix J for coding of admission level and academic scores.

In 1971, the relationship was positive and significant. In 1975, there was no significant relationship. In short, hypothesis 1B is supported by the general decline in the relationship between academic scores and admission for those applicants who have reached collation.

The type of relationships between the sex of the applicant and the various achievement scores within the three admission stages for the appropriate years are given in TABLE V-3.
TABLE V-3 Pearson Correlations Between Sex And Five Assessment Criteria From 1970 To 1975

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage One</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic Scores</td>
<td>-.01</td>
<td>.06</td>
<td>.17</td>
<td>.12</td>
<td>.17</td>
<td>-.04</td>
</tr>
<tr>
<td></td>
<td>146</td>
<td>170</td>
<td>198</td>
<td>186</td>
<td>275</td>
<td></td>
</tr>
<tr>
<td>Letter Scores</td>
<td>.10</td>
<td>.11</td>
<td>.10</td>
<td>.18</td>
<td>.19</td>
<td></td>
</tr>
<tr>
<td></td>
<td>95</td>
<td>138</td>
<td>150</td>
<td>135</td>
<td>233</td>
<td></td>
</tr>
<tr>
<td>Stage Two</td>
<td></td>
<td></td>
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<td>.08</td>
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<td>.22</td>
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</tr>
</tbody>
</table>

1. Correlation Coefficient
2. N
3. Any figure below .05 is considered to be significant.
4. Sex was coded 1 for males and 2 for females.
5. See Appendix J for coding of other variables.

From 1972 to 1974, the applicant’s sex and academic scores were significantly related in favour of females. For the alternative criteria, there were significant (and one near significant) relationships between the applicant’s sex and
letter scores as well as personal interview scores in the last two years. No trends could be seen for simulated tutorial scores or collation. For almost all of the significant relationships, females scored higher in the achievement scores than the males. As predicted, most of these relationships occurred in the later years. Since letters and interviews are critical assessment criteria and sex is found to be a significant variable, hypothesis two is supported only for letter scores.

The type of relationships between the age of the applicant and the five assessment criteria from 1970 to 1975 are presented in TABLE V-4.
Table v-4. Pearson Correlations Between The Applicant's Age And The Five Assessment Criteria From 1970 To 1975

<table>
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<td>Stage Three</td>
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<tr>
<td>Collation</td>
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</tr>
</tbody>
</table>

1. Correlation Coefficient
2. N
3. Any figure below .05 is considered to be significant
4. SEE APPENDIX J FOR CODING OF THE VARIABLES.

There are no significant relationships for any of the alternative assessment criteria with the age of the applicant. This is quite surprising considering that personal interviews and simulated tutorials were attempting to measure maturity and experience. In conclusion, it can be stated, at least within this analysis, that no one age group has an
advantage over another except perhaps for academic scores where younger applicants did better in 1971, 1973 and 1975. In short, hypothesis three is not supported.

The Pearson correlations between the four geographical areas were also analysed. It was hypothesised that applicants from the Hamilton Health Region and North Western Ontario would receive higher achievement scores than other applicants from afar. It appears that in the earlier years, there were a few positive relationships. However, there does not appear to be a trend toward positive correlations in the later years.

Foreign applicants had significantly higher academic scores in 1975 (0.11; p<.05; N=245) which was just the opposite in 1972 (-.15; p<.02; N=170). For three out of the last four years, foreign applicants received significantly lower letter scores than other applicants. This trend is only true for letter scores. On the whole, the data do not support hypothesis four in which closer applicants would fare better than further applicants. The only exception is the relationship between foreign applicants and letter scores.

The relationship between family size and level of admission as the only common point of comparison was examined in 1969 and 1975. Family size did not increase in importance from 1969 to 1975 as hypothesised. In fact, family size was not significantly related to any achievement variable in
1975. Therefore, hypothesis five is not supported.

The relationship between the applicant's social class and achievement criteria was also examined over time with the available data. The relationship between social class and academic scores \( (20; p < .007; N=149) \) and letter scores \( (20; p < .007; N=149) \) in 1975 as compared to previous years was significant. Hypothesis six is only supported tentatively based on very limited data.

In concluding this section, there appears to be two strong trends over time. The academic achievement variable has declined in importance and sex as an ascriptive variable has increased in importance at least with three assessment criteria.

While other ascriptive criteria were also hypothesised to increase in importance with alternative assessment criteria this did not happen. In retrospect, perhaps this is not too surprising for the following reasons. The first and foremost is that the admissions process is a complex process which, by its very nature, discourages undesirable consequences. To this end, there are many checks and balances. For example, an applicant's letter is assigned a score by three independent readers. The end score is the sum of three individuals. Any bias from one reader should be compensated by another. In effect, all achievement scores are combined or aggregate scores. However, in spite of using
these aggregate scores in this analysis (as the individual scores were not available over time), one important ascriptive variable persisted and others were seen occasionally.

Another reason for the failure to identify the importance of ascription in the achievement variables is that bivariate analysis tends to mask the effects from other variables. That is, one variable may indeed affect the dependent variable but the relationship is disguised because the independent variable is influenced by another variable not identified in the bivariate relationship. To this end, the effects from other variables are now considered for 1975 sampled applicants.

3. PATH ANALYSIS OF THE THREE ADMISSION STAGES

The purpose of this section is to analyse the magnitude and the direction of the relationships for the 1975 sampled applicants within all three stages of the admissions process. In general, the relative effect of each of the independent variables upon the dependent variable holding the effects of other variables constant will be shown.

As is the practice with path analysis, only the direct effects or standardised regression coefficients over .10 are included in the presentation. If any relationships
are below .10, they are dropped from the analysis and the remaining effects are re-estimated by computing another regression run. The academic score was recoded into a dichotomy of 0 or 1. This was done to reflect the policy of the medical school. Applicants with a cumulative grade point average higher than 3.30 were assigned a 1 and everyone else was assigned a 0. A score of 1 meant that the applicant was considered for evaluation in stage two.

The use of a dichotomy in a dependent variable violates the assumption of homoscedasticity in which the error term does not have a constant expected variance over the observations (Macdonald:1977:85). Although moderate departures from equality of variances can be tolerated, one should be very cautious in the use of a dichotomous variable (Blalock:1960:429).

The relative effects of the ascriptive variables upon academic achievement are shown in DIAGRAM V-1.
1. See Appendix J for coding of the variables.
2. Academic score in this diagram is dichotomised as 0 (n=108) or 1 (n=68). The distribution of cases in the dependent variable is in favour of unsuccessful applicants, however, there is no unacceptable skewness in this pattern.
3. The path figures represent the betas, correlation coefficients and the standard errors, respectively.

A list wise regression analysis of the ascriptive variables upon academic achievement has revealed four direct effects over .10 which accounts for 7 percent of the variance in the dependent variable. Applicants who are male, who come from higher social classes, who are from foreign countries or other parts of Canada appear to have higher academic scores than other applicants.

What is interesting in this diagram is the comparison between the simple Pearson correlations and the direct
effects (with the effects of other variables being held constant). In fact, sex and applicants from Other Canada were shown not to be significant in the previous section whereas in this analysis they are. In contrast, the Pearson correlations showed a significant relationship between academic scores and age while this does not appear to be the case here. It appears that the Pearson correlations may be influenced by the effects of other variables. The origin of these effects is from simultaneous variables such as social class, and applicants from foreign or Other Canada places of residence. For example, while the direct effect of sex on academic score is -.10 there is an indirect effect of +.06 via other variables possibly social class. In most cases, however, the indirect effect is smaller than the direct effect.

The importance of the ascriptive variables upon letter scores are shown in DIAGRAM V-2.
**DIAGRAM V-2.** Direct Path Effects Of Ascribed Variables On Letter Scores For 1975 Sampled Applicants

1. See Appendix J for coding of the variables.
2. Letter scores in this diagram were dichotomised either 0 (n=75) or 1 (n=73). The distribution of cases in the dependent variable is almost 1:1.
3. The path figures represent the betas, the correlation coefficients and the standard errors, respectively.

The original sample of 181 diminishes to 147 because some of the applicants were excused from further consideration since they had already been chosen in the academic route. Similar to the academic route, the dependent variable was treated as a dichotomy, that is, a 1 or 0. If the applicants scored higher than an 8 (out of a possible 12) in the letter then they were assigned a 1. If they scored lower, then they were assigned a 0. This dichotomy in the dependent variable is created to reflect the policy of the medical school.

Two ascriptive variables significantly explain 11
percent of the variance in the letter scores. Applicants who were female and applicants who were from higher social classes received better letter scores as indicated by the positive direct effects of .24 and .15, respectively. Most of the effect of these two variables on letter scores were direct.

The effects of the ascriptive variables in the next stage of the admissions process are given in DIAGRAM V-3. In this diagram, academic and letter scores are shown as intervening variables although they are not explicitly used by the medical school. The sample diminishes in size to represent only those who were successful in passing the first stage of the admissions process.
There are four direct effects influencing the applicant's personal interview score which significantly account for 9 percent of the variance. Applicants who are female and/or who are not from either Hamilton Health region...
or North Western Ontario receive higher personal interview scores as compared to other applicants.

Most of the indirect effects on personal interview scores operate through letter scores. For example, applicants from a higher social class are not directly related to higher personal interview scores. However, applicants from a higher social class write better letters and better letters are directly related to higher personal interview scores. In short, letter scores rather than academic scores play a greater part in influencing personal interview scores. Letter scores indirectly reflect the influence of five ascriptive variables. Personal interview scores were also directly affected by sex and two geographical areas of residence of the applicants.

All applicants who successfully reach stage two also participate in a simulated tutorial as well as the personal interview. A combined score of both these routes will determine whether an applicant will progress to stage three. Since the sampled applicants in both routes are identical, the sample size is constant. The direct effects on letter and academic scores are also the same. Only the direct effects from the ascribed variables on the dependent variables have changed.
1. See Appendix J for the coding of the variables
2. The actual letter and academic scores were used. The mean simulated tutorial score out of 21 was 14. The distribution of cases about the mean appeared normal with no undue skewness.
3. The path figures represent the betas, the correlation coefficients and standard errors, respectively.
4. See Appendix Ib for correlation matrix of exogeneous variables.

In this diagram, there is only one major direct effect and this is the applicant's letter score which explains 5 percent of the variance. In the simulated tutorial score there are no direct effects from the ascriptive variables only indirect through letter scores. In short, ascriptive variables influence simulated tutorial scores indirectly via letter scores.

The third stage in the admission process represents
applicants who have reached a certain cutoff in the combined score for personal interviews and simulated tutorials scores. All of the information in the applicant's file is reviewed by two assessors who in turn decide what type of offer is to be given to the applicant.

In this final stage, most of the applicants have been eliminated. Therefore by design, the original sampled group diminished to 91. This sample size poses a problem as it relates to the dependent variable since there are very few cases in some of the four admission levels. Even when collapsed to two levels; offered or not offered, the number of cases are skewed in favour of those who were offered. To overcome this problem, the entire applicant pool of 170 is used in the analysis using a dichotomy of offered (n=88) and not offered (n=82). The distribution of cases in the dependent variable is quite even. Unfortunately, family size and social class were only collected for the sampled group and therefore these important variables are missing. The effects of all of the available information is provided in Diagram V-5.
1. See Appendix J for coding of the variables
2. Actual letter and academic scores were used in this diagram
3. Path figures represent the betas, the correlation coefficients and the standard errors, respectively.
4. See appendix Ic for correlation matrix of exogenous variables

One can see in this diagram that there are no direct effects by ascriptive variables on admission status. The only effects are indirect via personal interview scores, simulated tutorial scores and letter scores. In short, the success of the applicant in collation depends directly on the performance in personal interviews, simulated tutorials and letters and indirectly upon ascriptive variables.

4. SUMMARY AND DISCUSSION OF CHAPTER FIVE

The purpose of this chapter was to test the proposition which states that ascribed variables would increase in importance and academic performance would decline. Only two prominent trends were observed. Academic scores declined and sex increased in determining admission. Social class was also seen to increase given the very limited data.

A more extensive analysis of the data for only the 1975 admissions process revealed that certain ascriptive variables were directly and/or indirectly affecting all of the achievement variables in the three admission stages. In many cases, the Pearson correlations did not accurately reflect the true nature of the relationship.
The two major routes in stage one were both affected by ascriptive variables. It is this stage which eliminates 80 percent of all applicants from further consideration. The influence of ascriptive variables on these two variables were also seen in stage two where they were treated as intervening variables. It appears that the influence of ascription changes from direct to indirect from stage one to stage three of the admissions process.

The variance explained in all of the dependent variables is low but in most cases is significant. One may suggest that ascriptive variables are not highly related to achievement variables, but possibly in a very competitive situation, these ascriptive variables may be critical in deciding the admission of an applicant as an applicant passes through all of the assessment stages.

The presence of ascription in each of the three admission stages in 1975 using path analysis casts some doubts on the information provided by the bivariate relationships. The use of path analysis in previous years is complicated by the fact that different cohorts are used. According to some sources, a comparison of the direct effects across years is a questionable procedure.

Once again, the achievement scores used in the path analysis were aggregate scores. In essence, achievement may have been misrepresented. That is, there may not have been
consensus in the scoring of the applicant. Perhaps, ascriptive variables should have been related to the individual applicant scores for each of the achievement criteria.

What is the relationship between the assessor and the applicant? How objective is the assessment? Are ascriptive variables operating at the individual level? Until this time, it was assumed that achievement scores were uniformly applied. This assumption and the foregoing questions will be examined in the next chapter.
1. It may be argued that non-parametric tests of association are more applicable in this situation and in other similar analyses of these data. The major assumption of a parametric test is that the sample population is normally distributed. The non-parametric test has weaker assumptions but the test is less powerful (Blalock, 1960:244). Since parametric tests are used in this analysis, the assumption is that the sample population is normally distributed.


3. A listwise regression refers to the situation where a case is dropped in the analysis if there is a missing value for any variable in the regression list. See Nie et al., 1977:281.

4. When the homoscedasticity assumption is violated, it produces inefficient but unbiased estimates of the parameters. There is some evidence to suggest that the degree of inefficiency is slight (Macdonald, 1977:85).

5. In the dichotomy for the collation sample, there were 11 cases in the not offered category and 80 cases in the offered category.
CHAPTER SIX

THE ROLE OF THE ASSESSOR
IN THE ADMISSIONS PROCESS

1. THE ROLE OF THE ASSESSOR

This chapter introduces factors which involve the actions of the assessors in the assessment stages of the admission process at McMaster. By including the influence of the assessor, a greater understanding of the factors which influence the applicant’s movement through the stages of the admissions process can be reached. An assumption made in the previous section was that all criteria which are used to assess applicants are interpreted and applied consistently and uniformly. The purpose of this section is to probe the validity of this assumption. In short, this section deals with those factors which are outside the applicant’s control or influence.

There are studies which suggest that the assessment of any individual by any means is not completely objective. However, most studies which analyse the importance of certain variables in the admissions process inevitably examine only those which are associated with the applicant. There is absolute disregard for the assessor. This research
incorporates the influences of both simultaneously. In the same manner that the applicant's ascription may affect achievement, it is argued that the assessor's ascriptive status may also influence the applicant's achievement.

In what way can the assessor influence an applicant's score? If one does find a direct relationship between letter score and sex, one may assume from this that females can write better letters and therefore receive higher letter scores. In this research, this relationship is seriously questioned. To what extent is the letter score objectively assigned to the applicant? That is, do female applicants receive higher letter scores because they were evaluated by certain assessors?

Considerable care has been taken by the medical school to avoid intentional bias in each of the assessment stages. In an effort to overcome individual, faculty biases and to widen the basis of assessment, community members and in-program medical students are asked to evaluate applicants in conjunction with faculty. All assessors complete a training program where visual and practical demonstrations are held followed by discussions.

With these safeguards, how could unintentional biases arise? It was stated in Chapter Three that criteria other than academic scores would have to be incorporated into the admissions process because successful applicants cannot be
solely judged or differentiated on the basis of their academic standing. McMaster medical school, in its effort to select only the best applicants for its program, has adopted other means of assessment which are used along with academic scores. In Chapter Three, the issue of objectivity for these criteria was raised. Two sources of subjectivity, which were proposed, are the ambiguous interpretation of the criteria and the professional affiliation of the assessor.

For these sources, only the letter assessment route is examined for the following reasons. All applicants were asked to write a letter about themselves and therefore the entire eligible applicant pool was involved in this one route. The mode of assessment is subjective. That is, a team of assessors are to assign letter scores independently of one another based on each of their perceptions of the applicant's achievement in this assessment stage. Finally, the letter route is a major screening stage which eliminates a large number of applicants from further consideration.

How subjective is the assignment of letter scores? A problem which faces the assessor who is evaluating an applicant in the letter assessment stage is the type of instructions which is given to the applicants and assessors. It will be argued that because the instructions are so different, the assessor may be confused as to how to score the letter. One should recall that the assessor is unable to communicate with the applicant.
The instructions which are given to the applicant for writing the letter are intentionally vague and general (Roberts et al., 1974:11). Applicants are asked to respond within 800 words to the following questions: "What have you done? Why? What have you got out of it? Who are you? Where are you going? Why? How are you going to get there?"

The instructions which are given to letter assessors are quite different. A guideline of 13 questions which can be answered either yes or no are given to each assessor. The purpose of the guideline questions is to aid the assessor in arriving at an overall letter score. The overall global letter score ranges from 1 to 4 or from poor to outstanding. In short, by design, one can see that the possibility of subjectivity is present.

Given that there is reason for subjectivity, it was hypothesised in Chapter Three that the type of assessor will cause specific variations in the letter scores. A study conducted by McMaster medical school on the validity and reliability of the letter scores suggests that the type of assessor is an important variable in the allocation of letter scores. To measure the extent of reliability, agreement among assessors for each of the guideline questions was examined for letter assessors in 1974. For each of the 13 guideline questions, total agreement among faculty, students and community members ranged from as low as 38 percent to as high as 90 percent (Roberts et al., 1974:3). Comparing the global
scores among the three types of assessors, all three team members completely agreed only 17 percent of the time while two out of three team members agreed 80 percent of the time.

In an effort to measure the validity of the letter scores, the same study compared the global scores of three control letters which were representative of a poor, good and outstanding letter. The results showed that "...the differences between each pair of means is highly significant although from the graph it can be seen that there is a substantial variation in the scores again reflecting the various backgrounds and biases of the readers" (Roberts et al., 5).

The observations in the previous study by Roberts suggest considerable variation in letter scores with respect to validity and reliability. When the letter scores were broken down for each assessment group, it was found that medical student assessors gave the lowest letter scores, community members gave the highest letter scores and faculty scored in between.

If individual members do vary in their letter score assessments, on what basis do they assign their scores? It has been suggested previously that professional affiliation is one source of individual variation. The reasons for this are briefly reiterated. The use of non-professional or non-physician assessors appears to violate the special
licensure and mandate which the public has conferred on the medical profession to control its own members. In the same way that clients are unable to judge the competence of a professional, a non-professional, such as a medical student or a community member, is unable to judge the competence of applicants who wish to join the profession. If there is a subjective situation where the interpretation and application of the assessment criteria are not entirely clear, then it is argued that professional members (physicians) will rely more on the professional values of the applicant than other assessors. That is, members of the medical profession will be interested in how the applicants view the various norms and values which are connected with the medical profession. Other assessors, on the other hand, may resort to emphasising the applicant’s personal characteristics in a situation of ambiguity. If this happens, then perhaps criteria such as hobbies, manners, and family background become important criteria in the assessment of the applicant although these criteria are not to be considered.

An implicit purpose of the assessment task is to measure how familiar the applicant is with certain patterns of behaviour which would or would not be expected of this person in the medical profession. A letter by the applicant which corresponds highly with the the assessor’s perspective may indicate potential insight into the true conditions and expectations of the medical profession. It is expected that
non-members of the medical profession will score the presence of each professional value differently and much higher than the more realistic appraisals of members of the medical profession. On the basis of these statements, two hypotheses are given.

Members of the medical profession will rate personal characteristics less importantly than non-members.

Members of the medical profession will rate professional values much differently and lower than non-members.

If there is variation in the way that assessors rate the applicant’s personal characteristics because of their professional affiliation, there is reason to believe that the same variables of the assessor will affect the variation in letter score. If there is ambiguity in the interpretation and application of the letter score, the assessor may be relying upon the assessor’s personal characteristics. For example, the sex of the assessor along with the sex of the applicant may have a combined effect on the assignment of the letter score. Two hypotheses are offered.

The personal characteristics of both the applicant and assessor are more important for non-members of the medical profession than professional members.

The professional values of the applicant and assessor are more important for members of the medical profession than non-members.
2. TESTING OF THE HYPOTHESES RELATED TO THE ROLE OF THE ASSESSOR

In order to test the influence of the characteristics associated with the assessor and applicant, both groups were asked in the survey questionnaire how they would rank (on a scale from 0 to 100 or from very low to very high) the importance of certain criteria "which are used in assessing applicants to medical school". It should be noted that these criteria are not endorsed by the medical school nor are they used as criteria in the letter assessment route.

Each applicant is assessed by one faculty member, one medical student and one community member. Since faculty and community members can either be physicians or non-physicians, these three assessment groups were reclassified into groups according to their professional affiliation. These groups are physicians, medical students and non-physicians. The mean scores and the standard deviations for each item for each group is given in TABLE VI-1.
TABLE VI-1 Means And Standard Deviations For Items On The Personal Characteristics Scale For Physicians, Medical Students And Non-Physicians

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<th>Students Mean S.D.</th>
<th>Non-Physicians Mean S.D.</th>
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<td>59 22</td>
<td>66 19</td>
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<tr>
<td>Poise</td>
<td>53 20</td>
<td>45 22</td>
<td>58 20</td>
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<tr>
<td>Dress</td>
<td>49 22</td>
<td>32 23</td>
<td>46 23</td>
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<tr>
<td>Physical Appearance</td>
<td>45 22</td>
<td>29 23</td>
<td>44 24</td>
</tr>
<tr>
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<td>62 19</td>
<td>47 24</td>
<td>63 22</td>
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<tr>
<td>Physical Health</td>
<td>68 20</td>
<td>54 19</td>
<td>74 19</td>
</tr>
<tr>
<td>Applicant’s Finances</td>
<td>25 22</td>
<td>13 17</td>
<td>29 23</td>
</tr>
<tr>
<td>Subjective Evaluation Of Intellectual Ability</td>
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<td>61 20</td>
<td>70 19</td>
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<tr>
<td>Mental Health</td>
<td>71 18</td>
<td>54 20</td>
<td>74 20</td>
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<tr>
<td>Ability To Withstand Stress</td>
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<td>Cultural Affairs</td>
<td>43 23</td>
<td>38 22</td>
<td>41 23</td>
</tr>
<tr>
<td>Family Background</td>
<td>28 25</td>
<td>19 21</td>
<td>26 23</td>
</tr>
<tr>
<td>Hobbies</td>
<td>32 22</td>
<td>31 24</td>
<td>33 24</td>
</tr>
<tr>
<td>Total Mean Group Scores</td>
<td>54.5 10.8</td>
<td>47.4 10.8</td>
<td>56.6 11.6</td>
</tr>
</tbody>
</table>

N=85 N=79 N=104

1. Means and standard deviations were rounded off.
2. For each of the above items, respondents were asked to reply to the following question. "Some of the following criteria are used in assessing applicants to medical schools. How important do you think each one should generally be?". The scale ranged from 0 to 100, or from very low to very high.
In general, non-physicians seem to rate the personal characteristics higher than students or physicians. The difference among these three groups is mostly in magnitude and not in direction. For example, although all three groups rated finances of the applicant as only slightly important in magnitude, non-physicians gave a group score of 29 as compared to a score of 25 by physicians and a group score 13 by students. For all three assessment groups, there were differences in magnitude and direction for only poise, manners and extra-curricular activities. For example, for physicians, the mean score was 53 and for students, the mean score was 45 which is in the other direction.

In order to determine any differences among the three groups in terms of how they rated the personal characteristics from high to low, a scale was created for each group. This was done by constructing a mean score for each of the 15 items for each individual. Then these individual scale scores were averaged to arrive at a group score. Using the total group mean score and the corresponding standard deviations and N’s, an analysis of variance was calculated. The differences among physicians, medical students and non-physicians were significant at .001. Was this difference in the predicted direction? To this end, three two tailed t-tests were calculated using the group mean score, standard deviation and N.
As expected, students had the lowest total group score (47.4) and were significantly different than physicians (54.5) and non-physicians (56.6). The total group score for non-physicians was slightly higher than physicians. However, there was no significant difference between the two.

With reference to the hypothesis that the medical profession would rate the personal characteristics less importantly than non-physicians, these results were true only for physicians and non-physicians. It should be noted that there is no significant difference between these two groups. Therefore, this hypothesis is not supported.

Both assessors and applicants were asked to rate the extent to which certain professional values and norms were present in the medical profession. Once again, knowledge of the professional values and norms is not a condition of admission, nor is it requested in the letters. The mean scores for each of the items which refer to professional values and norms are given in TABLE VI-2 for physicians, students and non-physicians. A total group score was constructed. This group score represented the total individual scores of the 16 items divided by 16. All the individual scores were then averaged to arrive at a group score. The corresponding N's, standard deviations are given at the end of the table.
TABLE V-1 Means And Standard Deviations For Items On The Professional Values Scale For Physicians, Students And Non-Physicians.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Physicians Mean S. D.</th>
<th>Students Mean S. D.</th>
<th>Non-Physicians Mean S. D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decision Making Responsibility</td>
<td>77 18</td>
<td>80 18</td>
<td>80 16</td>
</tr>
<tr>
<td>Material Security</td>
<td>69 20</td>
<td>69 21</td>
<td>82 15</td>
</tr>
<tr>
<td>Need To Improve Professional Knowledge And Skills</td>
<td>69 18</td>
<td>76 17</td>
<td>73 18</td>
</tr>
<tr>
<td>Opportunity To Help People</td>
<td>84 16</td>
<td>80 17</td>
<td>83 16</td>
</tr>
<tr>
<td>Opportunity For Advancement</td>
<td>61 23</td>
<td>64 22</td>
<td>63 21</td>
</tr>
<tr>
<td>Opportunity To Exercise Initiative</td>
<td>72 19</td>
<td>79 17</td>
<td>75 17</td>
</tr>
<tr>
<td>A High Income</td>
<td>67 22</td>
<td>66 19</td>
<td>81 16</td>
</tr>
<tr>
<td>Variety In The Work</td>
<td>69 19</td>
<td>64 18</td>
<td>65 14</td>
</tr>
<tr>
<td>The Work Is Basically Interesting</td>
<td>81 14</td>
<td>78 19</td>
<td>77 13</td>
</tr>
<tr>
<td>Opportunity To Work With Stimulating Colleagues</td>
<td>71 19</td>
<td>70 19</td>
<td>69 17</td>
</tr>
<tr>
<td>Personal Strain Or Worry Directly Related To Professional Responsibilities</td>
<td>71 20</td>
<td>80 14</td>
<td>72 15</td>
</tr>
<tr>
<td>Stepping Stone To Higher Responsibilities In Politics, Business</td>
<td>39 23</td>
<td>55 20</td>
<td>51 20</td>
</tr>
<tr>
<td>A High Reputation In The Community</td>
<td>65 20</td>
<td>68 17</td>
<td>79 15</td>
</tr>
<tr>
<td>Independence</td>
<td>69 18</td>
<td>63 23</td>
<td>72 17</td>
</tr>
<tr>
<td>Opportunity To Serve The Community</td>
<td>73 18</td>
<td>77 14</td>
<td>77 19</td>
</tr>
<tr>
<td>Opportunity To Gain A Sense Of Accomplishment</td>
<td>83 14</td>
<td>80 17</td>
<td>83 14</td>
</tr>
<tr>
<td>Total Mean Group Scores</td>
<td>70.3 10.0</td>
<td>71.6 8.5</td>
<td>74.1 7.8</td>
</tr>
</tbody>
</table>

N=77 N=82 N=99

1. For each of the above criteria, respondents were asked to reply to the following question, "Please rate the degree to which each of the following characteristics is generally present in the medical profession using the given scale". The scale ranged from 0 to 100, or from very low to very high.

2. The means and standard deviations have been rounded off.
As predicted for the professional values, physicians had the lowest total mean score (70.3) while students (71.6) and non-physicians (74.1) had the higher scores, respectively.

To see if there were any differences among the three groups in terms of professional values, an analysis of variance was calculated using the group mean scores, the standard deviations, and the group N's. There was a significant difference at .01 among the three groups. To show any difference among pairs of groups, t-tests were calculated. There was a significant difference among students and non-physicians at the .05 level. Physicians and non-physicians also showed significant differences at the .005 level. There does not appear to be any significant difference between students and physicians in terms of professional values. This may be due to the intensive socialisation process in which students have already internalised the professional values of the medical profession. Sub classification may be required.

If professional affiliation results in different mean scores when the personal characteristics and professional values scales are used, what would occur when assessors are called upon to evaluate applicants? Is there a relationship between professional affiliation and those factors which are specified to influence the letter score? Do non-physicians resort more to personal characteristics? Do physicians resort
more to professional values in the determination of a letter score?

To answer these questions, several variables were entered into a regression analysis in an effort to explain some of the variance in letter scores. The purpose of the regression analysis is to determine how important each variable is when all of the other variables have been held constant. The magnitude and direction of the importance is indicated by the standardised regression coefficient or the beta. The regression was run separately for each assessment group to see if one factor was more or less important when compared to the other two groups. Prior to the regression analysis, two scales were constructed to respectively represent the importance of personal characteristics and professional values. A mean score was calculated for each individual by summing the scores of all the individual items and then dividing the total score by the number of items (or responses). The independent variables entered into the regression were variables such as social class and sex and the mean score on the personal characteristics and professional values scale the results of the three regression runs are given in Table VI-4.
TABLE VI-4 Regression Analysis Of Letter Scores With Applicants' And Assessors' Professional Values Scale Scores, Personal Characteristics Scale Score, Social Class, Sex And Interaction Effects.

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Assessment Groups</th>
<th>Physicians Students</th>
<th>Non-Physicians</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Beta S.E.</td>
<td>Beta S.E.</td>
<td>Beta S.E.</td>
</tr>
<tr>
<td>N=117</td>
<td>N=113</td>
<td>N=80</td>
<td></td>
</tr>
<tr>
<td>1. Applicants' Professional Values</td>
<td>-.30 ,06</td>
<td>-1.81 ,09</td>
<td>1.80 ,17</td>
</tr>
<tr>
<td>2. Assessors' Professional Values</td>
<td>-.22 ,06</td>
<td>-1.14 ,09</td>
<td>.81 ,18</td>
</tr>
<tr>
<td>3. Applicants' Personal Characteristic Scale</td>
<td>-.17 ,04</td>
<td>.24 ,02</td>
<td>-.54 ,04</td>
</tr>
<tr>
<td>4. Assessors Personal Characteristics Scale</td>
<td>-.15 ,04</td>
<td>.28 ,03</td>
<td>-.30 ,03</td>
</tr>
<tr>
<td>5. Applicants' Sex</td>
<td>.14 1.10</td>
<td>.29 ,17</td>
<td>.22 ,69</td>
</tr>
<tr>
<td>6. Assessors' Sex</td>
<td>-.11 1.53</td>
<td>.25 ,49</td>
<td>.26 ,83</td>
</tr>
<tr>
<td>7. Applicants' Social Class</td>
<td>.06 ,00</td>
<td>-2.58 ,00</td>
<td>1.57 ,00</td>
</tr>
<tr>
<td>8. Assessors' Social Class</td>
<td>N.a.</td>
<td>-2.19 ,00</td>
<td>.26 ,003</td>
</tr>
<tr>
<td>9. Interaction Between 1 And 2</td>
<td>.51 ,00</td>
<td>2.18 ,00</td>
<td>-1.91 ,002</td>
</tr>
<tr>
<td>10. Interaction Between 3 And 4</td>
<td>.13 ,01</td>
<td>-.39 ,01</td>
<td>.48 ,01</td>
</tr>
<tr>
<td>11. Interaction Between 5 And 6</td>
<td>.24 1.10</td>
<td>-.32 ,03</td>
<td>-.05 ,57</td>
</tr>
<tr>
<td>12. Interaction Between 7 And 8</td>
<td>N.a.</td>
<td>25.5 ,00</td>
<td>-1.49 ,00</td>
</tr>
</tbody>
</table>

Total Variance Explained
1. .17
2. .27
3. .26

1. P< .02
2. P< .00
3. P< .04
4. Interaction is calculated as the product of the two variables which represents the joint effect.
5. Unusually high values are probably the result of a point of high leverage.
For the physician assessment group, the variable which has the most effect on the applicants’ letter score is the interaction between the applicants’ and assessors’ professional values scale (.51). It appears that when the assessor(-.22) and the applicant(-.30) rate professional values lower, then the applicant receives a higher letter score (and conversely).

For the student assessment group, professional values for the assessor(-1.14) and the applicant(-1.81) play an important role in influencing letter scores. Similar to the physician group, the lower the rating of the professional values, the higher the letter score. Interaction between the applicants’ and assessors’ rating of the professional values is also very high (2.18). The applicants’ social class appears to be the one most important variable in terms of the size of the beta (-2.58). The lower the social class of the applicant, the higher the letter score in the medical student assessment group.

For the non-physician assessment group, professional values were also very important in influencing letter scores only in a different direction. The higher the rating of professional values, by both the assessor(.81) and the applicant(1.80), the higher the letter score. Interaction between these two variables was influential(-1.91). The applicants’ social class(1.57) and the interaction between the assessors’ and applicants’ social class(-1.49) was also
One interesting aspect of the regression analysis was the type of effect found for personal characteristics. For only the medical student assessors, were letter scores and personal characteristics found to be positively related. Applicants have an effect of .24 and assessors have an effect of .28. The lower the ratings of the personal characteristics the higher the letter scores.

3. SUMMARY AND DISCUSSION OF CHAPTER SIX

The purpose of this section was to test the general proposition which states that the professional affiliation of the assessor is an important variable in accounting for variation in the applicant’s letter score. Prior to this section, there was the assumption that alternative assessment criteria were being uniformly interpreted and applied. This assumption was investigated. To this end, a major task of the analysis was to evaluate the degree of variation in the applicant’s achieved (letter) score which can be attributed to the assessor.

While there may be many factors contributing to this variation, it was argued that the professional affiliation would be a significant factor. The analysis of professional affiliation centred only on one, but an important stage of
the entire admissions process. The results generally supported the first hypothesis. When assessors were regrouped according to their affiliation with the medical profession, the ratings of the personal characteristics criteria and professional values criteria differed in the direction predicted and were significantly different.

When assessors were regrouped, once again, according to professional affiliation to measure any differences in their ratings of professional values, there were significant differences between physicians and students, and non-physicians. In general, the second hypothesis is supported.

When the assessors' and applicants' ascribed variables were entered into a regression analysis, differences among the three assessment groups were found in terms of direction and magnitude. In general, the rating of professional values proved to be the highest effect upon letter scores across the three groups. The expected influence of personal characteristics by the non-physicians was not found to be supported.

It should be pointed out that very little of the total variance in letter scores for each of the three assessment groups was actually accounted for. There are obviously other variables which were not included in the analysis. One should recall, however, that this analysis is
based only on the applicant's letter score. It is the assessor's judgement of the applicant's letter. There is no personal interaction. Perhaps the factors which are found to be operating in the letter stage would be intensified in the personal interview and simulated interview stages where there is interaction between the assessor and applicant.

It may also be argued that professional affiliation was not differentiated enough. That is, there may be untapped differences within each assessment group according to affiliation. For instance, although student assessors were classified as one assessment group, perhaps the identification of the student to the role of the physician may intensify. In this way, first year medical students may be a sub group identifying more with the values of non-physicians while senior medical students may identify more with the values of physicians. Physicians could also be further sub-divided into full and part time faculty, independent or group practise, length of practise, administrative capacity and perhaps even specialisation. Community members can also be redistributed into the type of relationship with the medical health profession.

Unfortunately, all of these sub groups which are a further breakdown of assessors by professional affiliation require a minimum sample size in order to make the regression analysis both valid and reliable. For this reason, further analysis was not pursued.
As previously stated, assessment groups were separated by professional affiliation. However, the medical school uses the combined score of each of the three assessors to arrive at a decision. That is, each applicant's letter is read by one student, one faculty member and one community member. The letters are read independently and a combined score is calculated. One may argue that if there is any variation in the letter scores by one individual this is more than offset by the inclusion of the scores of the two other assessors. Hence, there is safety in numbers. One should bear in mind that all three groups of assessors have shown group variations. If physician's sex has been shown to influence letter score, then the presence of two physicians would enhance this effect not erase it. In other words, many of the small effects which are shown for each assessment group may be additive.

Another observation worth noting is the difference between students and physicians on the various assessment scores. Students, because they have not been completely socialised into the medical profession, should approximate the views of the physicians or at least be closer to the physicians' point of view rather than the non-physicians' point of view. In terms of the professional values, there is only a difference of 1.3 points between students and physicians. This compares to 2.5 points between students and non-physicians. However, for the personal characteristics
scale, physicians and non-physicians differ only by 2.1 points compared to a difference of 7.1 points between physicians and students. For some reason, physicians assess personal characteristics much higher than students and similar to non-physicians. An important observation, at least for this study, is that both students and physicians rated personal characteristics less importantly than non-physicians.
NOTES TO CHAPTER SIX

1. The questions asked by the medical school may, in some way, reflect some of the personal characteristic variables.

2. The degrees of freedom for the analysis of variance between groups are 265. The standard error for physicians, students and non-physicians are 1.16, 1.21, and 1.14, respectively.

3. The two tailed t-test between students and physicians was significant at .001 (t=-4.43). The degrees of freedom are 162 and the standard errors for students and physicians are 1.5 and 1.2, respectively. The two tailed t-test between students and non-physicians is significant at .001 (t=-5.5). The degrees of freedom are 181 and the standard errors for students and non-physicians are 1.2 and 1.1.

4. The two tailed t-test between physicians and non-physicians was .15 (t=-1.06). The degrees of freedom are 187 and the standard errors for physicians and non-physicians are 1.2 and 1.1, respectively.

5. The degrees of freedom for the analysis of variance between groups are 255. The standard errors for physicians, students and non-physicians are 1.1, 1.0, and .8, respectively.

6. The two tailed t-test between students and non-physicians was significant at .05 (t=-2.01). The degrees of freedom are 156 and the standard errors for students and non-physicians are 1.0 and .8.

7. The two tailed t-test between physicians and non-physicians was significant at .005 (t=-2.83). The degrees of freedom are 151 and the standard errors for physicians and non-physicians are 1.1 and .8.

8. The two tailed t-test for students and physicians was not significant (t= .91) the degrees of freedom are 155 and the standard errors for students and physicians are 1.0 and 1.1.

9. An analysis of the reliability of these scales was conducted. The scale representing personal characteristics resulted in a Cronbach's Alpha of .84. The professional values scale reliability score was .82. An alpha over .70 is considered to be fairly reliable. See D. A. Specht, A User's Guide to Subprogram Reliability.
CHAPTER SEVEN

1. REVIEW OF MAJOR FINDINGS

The purpose of this chapter is to review the major findings of this study as they relate to the general themes which were presented in the first four chapters. The implications of the findings will be discussed and suggested areas for further research will be proposed.

While the study specifically analysed those variables which were hypothesised to influence the admission of applicants to medical school over time, it is important to remember that this process is subject to wider societal conditions. Thus, an analysis of the admissions process in a wider societal context of supply and demand would be informative and introduce a new perspective to the study of elite groups.

A key question in this study was whether or not, achievement or ascription was increasing or decreasing in importance within the admissions process as the supply to demand ratio increased. In reviewing the literature on the importance of ascriptive and achievement values, there was a greater acceptance of the belief that as a society
industrialises, there is a corresponding increase in the emphasis on achievement.

It was argued that if there was a balance in the structural forces of educational supply and occupational demand, there would be considerable occupational mobility based more on achievement than ascription. The situation of an imbalance was examined for occupational positions which could best use the increasing supply of educated individuals. Close examination of the medical profession and one medical school in particular demonstrated that there was an over supply of medical applicants which was generated by the educational sector and an under demand generated by the medical profession.

It was proposed that a structural imbalance between educational supply and occupational demand would result in a greater emphasis on the value of ascription. It was predicted that this situation of imbalance would result in the growing use of alternative forms of assessment criteria within the medical school and as a result, the applicant’s ascriptive status would become increasingly important.

The results are summarised as follows. The traditional criteria of academic scores which are the most commonly used as the applicant’s achievement declined in importance when compared to other criteria which were used at the one medical school. In the last and critical stage of the
admissions process where all variables are considered, academic score continued to decline as a factor influencing the decision to admit an applicant to medical school.

The degree of homogeneity of academic scores (differentiation) over the years emphasises the difficulty of selecting potential candidates to a professional school where the grade point averages may differ only by two decimal places. Hence, it was expected that alternative criteria would be used to supplement the process of selecting medical applicants. The results showed that various ascriptive variables such as sex, place of residence, family size and social class were operating both directly and indirectly in one or more stages of the admissions process.

It was difficult to assess, in a clear and indisputable manner, an increase in the ascriptive criteria within the three admissions stages over time. The fluctuation in the effects from year to year made it difficult to ascertain pronounced trends except for academic scores, sex and tentatively, social class. On the basis of previous literature on admissions for Canadian medical schools, where applicants to one medical school would be judged acceptable and at another medical school would be judged unacceptable, there was reason to believe that not only do the different criteria play a part in explaining this fluctuation but that the participants who do the assessing are also important.
It was argued in the second proposition that variations in the type of professional affiliation would explain why some applicants performed better than other applicants. The results of the 1975 study at the one medical school showed that physicians rated personal characteristics less importantly than non-physicians and the difference was not significant. Also physicians, as members of the medical profession, tended to rate professional values and norms which were to be expected in the profession lower than medical students or non-physician community members.

In what ways can the above results be reconciled with the previous theoretical framework? While academic score as well as other achievement scores declined in importance in the admissions process, only one of the six personal characteristic variables increased in importance over time. In the regression analysis, professional values were found to be important for all three assessment groups in the direction predicted. The lack of effect by personal characteristics was not observed as expected. Overall, while ascription is seen to be operating at various times, there does not appear to be significant evidence that it is increasing in influence over time as hypothesised. The failure to meet this expectation may be explained in three ways. First the theory is incorrect. Second, the methodology is insufficient. Finally, both the theory and methodology are wanting. All of these possibilities are presently discussed.
The theoretical framework is based on several premises, some of which may be erroneous. One premise is that a society functions best when there is a correspondence between the number of positions in the labour force and number of qualified individuals who are capable of filling these positions. Any imbalance in this correspondence results in inefficiency or a waste of talent and ability.

Several questions should be raised at this point. Is there truly an imbalance? While considerable effort was made to document this imbalance between educational supply and occupational demand, one may argue that simply because there are many individuals competing for a few positions does not constitute an imbalance. Perhaps there are now more individuals with higher expectations than in the past coupled with more generous admission policies. In this way, there may be more educated individuals but not necessarily qualified individuals. However, the over supply of qualified medical applicants to the number of available positions is documented.

The argument that an imbalance leads to a greater reliance on ascriptive status must also be questioned. While there may be a growing problem in differentiating applicants, this may not necessarily result in a greater emphasis on ascription when alternative criteria are used in the admissions process. Although the assessment of applicants with these alternative criteria may be subjective in nature,
the checks and balances adopted by the medical school may have been effective in preventing the predominance of ascription.

In spite of these checks and balances, certain trends did prevail. First, academic achievement declined in importance and second, sex and social class, to a certain extent, increased in importance within the various stages of the admissions process. The existence of ascriptive variables such as sex and social class which have operated in the past, as seen in the review of the literature, and which are still in evidence even today leads one to believe that the methodology is suspect.

There is the assumption that ascriptive variables are operating, but for various methodological reasons, they are not properly identified or measured and thus explained. There have been numerous methodological concerns in this research which have been outlined previously. The changes in policies and procedures makes comparisons over time difficult. The small sample sizes not only in the beginning years of the medical school’s operation but in the later stages of the admissions process over the years has made the analysis less than ideal. The use of aggregate scores as measures of achievement may have masked individual biases and variations. The restriction of the regression analysis to letter scores may have revealed a very small part of what is actually occurring. If other criteria in other stages could have been
closely examined, perhaps the results would have been much different.

One last methodological problem is the lack of other and perhaps more important ascriptive variables in the admissions model. Perhaps, religion and ethnicity may have accounted for a great deal of the variance in alternative achievement scores. In short, it is conceivable that both the theoretical framework and the methodology are wanting. On the basis of the foregoing argument and discussion, there is insufficient evidence to suggest that the theoretical basis is supported and the weakness lies in the methodology.

2. IMPLICATIONS OF THE RESEARCH

If the results are accepted to be indicative of potential factors which may be operating in admission to other occupations, then several implications should be taken seriously. One of the first premises introduced in Chapter One was the increasing emphasis on achievement during industrialisation. That is, individuals in a growing industrial society would move from one position to another more on the basis of achievement than ascription. This view was supported by Sorokin and Parsons.

The argument, put forth by Linton and Mayhew, which recognises the rise of ascription finds some support in the
results of this study. The reasons for this occurrence are entirely different; however, Mayheu argues that ascription is growing in importance for reasons of convenience and economy. Linton explains that the average individual can be trained to assume most roles in our society adequately even if allocated on the basis of ascription.

The purpose of the research here has been to show that certain societal forces (supply and demand) have created a situation where the use of ascription can increase in importance. In essence, the explanation for the use and increase of ascription lies with the imbalance between educational supply and occupational demand. The assumption in this argument is that if there were no imbalance between these two forces, then achievement and not ascription would increase. The reasons for this were explained in Chapter Three. If the imbalance were not resolved (either lowering educational supply or increasing occupational demand), the implication would be that ascription and not achievement could be the determining factor in deciding who should be admitted to elite groups such as the medical profession.

It is highly unlikely that occupational demand will increase especially at the expense of professional standards and quality of service. It is more probable that educational supply, and in particular, professional supply, will taper off in the near future. This is due to declining enrolments in primary and secondary levels of education. Ironically,
this may also be the result of a decrease in government financial support. If loans and grants are only available to students for only four years, many students are not able to afford a lengthy professional or graduate training period. In fact, only students of higher socio-economic families will be able to afford this cost. The irony is that this recourse would only increase the influence of ascription in the form of social class or socio-economic status. Are there any indications that ascription already plays an important factor in the decision to admit applicants to medical schools? Citizenship and place of residence are two ascriptive factors which are used by all medical schools. The search for the "best" medical school is often restricted to only Canadian citizens and landed immigrants. First-year enrolment at the 16 Canadian medical schools in 1975 reveal that most of the schools do not have any foreign students registered in first year. Furthermore, most medical schools accept only in-province students. Even further, most medical schools enrol students who have attended the affiliate undergraduate university.

The implications of using citizenship and place of residence are profound. Generally, applicants to any one medical school must be Canadian citizens or landed immigrants, essentially apply only to in-province medical schools, and attend the undergraduate university associated with the medical school. One would not be too surprised that
length of residence and locality are also important factors which limit the search for the best candidates to medical schools.

It should be remembered that while ascription is argued to be increasing in importance in the admissions process, achievement still is a necessary condition. That is, achievement in the form of educational attainment is a necessary but not a sufficient condition. It has been argued in Chapter One that education can be influenced by ascription. Therefore, it is important to recognise that ascription can increase both directly and indirectly. For example, letter scores, as an alternative form of achievement were shown to be influenced by the applicant's sex as well as via the traditional criterion of achievement, academic score.

This view then questions not only the emphasis on ascription in alternative assessment criteria but also in the traditional academic criterion. Is it entirely possible to delineate the two effects of achievement and ascription? The use of academic achievement should always be suspect in terms of transmitting ascriptive status, as indicated in the literature on educational attainment in Chapter One.

3. SUGGESTIONS FOR FURTHER RESEARCH

The major purpose of this research has been to
determine, measure and explain the relationship between changes in structural conditions such as a change in educational supply and occupational demand, and the emphasis on ascertainment and achievement.

Specifically, the focus of the research has been centred upon the admission of applicants to one medical school. While there are several advantages, this means that alternative modes of analysis were left unexplored. For example, occupational mobility were narrowly defined as the attempt by certain individuals to gain entry into one medical school. A more liberal definition would include the analysis of other medical schools and other professional schools. Even an analysis of unsuccessful applicants would be interesting in terms of eventual occupational mobility. Needless to say, this would entail greater amounts of labour, time, financing and patience than the researcher had available.

One may widen the research area by including other elite groups or other occupational groups such as engineering, law, teaching and dentistry. While entry into these groups has been studied periodically, more attention should be given to structural conditions such as occupational demand and educational supply. In particular, one should pay special attention to the factors which may increase both of these above forces.

Another possible research suggestion is to intensify
the analysis of the relationship between education and occupational mobility but isolating both the effect of ascription and achievement which may be operating directly and indirectly on occupational mobility.

Perhaps education can be operationalised to include other dimensions such as apprenticeship, self-teaching, or correspondence. In other words, education in a form other than formal or institutional education can also be used to explain occupational mobility.

In any case, studies of occupational mobility, be it restricted to the admission of applicants to one medical school or be it applied to all occupations should recognise the influence of two important societal forces, occupational demand and educational supply. The relationship between these two forces cannot be ignored.
FOOTNOTES TO CHAPTER SEVEN

1. It may be argued that these variables, and in particular sex, may reflect an unusual year in terms of registrants. That is, the number of females in 1975 were unusually high compared to other years. For example 28 percent of the applicants were female and yet 53 percent were registered. In comparison, in 1976, 31 percent of the applicants were female and only 38 percent were eventually registered. This trend can be seen for 1977 and 1978.

2. Lamarche and Deschenes, table 1:8.

3. Approximately 91 percent are in-province students. Lamarche and Deschenes, table viii:29.
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Wilensky, Harold L.

Woods, H. D. And Sylvia Ostry
APPENDICES
# Appendix A

## Grading System Conversion Table

<table>
<thead>
<tr>
<th>SSE SS</th>
<th>Alpha Alpha</th>
<th>Numérique Numérique</th>
<th>Pourcentage Percentage</th>
<th>À Convertir En L'Échelle OMSAS Convert To OMSAS Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>9</td>
<td>94-100</td>
<td>93-100</td>
<td>94-100</td>
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<tr>
<td>A</td>
<td>A</td>
<td>4.0</td>
<td>87-93</td>
<td>84-92</td>
</tr>
<tr>
<td>A-</td>
<td>8</td>
<td>80-86</td>
<td>75-83</td>
<td>80-86</td>
</tr>
<tr>
<td>B+</td>
<td>B+</td>
<td>7</td>
<td>76-79</td>
<td>72-74</td>
</tr>
<tr>
<td>B</td>
<td>B</td>
<td>3</td>
<td>73-75</td>
<td>69-71</td>
</tr>
<tr>
<td>B-</td>
<td>B</td>
<td>6</td>
<td>70-72</td>
<td>66-68</td>
</tr>
<tr>
<td>C+</td>
<td>C+</td>
<td>5</td>
<td>66-69</td>
<td>64-65</td>
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<tr>
<td>C</td>
<td>C</td>
<td>2</td>
<td>63-65</td>
<td>62-63</td>
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<tr>
<td>C-</td>
<td>C</td>
<td>4</td>
<td>60-62</td>
<td>60-61</td>
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<td>D+</td>
<td>D+</td>
<td>3</td>
<td>56-59</td>
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<td>53-55</td>
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<td>1</td>
<td>50-52</td>
<td>50-52</td>
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<tr>
<td>F</td>
<td>2</td>
<td>49</td>
<td>49</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>1</td>
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</tbody>
</table>
Dear McMaster Medical Admissions Assessor,

I am conducting research on the process of admissions at McMaster University Medical School. As I understand from the Registrar that you have been involved in assessing the 1975 applicants, I am asking you to participate in this research study by completing the attached questionnaire which takes approximately 20 minutes.

The purpose of this research is to determine the different types of social and academic influences that contribute to the process of selecting applicants for McMaster University Medical School. To obtain a comprehensive perspective, this questionnaire is being sent to all admission team assessors, to all students who were admitted in the Fall of 1975 and finally to a random number of eligible applicants who were unsuccessful in entering in the same year.

I believe that the results of this research will be beneficial to all of those who are involved in the admissions process either as an assessor or as an applicant. To accomplish this purpose, I am asking your co-operation in filling out this questionnaire and returning it as soon as possible in the enclosed self-addressed envelope.

The analysis of the collected information and the written report will refer only to aggregate or grouped data. Therefore, all individual responses to the questions will be regarded as strictly confidential and no one individual will be identified in any manner. To uphold this confidentiality, please do not sign or write your name on the questionnaire. As you will notice, I have assigned a five digit number to your questionnaire. This is only for my administrative purposes.

Finally, if there are any questions about the questionnaire or the research design in general, please do not hesitate to contact me at McMaster University, Department of Sociology, Ext. 4720. I have also left a section at the end of the questionnaire for any written comments which you would like to make.

Thanks,

Cam Davis, Phd Candidate, Dept. of Sociology

P.S. If you would like a summary report of the questionnaire results, please fill out the enclosed request card and mail it along with the questionnaire. The questionnaire and request card can also be dropped off in the Admissions Office, 2E, Faculty of Health Sciences.
This is to state that Mr. Cam Davis, a Ph.D. candidate in the Department of Sociology at McMaster University, has been authorized by the Faculty of Health Science to undertake research necessary for a dissertation on "An Admissions Model for the Medical Profession". Mr. Davis has been authorized to undertake this research for his Ph.D. dissertation. While Mr. Davis has been authorized to undertake this research, the study is not sponsored by the Faculty of Health Sciences and the collective information will have no bearing on the future assessment of any applicant. However, the overall results of the study may be used by the Admissions Committee for review purposes.

Yours sincerely,

F.W. Bradley,
Associate Registrar,
Health Sciences.
SECTION ONE: VIEWS ON ASSESSMENT
The following questions relate to your involvement in the assessment of McMaster Medical School applicants in the Spring of 1975.

1. In which assessment category did you participate last Spring? (Please circle answer(s))
   a) letter reading yes no
   b) personal interview yes no
c) simulated tutorial yes no
d) reference reading yes no
e) collation yes no

2. Which group did you represent?
   a) student
   b) faculty-physician
c) faculty-non-physician
d) community member-physician
e) community member-non-physician

3. Have you ever been involved in the admissions process as an assessor prior to last year? (that is, before 1975 - please specify the categories)
   a) letter reading yes no
   b) personal interview yes no
c) simulated tutorial yes no
d) reference reading yes no
e) collation yes no

4. Will you be involved in the assessment of McMaster Medical School applicants again this year? (that is, the Spring of 1976)
   a) yes  b) no  c) not sure

5. How desirable do you consider it to be for the following groups of individuals to be included in the McMaster Medical Admissions process? (Please check appropriate box)

<table>
<thead>
<tr>
<th></th>
<th>totally undesirable</th>
<th>most undesirable</th>
<th>desirable</th>
<th>most desirable</th>
<th>totally desirable</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) faculty (physicians)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Faculty (non-physicians)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) community member (physician)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) community member (non-physician)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. How adequate do you consider the following methods to be as a means for selecting potential McMaster Medical students? (Please check appropriate box)

<table>
<thead>
<tr>
<th></th>
<th>totally inadequate</th>
<th>most inadequate</th>
<th>adequate</th>
<th>most adequate</th>
<th>totally adequate</th>
<th>not sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) autobiographical letter</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) personal interview</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>c) simulated tutorial</td>
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<td></td>
<td></td>
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<tr>
<td>d) references</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>e) collation</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
SECTION TWO: GENERAL ASPECTS OF THE MEDICAL PROFESSION

The following questions relate to your opinions about certain aspects of the medical profession. For each of the given statements, please indicate the degree of agreement or disagreement by using the following scale.

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>25</th>
<th>50</th>
<th>75</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>strongly disagree</td>
<td>moderately disagree</td>
<td>neutral</td>
<td>moderately agree</td>
<td>strongly agree</td>
<td></td>
</tr>
</tbody>
</table>

A. 1st example: It will probably rain today.  20  (0-100)

In other words, a response of 30 indicates a level of disagreement with the statement which is between moderately disagree and neutral.

B. 2nd example: The McMaster Medical School and Hospital Center is a unique niece of architecture.  35  (0-100)

A response of 85 indicates a level of agreement with the statement which is above moderately agree and below strongly agree.

Please note: (i) You may use any number between 0 and 100 with the scale that is provided.
(ii) There are no right or wrong answers, just your own opinion.

Please indicate your degree of agreement or disagreement with the following statements using the given scale.

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>25</th>
<th>50</th>
<th>75</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>strongly disagree</td>
<td>moderately disagree</td>
<td>neutral</td>
<td>moderately agree</td>
<td>strongly agree</td>
<td></td>
</tr>
</tbody>
</table>

7. Medical students who graduate today should be obligated to practice medicine in areas of Canada with a low physician to population ratio.  0  (0-100)

8. Landed immigrants and Canadian citizens should be considered on an equal basis in the assessment of applicants for medical school.  85  (0-100)

Why?

9. Older applicants (25-35 years old) should be considered for admission to medical school on an equal basis with younger applicants if their qualifications are similar.  50  (0-100)

10. Older applicants should be discouraged from being admitted to medical school because their span of potential medical practice will be shorter than younger applicants.  0  (0-100)

11. Physicians who immigrate to Canada should be allowed into the country only if a vacancy cannot be filled by a licenced physician already living in Canada.  85  (0-100)

12. In the admissions process, it should be considered an advantage for an applicant to speak more than one language.  0  (0-100)

13. Many patients feel more comfortable in the presence of a physician of the same ethnic or cultural group.  0  (0-100)

14. Older applicants usually demonstrate more maturity and confidence than younger applicants in admission interviews.  0  (0-100)

15. Generally speaking, it is to the applicant's advantage to apply to medical school immediately after the completion of his/her B.A.  0  (0-100)

16. In the medical profession, female physicians are usually accepted by male physicians.  0  (0-100)

17. In the admissions process, it should be considered an advantage for an applicant to have worked for at least one year prior to admission.  0  (0-100)

18. Older applicants (who are interested in medicine as a career and who meet the basic standards for admission) should be strongly encouraged to apply to medical school.  0  (0-100)
19. Applicants who have a desire to enter medicine and demonstrate high ability in their past working experiences but do not have a bachelor's degree should be considered equally with those who do have a bachelor's degree. (0-100)

20. Female applicants who are interested in medicine as a career and who meet the basic standards of admission should be strongly encouraged to apply to medical school. (0-100)

21. There should be quotas for foreign students who are accepted into McMaster Medical School. (0-100)
Briefly explain your answer

22. There should be quotas for female applicants who are accepted into McMaster Medical School. (0-100)
Briefly explain your answer

23. There should be quotas for older applicants who are accepted into McMaster Medical School. (0-100)
Briefly explain your answer

24. Generally, how would you rate the reaction of patients to female physicians for each of the six groups of individuals? Please use the given scale.

<table>
<thead>
<tr>
<th>Rating</th>
<th>0</th>
<th>25</th>
<th>50</th>
<th>75</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>not acceptable</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mostly acceptable</td>
<td>25</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>totally acceptable</td>
<td>75</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>unacceptable</td>
<td></td>
<td></td>
<td>50</td>
<td>75</td>
<td>100</td>
</tr>
</tbody>
</table>

25. a) adult males   (0-100)
   b) teenage males  (0-100)
   c) young boys    (0-100)
   d) adult females  (0-100)
   e) teenage females (0-100)
   f) young girls    (0-100)

At what age should McMaster Medical School refuse to consider older applicants?
Specify age

26. At what age should McMaster Medical School refuse to consider younger applicants?
Specify age

27. In your opinion, how would you rate the supply of physicians for each of the following areas? Please try to give some approximation using the given scale.

<table>
<thead>
<tr>
<th>Rating</th>
<th>0</th>
<th>25</th>
<th>50</th>
<th>75</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>under-supply</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>supply-demand</td>
<td>25</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>over-supply</td>
<td>75</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>under-supply</td>
<td></td>
<td></td>
<td>50</td>
<td>75</td>
<td>100</td>
</tr>
<tr>
<td>over-supply</td>
<td>75</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a) Canada        (0-100)
b) Ontario       (0-100)
c) rural Ontario (0-100)
d) urban Ontario (0-100)
e) Hamilton and close proximity (0-100)
f) Hamilton Health Region (0-100)
(see map on page 8)
g) Your hometown (0-100)
(that is, what you consider to be your hometown)h) Northwestern Ontario (0-100)
28. Please rate the degree to which each of the following characteristics is generally present in the medical profession using the given scale.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Scale (0-100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) routine work</td>
<td></td>
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<tr>
<td>b) decision-making responsibility</td>
<td></td>
</tr>
<tr>
<td>c) amount of leisure or free time</td>
<td></td>
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<tr>
<td>d) material security</td>
<td></td>
</tr>
<tr>
<td>e) need to improve professional knowledge and skills</td>
<td></td>
</tr>
<tr>
<td>f) opportunity to help people</td>
<td></td>
</tr>
<tr>
<td>g) opportunity for advancement</td>
<td></td>
</tr>
<tr>
<td>h) opportunity to exercise initiative</td>
<td></td>
</tr>
<tr>
<td>i) a high income</td>
<td></td>
</tr>
<tr>
<td>j) variety in the work</td>
<td></td>
</tr>
<tr>
<td>k) the work is basically interesting</td>
<td></td>
</tr>
<tr>
<td>l) opportunity to work with stimulating colleagues</td>
<td></td>
</tr>
<tr>
<td>m) personal strain or worry directly related to professional responsibilities</td>
<td></td>
</tr>
<tr>
<td>n) stepping stone to higher responsibilities in politics, business or community affairs</td>
<td></td>
</tr>
<tr>
<td>o) a high reputation in the community</td>
<td></td>
</tr>
<tr>
<td>p) independence</td>
<td></td>
</tr>
<tr>
<td>q) opportunity to serve the community</td>
<td></td>
</tr>
<tr>
<td>r) opportunity to gain a sense of accomplishment</td>
<td></td>
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</tbody>
</table>

29. Which two of the above characteristics in question 28 would be the greatest source of satisfaction in your work if you were a physician?
   a) most satisfying characteristic
   b) next most satisfying characteristic

30. Which two of the above characteristics in question 28 would be the least source of satisfaction in your work if you were a physician?
   a) least satisfying characteristic
   b) next least satisfying characteristic

SECTION THREE: ADMISSIONS' CRITERIA

The following questions relate to your opinions about some of the criteria which are used in the admissions process. Please answer accordingly.

31. If you were a member of the admissions committee at McMaster Medical School, how important would you rate each of the following criteria for the personal interviews? Please use the following scale.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Scale (0-100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. problem-solving ability of the applicant</td>
<td></td>
</tr>
<tr>
<td>(the applicant is able to recognize, define problems and select appropriate information to resolve the problems as given in the personal interview)</td>
<td></td>
</tr>
<tr>
<td>b. self-appraisal ability of the applicant</td>
<td></td>
</tr>
<tr>
<td>(the applicant is able to recognize own limitations and assets and has ability to evaluate own emotional reactions)</td>
<td></td>
</tr>
<tr>
<td>c. ability of the applicant to relate to others</td>
<td></td>
</tr>
<tr>
<td>(the applicant in the interview shows sensitivity to others and flexibility in the acceptance of others' differences)</td>
<td></td>
</tr>
<tr>
<td>d. motivation of the applicant</td>
<td></td>
</tr>
<tr>
<td>(the applicant shows a clear expression in the personal interview to pursue a medical career and shows knowledge about the demands of medical training and practice)</td>
<td></td>
</tr>
</tbody>
</table>
32. Some of the following criteria are used in assessing applicants to medical schools. How important do you think each one should generally be? Please use the given scale.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>0</th>
<th>25</th>
<th>50</th>
<th>75</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) fluency of speech</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) poise</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) dress</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) physical appearance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) manners</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f) specific career interests</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g) physical health</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>h) finances of the applicant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i) personality characteristics of the applicant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>j) subjective evaluation of intellectual ability</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>k) mental health</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>l) physical health</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>m) motives for studying medicine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n) ability to withstand stress</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>o) knowledge of current affairs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>p) extra-curricular activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>q) cultural activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>r) family background</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>s) hobbies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

33. Do you believe that preference should be given to applicants on the basis of:
   a) place of residence b) university attended c) both d) neither

34. How fair to the applicant do you consider the McMaster method of selection to be?
   a) totally unfair b) mostly unfair c) partially unfair d) fair e) very fair f) extremely fair

35. How would you rank the following five methods of assessment which are used in the admissions process at McMaster Medical School?
   a) autobiographical letter b) academic grades c) personal interview d) simulated tutorial e) references

   first priority_________ second priority_________ third priority_________ fourth priority_________ fifth priority_________

SECTION FOUR: BACKGROUND CHARACTERISTICS

The following are general questions which are related to your background. Please answer each one in the appropriate manner.

36. In what country (or Canadian province) were you born?

37. If you were not born in Canada, in what year did you immigrate to Canada?

38. In what age group are you?
   a) 20-24 yrs b) 25-29 yrs c) 30-39 yrs d) 40-49 yrs e) 50-59 yrs f) 60-69 yrs g) 70 and over

39. What was your father's occupation?

40. To what ethnic or cultural group did your ancestors belong on coming to Canada?
   a) father's side ________
   b) mother's side ________

   a) Asiatic g) Jewish
   b) British h) Polish
c) Dutch i) Scandinavian
d) French j) Ukrainian
e) German k) Other, please specify
f) Italian

41. Are you: a) single b) married c) other?
Dear Medical Student,

I am conducting research on the process of admissions at McMaster Medical School. As I understand from the Registrar that you have been accepted for the 1975/76 session, I am asking you to participate in the research study by completing the enclosed questionnaire which takes approximately 30 minutes.

The purpose of this research is to determine the different types of social and academic influences that contribute to the process of selecting applicants to McMaster Medical School. To achieve a comprehensive perspective, this questionnaire is being sent to 1975/76 applicants as well as to admission team members for the same year.

I believe that the results of this research will be beneficial to all of those who have or will be involved in the admissions process. To accomplish the purpose of this research, I am asking your co-operation in filling out this questionnaire and returning it as soon as possible in the self-addressed envelope.

The analysis of the collected information and the written report will refer only to aggregate or grouped data. Therefore, all individual responses to the questions will be regarded as strictly confidential and no one individual will be identified in any manner. To uphold this confidentiality, please do not sign or write your name on the questionnaire. As you will notice I have assigned a five digit number to your questionnaire. This number is only for my administrative purposes and it bears no relationship to student numbers.

I would like to emphasize that since all replies to this questionnaire are strictly confidential, none of the individual answers will be used for any present or future assessment of the respondent by McMaster Medical School.

Finally, if there are any questions about the questionnaire or the research design in general, please do not hesitate to contact me at McMaster University, Department of Sociology, extension 4481. I have also left a section at the end of this questionnaire for any written comments that you would like to make.

Thanks,

Cam Davis, Phd candidate, Dept. of Sociology

P.S. If you would like a summary report of the questionnaire results, please fill out the enclosed request card and mail it along with the questionnaire via the following routes.

1. A drop off box is provided in the room where your mailboxes are located (entrance to home base)
2. Another drop off box is located in the Admissions Office, 2E, Faculty of Health Sciences.
3. You may also use the internal university mail service.
4. If the postal strike is over, you may mail the questionnaire and request card.
This is to state that Mr. Cam Davis, a Ph.D. candidate in the Department of Sociology at McMaster University, has been authorized by the Faculty of Health Science to undertake research necessary for a dissertation on "An Admissions Model for the Medical Profession". Mr. Davis has been authorized to undertake this research for his Ph.D. dissertation. While Mr. Davis has been authorized to undertake this research, the study is not sponsored by the Faculty of Health Sciences and the collective information will have no bearing on the future assessment of any applicant. However, the overall results of the study may be used by the Admissions Committee for review purposes.

Yours sincerely,

F.W. Bradley,
Associate Registrar,
Health Sciences.
SECTION ONE: CAREER DECISIONS

The following questions relate to your career decisions. Please circle or mark your answer clearly.

1. How many medical schools including McMaster Medical School did you apply to for the 1975/76 school year? Specify number __

2. For all of the medical schools to which you applied, what was your priority for McMaster Medical School?
   a) first  b) second  c) third  d) fourth  e) fifth  f) other, please specify __

3. Why did you place McMaster Medical School in this position? ____________________________

4. How did you rate your chances of getting into McMaster Medical School before you heard whether or not you were accepted?
   a) poor  b) fair  c) 50-50  d) good  e) excellent

5. How many medical schools accepted you for the 1975/76 school term? Specify # __

6. Did you apply to McMaster Medical School before the 1975/76 school term?
   a) yes  b) no

7. If you were not accepted into medical school for the 1975/76 school session, would you apply again this year to McMaster Medical School for the 1976/77 school session?
   a) yes  b) no

8. Please list, in order of priority, the three most important sources that have influenced your decision to enter the medical profession.
   (e.g. mother, father, uncle, aunt, brother, sister, husband, wife, other relatives, friend of the family, family physician, highschool teacher, university professor, books, movies, self-motivated, other sources-please specify.)
   a) ____________________________ Were any of these three sources, a) yes  b) no
   b) ____________________________ physicians?  a) yes  b) no
   c) ____________________________

9. At what age did you first think of becoming a doctor? Specify age __

10. At what age did you definitely decide to study medicine? Specify age __

11. In order to pursue medicine will you require some form of institutional (other than family) financial assistance?
   a) yes  b) no

12. How many of your brothers and sisters are already in medicine?
   Brothers  a) I have no brothers at all.
   b) Number of older brothers already in medicine __
   c) Number of younger brothers already in medicine __
   Sisters  a) I have no sisters at all.
   b) Number of older sisters already in medicine __
   c) Number of younger sisters already in medicine __

13. How many of your brothers and sisters are considering a career in medicine?
   Brothers  a) I have no brothers at all.
   b) Number of older brothers considering medicine __
   c) Number of younger brothers considering medicine __
   Sisters  a) I have no sisters at all.
   b) Number of older sisters considering medicine __
   c) Number of younger sisters considering medicine __
SECTION TWO: GENERAL ASPECTS OF THE MEDICAL PROFESSION

The following questions relate to your opinions about certain aspects of the medical profession. For each of the given statements, please indicate the degree of agreement or disagreement by using the following scale.

<table>
<thead>
<tr>
<th>0</th>
<th>25</th>
<th>50</th>
<th>75</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>strongly disagree</td>
<td>moderately disagree</td>
<td>neutral</td>
<td>moderately agree</td>
<td>strongly agree</td>
</tr>
</tbody>
</table>

1. **1st example:** It will probably rain today. 30 (0-100)
   In other words, a response of 30 indicates a level of disagreement with the statement which is between moderately disagree and neutral.

2. **2nd example:** The McMaster Medical School and Hospital Center is a unique piece of architecture. 25 (0-100)
   A response of 25 indicates a level of agreement with the statement which is above moderately agree and below strongly agree.

**Please note:**
(i) You may use any number between 0 and 100 with the scale that is provided.
(ii) There are no right or wrong answers, just your own opinion.

Please indicate your degree of agreement or disagreement with the following statements using the given scale.

<table>
<thead>
<tr>
<th>0</th>
<th>25</th>
<th>50</th>
<th>75</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>strongly disagree</td>
<td>moderately disagree</td>
<td>neutral</td>
<td>moderately agree</td>
<td>strongly agree</td>
</tr>
</tbody>
</table>

4. Medical students who graduate today should be obligated to practice medicine in areas of Canada with a low physician to population ratio. ____ (0-100)

5. Landed immigrants and Canadian citizens should be considered on an equal basis in the assessment of applicants for medical school. ____ (0-100)
   *Why?*

6. Older applicants (25-35 years old) should be considered for admission to medical school on an equal basis with younger applicants if their qualifications are similar. ____ (0-100)

7. Older applicants should be discouraged from being admitted to medical school because their span of potential medical practice will be shorter than younger applicants. ____ (0-100)

8. Physicians who immigrate to Canada should be allowed into the country only if a vacancy cannot be filled by a licenced physician already living in Canada. ____ (0-100)

9. In the admissions process, it should be considered an advantage for an applicant to speak more than one language. ____ (0-100)

10. Many patients feel more comfortable in the presence of a physician of the same ethnic or cultural group. ____ (0-100)

11. Older applicants usually demonstrate more maturity and confidence than younger applicants in admission interviews. ____ (0-100)

12. Generally speaking, it is to the applicant's advantage to apply to medical school immediately after the completion of his/her B.A. ____ (0-100)

13. In the medical profession, female physicians are usually accepted by male physicians. ____ (0-100)

14. In the admissions process, it should be considered an advantage for an applicant to have worked for at least one year prior to admission. ____ (0-100)

15. Older applicants (who are interested in medicine as a career and who meet the basic standards for admission) should be strongly encouraged to apply to medical school. ____ (0-100)
26. Applicants who have a desire to enter medicine and demonstrate high ability in their past working experiences but do not have a bachelor's degree should be considered equally with those who do have a bachelor's degree: (0-100)

27. Female applicants (who are interested in medicine as a career and who meet the basic standards of admission) should be strongly encouraged to apply to medical school: (0-100)

28. There should be quotas for foreign students who are accepted into McMaster Medical School: (0-100)

Briefly explain your answer:

29. There should be quotas for female applicants who are accepted into McMaster Medical School: (0-100)

Briefly explain your answer:

30. There should be quotas for older applicants who are accepted into McMaster Medical School: (0-100)

Briefly explain your answer:

31. Generally, how would you rate the reaction of patients to female physicians for each of the six groups of individuals? Please use the given scale.

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>25</th>
<th>50</th>
<th>75</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>not acceptable</td>
<td>mostly unacceptable</td>
<td>acceptable</td>
<td>mostly acceptable</td>
<td>totally acceptable</td>
</tr>
<tr>
<td>a) adult males</td>
<td>(0-100)</td>
<td>(0-100)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) teenage males</td>
<td>(0-100)</td>
<td>(0-100)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) young boys</td>
<td>(0-100)</td>
<td>(0-100)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) adult females</td>
<td>(0-100)</td>
<td>(0-100)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) teenage females</td>
<td>(0-100)</td>
<td>(0-100)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f) young girls</td>
<td>(0-100)</td>
<td>(0-100)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

32. At what age should McMaster Medical School refuse to consider older applicants?

Specify age:

33. At what age should McMaster Medical School refuse to consider younger applicants?

Specify age:

34. In your opinion, how would you rate the supply of physicians for each of the following areas? Please try to give some approximation using the given scale.

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>25</th>
<th>50</th>
<th>75</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>serious under-supply</td>
<td>slight under-supply</td>
<td>supply=demand</td>
<td>slight over-supply</td>
<td>abundant over-supply</td>
</tr>
<tr>
<td>a) Canada</td>
<td>(0-100)</td>
<td>(0-100)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Ontario</td>
<td>(0-100)</td>
<td>(0-100)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) rural Ontario</td>
<td>(0-100)</td>
<td>(0-100)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) urban Ontario</td>
<td>(0-100)</td>
<td>(0-100)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) Hamilton and close proximity</td>
<td>(0-100)</td>
<td>(0-100)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f) Hamilton Health Region</td>
<td>(0-100)</td>
<td>(0-100)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(see map on page 12)

35. Your hometown: (0-100) (that is, what you consider to be your hometown)
35. What areas of practice (from the following list) should male and female medical graduates of today be encouraged to pursue?

- a) family medicine
- b) internal medicine
- c) surgery
- d) pediatrics
- e) obstetrics-gynecology
- f) psychiatry
- g) basic medical science (research)
- h) other, please specify

**Male graduates**

First area: [ ]
Second area: [ ]
Third area: [ ]

Briefly explain the reasons for your first choice for males.

**Female graduates**

First area: [ ]
Second area: [ ]
Third area: [ ]

Briefly explain the reasons for your first choice for females.

SECTION THREE: PROFESSIONAL PLANS

The following four questions relate to your future plans within the medical profession. Although your plans may not yet be fully realized or decided, please try to answer these questions in the context of your own preference as it now stands. The following scale can be used for all four questions.

<table>
<thead>
<tr>
<th>0</th>
<th>25</th>
<th>50</th>
<th>75</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>very low</td>
<td>low</td>
<td>moderate</td>
<td>high</td>
<td>very high</td>
</tr>
</tbody>
</table>

36. For each of the following categories, please indicate the degree (low-high) of your preference as it now stands if you were to practice medicine today.

- a) your hometown [ ]
- b) a community somewhat larger than your hometown [ ]
- c) a community much larger than your hometown [ ]
- d) a community the same size as your hometown [ ]
- e) a community somewhat smaller than your hometown [ ]
- f) a community much smaller than your hometown [ ]
- g) other, please specify [ ]

37. Please indicate your present willingness to remain in the Hamilton area (and close proximity, e.g. Burlington) if you graduated from McMaster Medical School today. [ ]

38. Please indicate the degree of your preference as it now stands for practicing medicine in each of the following areas.

- a) family medicine [ ]
- b) internal medicine [ ]
- c) surgery [ ]
- d) pediatrics [ ]
- e) obstetrics-gynecology [ ]
- f) psychiatry [ ]
- g) basic medical science (research) [ ]
- h) other, please specify [ ]

39. Using the same scale for the above three questions, please indicate your present willingness to remain in the Hamilton Health Region to practice medicine if you graduated today. (See Hamilton Health Region outline on page 12)

Degree of willingness [ ]
SECTION FOUR: ADMISSIONS PROCESS FOR MEDICAL STUDENTS

The following questions relate to your opinions about the admissions process that determines the selection of future medical students. Please answer accordingly.

10. If you were a member of the admissions committee at McMaster Medical School, how important would you rate each of the following criteria for the personal interviews? Please use the following scale.

<table>
<thead>
<tr>
<th>Scale</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>not important</td>
</tr>
<tr>
<td>25</td>
<td>slightly important</td>
</tr>
<tr>
<td>50</td>
<td>important</td>
</tr>
<tr>
<td>75</td>
<td>fairly important</td>
</tr>
<tr>
<td>100</td>
<td>most important</td>
</tr>
</tbody>
</table>

- a. problem-solving ability of the applicant [0-100] (the applicant is able to recognize, define problems and select appropriate information to resolve the problems as given in the personal interview)
- b. self-appraisal ability of the applicant [0-100] (the applicant is able to recognize own limitations and assets and has ability to evaluate own emotional reactions)
- c. ability of the applicant to relate to others [0-100] (the applicant in the interview shows sensitivity to others and flexibility in the acceptance of others' differences)
- d. motivation of the applicant [0-100] (the applicant shows a clear expression in the personal interview to pursue a medical career and shows knowledge about the demands of medical training and practice)

11. Using the following scale, how would you rate yourself with regard to each of the four criteria used in the personal interview?

<table>
<thead>
<tr>
<th>Scale</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>very low</td>
</tr>
<tr>
<td>25</td>
<td>low</td>
</tr>
<tr>
<td>50</td>
<td>moderate</td>
</tr>
<tr>
<td>75</td>
<td>high</td>
</tr>
<tr>
<td>100</td>
<td>very high</td>
</tr>
</tbody>
</table>

- a. problem-solving ability [0-100]
- b. self-appraisal ability [0-100]
- c. ability to relate to others [0-100]
- d. motivation [0-100]

12. This question applies only to those applicants who were involved in the personal interview. If you were asked to participate in a personal interview at McMaster Medical School, how do you think you were actually assessed? Please use the same scale as question 11.

- a. problem-solving ability [0-100]
- b. self-appraisal ability [0-100]
- c. ability to relate to others [0-100]
- d. motivation [0-100]

13. How would you rank the following five methods of assessment which are used in the admissions process at McMaster Medical School?

- a) autobiographical sketch and letter
- b) marks
- c) personal interview
- d) simulated tutorial
- e) references

Priority ranking:
- first priority
- second priority
- third priority
- fourth priority
- fifth priority

14. How adequate do you consider the autobiographical sketch and letter and its assessment by three different people (1 faculty member, 1 student, 1 person from the community) to be as an instrument for selecting applicants for a personal interview?

<table>
<thead>
<tr>
<th>Adequacy</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) totally inadequate</td>
<td></td>
</tr>
<tr>
<td>b) mostly inadequate</td>
<td></td>
</tr>
<tr>
<td>c) adequate</td>
<td></td>
</tr>
<tr>
<td>d) mostly adequate</td>
<td></td>
</tr>
<tr>
<td>e) extremely adequate</td>
<td></td>
</tr>
</tbody>
</table>

15. How fair to the applicant do you consider the "McMaster method of selection to be"?

<table>
<thead>
<tr>
<th>Fairness</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) totally unfair</td>
<td></td>
</tr>
<tr>
<td>b) mostly unfair</td>
<td></td>
</tr>
<tr>
<td>c) partially unfair</td>
<td></td>
</tr>
<tr>
<td>d) fair</td>
<td></td>
</tr>
<tr>
<td>e) very fair</td>
<td></td>
</tr>
<tr>
<td>f) extremely fair</td>
<td></td>
</tr>
</tbody>
</table>
46. Some of the following criteria are used in assessing applicants to medical schools. How important do you think each one should generally be? Please use the given scale.

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>fluency of speech</td>
<td>not important 25 important 50 fairly important 75 most important 100</td>
</tr>
<tr>
<td>poise</td>
<td>not slightly important 25 important 50 fairly important 75 most important 100</td>
</tr>
<tr>
<td>dress</td>
<td>not slightly important 25 important 50 fairly important 75 most important 100</td>
</tr>
<tr>
<td>physical appearance</td>
<td>not slightly important 25 important 50 fairly important 75 most important 100</td>
</tr>
<tr>
<td>manners</td>
<td>not slightly important 25 important 50 fairly important 75 most important 100</td>
</tr>
<tr>
<td>specific career interests</td>
<td>not slightly important 25 important 50 fairly important 75 most important 100</td>
</tr>
<tr>
<td>physical health</td>
<td>not slightly important 25 important 50 fairly important 75 most important 100</td>
</tr>
<tr>
<td>finances of the applicant</td>
<td>not slightly important 25 important 50 fairly important 75 most important 100</td>
</tr>
<tr>
<td>personality characteristics of the applicant</td>
<td>not slightly important 25 important 50 fairly important 75 most important 100</td>
</tr>
<tr>
<td>subjective evaluation of intellectual ability</td>
<td>not slightly important 25 important 50 fairly important 75 most important 100</td>
</tr>
<tr>
<td>knowledge of current affairs</td>
<td>not slightly important 25 important 50 fairly important 75 most important 100</td>
</tr>
<tr>
<td>extra-curricular activities</td>
<td>not slightly important 25 important 50 fairly important 75 most important 100</td>
</tr>
<tr>
<td>cultural activities</td>
<td>not slightly important 25 important 50 fairly important 75 most important 100</td>
</tr>
<tr>
<td>family background</td>
<td>not slightly important 25 important 50 fairly important 75 most important 100</td>
</tr>
<tr>
<td>hobbies</td>
<td>not slightly important 25 important 50 fairly important 75 most important 100</td>
</tr>
</tbody>
</table>

47. Please rate the degree to which each of the following characteristics is generally present in the medical profession using the given scale.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>routine work</td>
<td>very low 0 low 25 moderate 50 high 75 very high 100</td>
</tr>
<tr>
<td>decision-making responsibility</td>
<td>very low 0 low 25 moderate 50 high 75 very high 100</td>
</tr>
<tr>
<td>amount of leisure or free time</td>
<td>very low 0 low 25 moderate 50 high 75 very high 100</td>
</tr>
<tr>
<td>material security</td>
<td>very low 0 low 25 moderate 50 high 75 very high 100</td>
</tr>
<tr>
<td>need to improve professional knowledge and skills</td>
<td>very low 0 low 25 moderate 50 high 75 very high 100</td>
</tr>
<tr>
<td>opportunity to help people</td>
<td>very low 0 low 25 moderate 50 high 75 very high 100</td>
</tr>
<tr>
<td>opportunity for advancement</td>
<td>very low 0 low 25 moderate 50 high 75 very high 100</td>
</tr>
<tr>
<td>opportunity to exercise initiative</td>
<td>very low 0 low 25 moderate 50 high 75 very high 100</td>
</tr>
<tr>
<td>a high income</td>
<td>very low 0 low 25 moderate 50 high 75 very high 100</td>
</tr>
<tr>
<td>variety in the work</td>
<td>very low 0 low 25 moderate 50 high 75 very high 100</td>
</tr>
<tr>
<td>the work is basically interesting</td>
<td>very low 0 low 25 moderate 50 high 75 very high 100</td>
</tr>
<tr>
<td>opportunity to gain a sense of accomplishment</td>
<td>very low 0 low 25 moderate 50 high 75 very high 100</td>
</tr>
</tbody>
</table>

18. Which two of the above characteristics in question 47 would be the greatest source of satisfaction in your work if you were a physician?

a) most satisfying characteristic
b) next most satisfying characteristic

19. Which two of the above characteristics in question 47 would be the least source of satisfaction in your work if you were a physician?

a) least satisfying characteristic
b) next least satisfying characteristic
SECTION FIVE: BACKGROUND CHARACTERISTICS

The following are general questions related to your social background. Please answer each one in the appropriate manner.

49. In what country (or Canadian province) were you born?

50. In what country (or Canadian province) was your father born?

51. In what country (or Canadian province) was your mother born?

52. If you were not born in Canada, what year did you immigrate to Canada?

53. At the time of your 1975/75 application to McMaster Medical School, were you:
   a) single    b) married    c) other?

54. If you worked full-time (other than summer jobs) before applying to medical school, what was your occupation?
   Specify occupation

55. To what ethnic or cultural group did your ancestors belong on coming to Canada?

   a) father's side
      a) Asiatic    b) Jewish
      b) British    c) Polish
      c) Dutch      d) Scandinavian
      d) French     e) Ukrainian
      e) German     f) Other, please specify

   b) mother's side
      g) Italian

56. In approximately which time period did your ancestors or parents first come to Canada? Please check the appropriate box for both mother and father.

<table>
<thead>
<tr>
<th>mother's side</th>
<th>father's side</th>
</tr>
</thead>
<tbody>
<tr>
<td>before 1700</td>
<td></td>
</tr>
<tr>
<td>1700-1800</td>
<td></td>
</tr>
<tr>
<td>1801-1900</td>
<td></td>
</tr>
<tr>
<td>1901-1920</td>
<td></td>
</tr>
<tr>
<td>1921-1940</td>
<td></td>
</tr>
<tr>
<td>1941-1960</td>
<td></td>
</tr>
<tr>
<td>1961-1975</td>
<td></td>
</tr>
</tbody>
</table>

57. How many brothers and sisters do you have?

   a) older brothers         c) older sisters
   b) younger brothers       d) younger sisters

58. To what extent did your parents encourage you to become a doctor?

   a) none    b) low encouragement    c) moderate encouragement    d) high encouragement

59. To what extent do you think each of the four university subjects increased your chances of admission to McMaster Medical School (even though they were not required)?

   biology    physics    chemistry    mathematics

   did not help    not helpful    little help    helpful    very helpful
Did you apply to McMaster Medical School before the 1975/76 school term?

- a) yes  b) no

If yes, how many times did you apply (that is, for how many years?) _______________________

Was there any special reason why you applied to McMaster Medical School?

- a) yes  b) no

If yes, please specify _______________________

What was your permanent place of residence at the time of your application to McMaster Medical School for the 1975/76 session?

- a) city of Hamilton or close proximity
- b) outside of Hamilton and close proximity but within Hamilton Health Region (see map on page (x))
- c) outside of Hamilton and Hamilton Health Region but within Ontario
- d) other province, please specify _______________________
- e) other country, please specify _______________________

What is the approximate size of what you consider to be your hometown?

- a) over 500,000 (ie. Toronto, Montreal)
- b) 250,000-499,999 (ie. Hamilton, Ottawa, Calgary, Vancouver)
- c) 100,000-249,999 (ie. Thunder Bay, Kitchener, London, St. Catherines)
- d) 50,000-99,999 (ie. Sault Ste. Marie, Sudbury, Sarnia, Burlington)
- e) 20,000-49,999 (ie. Brampton, Barrie, Timmins)
- f) 10,000-19,999 (ie. Dundas, Grimsby, Paris)
- g) 5,000-9,999 (ie. Orangeville, Bracebridge, Cochrane)
- h) under 5,000 (ie. Port Dover, Waterdown)

What is your father's present occupation? (please state previous occupation if father is retired or deceased) _______________________

What is your mother's present occupation? (If she is not presently employed, please state occupation for which she is (was) qualified) _______________________

In what type of work are your parents involved (or used to be involved)?

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Type of Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father</td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td></td>
</tr>
</tbody>
</table>

For Example

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Type of Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>teacher</td>
<td>public school, high school, private</td>
</tr>
<tr>
<td>manager</td>
<td>insurance, advertising, steel factory</td>
</tr>
<tr>
<td>doctor</td>
<td>family medicine, specialist, company</td>
</tr>
<tr>
<td>salesman</td>
<td>beverages, stocks, autos, books,</td>
</tr>
<tr>
<td>foreman</td>
<td>construction, mining, appliance factory</td>
</tr>
</tbody>
</table>

What was the highest grade or year of schooling your father and mother completed?

(if your parents were educated outside of Canada, please give the approximate equivalent to the Canadian educational system)

- a) father _______________________
- b) mother _______________________

If you were not accepted into McMaster Medical School what are you presently doing? _______________________

What is your major career goal if you are not accepted into medical school? _______________________


In your own words, what were some of the negative points which may have negatively affected your assessment in the 1975/76 admissions process at McMaster Medical School?

THANKS FOR YOUR CO-OPERATION

RETURN OF THE QUESTIONNAIRE AND REQUEST CARD

1. A drop off box is provided in the room where your mail boxes are located (entrance to home base)
2. Another drop off box is located in the Admissions Office, 2E, Faculty of Health Sciences.
3. You may also use the internal university mail service.
4. If the postal strike is over, you'll mail the questionnaire and request card.

YOUR COMMENTS ON THIS QUESTIONNAIRE
The Hamilton Health Region includes two geographical areas of Ontario.

1. The first area of the Hamilton Health Region is located in Southwestern Ontario. See the outline of the boundaries for this area in the map below.

2. The second area of the Hamilton Health Region is located in Northwestern Ontario. This area simply includes all towns and cities west of Kafka, Ontario. No map is provided.
APPENDIX A

SAMPLING OF APPLICANTS

At the beginning of the research, it was decided that a sampling of applicants to the one medical school would be necessary due to the rather large and growing number of cases for each admissions year. As well, the Canadian Medical Association was able to provide father’s occupation for the admission’s years of 1969, 1970 and 1971 applicants to McMaster if the requested number of applicants were within reason because they had to transfer the data by hand.

Since most of the necessary data was made available for all of the accepted applicants, it was decided that a random sample of all applicants would be inefficient in the sense that some accepted applicants in which the data were available would not be used. Instead a random sampling of not-offered applicants for each year was chosen. Therefore, the total number of applicants for each admissions year included a 100 percent sample of offered applicants and a random sample of non-offered applicants.

The number of non-offered applicants were randomly chosen with the following guidelines in mind. First, a general rule of thumb in the use of regression analysis is that there should be at least 10 cases per variable in the
regression. Second, for the reason of equal representation, the dependent variable "acceptance" should have an equal number of cases for the two values, offered and not-offered. With these two guidelines, the sample for non-offered applicants was selected for each admissions year.

In TABLE D-1, one can see that the number of offered and the number of non-offered are approximately the same.

<table>
<thead>
<tr>
<th>Year</th>
<th>Offered</th>
<th>Offered</th>
<th>Total</th>
<th>Total</th>
<th>Sample As A %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>But</td>
<td>But</td>
<td>Sample</td>
<td>Applicants</td>
<td>Of Total Number</td>
</tr>
<tr>
<td>Declined</td>
<td>Offered</td>
<td>Applicant</td>
<td></td>
<td>Applicants</td>
<td>of Applicants</td>
</tr>
<tr>
<td>1969</td>
<td>20</td>
<td>0</td>
<td>30</td>
<td>50</td>
<td>400</td>
</tr>
<tr>
<td>1970</td>
<td>40</td>
<td>9</td>
<td>61</td>
<td>110</td>
<td>500</td>
</tr>
<tr>
<td>1971</td>
<td>63</td>
<td>10</td>
<td>79</td>
<td>152</td>
<td>1066</td>
</tr>
<tr>
<td>1972</td>
<td>79</td>
<td>8</td>
<td>97</td>
<td>184</td>
<td>1376</td>
</tr>
<tr>
<td>1974</td>
<td>80</td>
<td>13</td>
<td>93</td>
<td>186</td>
<td>2352</td>
</tr>
<tr>
<td>1975</td>
<td>100</td>
<td>20</td>
<td>162</td>
<td>282</td>
<td>2250</td>
</tr>
</tbody>
</table>

The last column in this table represents the number of applicants over the total applicant pool as a percentage. Except for 1974 and 1970, the percentage is fairly constant.
APPENDIX F

SELECTION OF ASSESSORS

Initially, it was decided to sample only those assessors who participated in the assessment of the 283 applicants in the medical admissions process. However, it was soon discovered that almost every assessor was actively involved in at least one stage of the admissions process. Therefore, there was no sampling of the assessors. Instead, all 394 assessors were mailed a questionnaire to their most recent address. These assessors included 153 letter readers, 208 personal interviewers and 33 simulated tutors. A cross reference among all three assessment groups was made to avoid duplicate mailings.

The eventual purpose of the results of the survey was to match the assessor with the applicant. In this way, the data for 12 assessors were attached to the data collected from the survey of the applicant.
RESPONSE RATES FOR APPLICANTS

For 1975, the dependent variable was recoded into 4 values in ascending order. These were: not offered, not offered but on the waiting list, waiting list and offered and finally, offered. The breakdown by these values by response or non-response is shown in TABLE F-1. Although it will be shown that the response rates are relatively high, one should be cautious for the reason that the rates are not 100 percent. One must assume that sample biases are in effect if the response rate is less than perfect. In fact, it will be shown that there are response biases according to various categories. It is argued that those who did not respond would have if they had been given a chance. If there was no active address, then there was no response (in most cases). There was no attempt to post-stratify the sample to correct for these response biases for the main reason that a weighting of the number of cases would alter many of the other variables which are also considered to be very important in the analysis. The assumption is that the response biases do not critically alter the overall composition of the sample.
### TABLE F-1 Response Rates Of Applicants By Level Of Admission

<table>
<thead>
<tr>
<th>Level Of Admission</th>
<th>Non-response</th>
<th>Response</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Offered</td>
<td>67</td>
<td>93</td>
<td>160</td>
</tr>
<tr>
<td></td>
<td>72.0</td>
<td>49.2</td>
<td>56.7</td>
</tr>
<tr>
<td></td>
<td>41.9</td>
<td>58.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>23.8</td>
<td>33.0</td>
<td></td>
</tr>
<tr>
<td>Not Offered But On</td>
<td>0.0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Waiting List</td>
<td>0.0</td>
<td>1.1</td>
<td>0.7</td>
</tr>
<tr>
<td></td>
<td>0.0</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.0</td>
<td>.7</td>
<td></td>
</tr>
<tr>
<td>Offered And On</td>
<td>5</td>
<td>16</td>
<td>21</td>
</tr>
<tr>
<td>Waiting List</td>
<td>5.4</td>
<td>8.5</td>
<td>7.4</td>
</tr>
<tr>
<td></td>
<td>23.8</td>
<td>76.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.8</td>
<td>5.7</td>
<td></td>
</tr>
<tr>
<td>Offered And Declined</td>
<td>21</td>
<td>78</td>
<td>99</td>
</tr>
<tr>
<td></td>
<td>22.6</td>
<td>41.3</td>
<td>35.1</td>
</tr>
<tr>
<td></td>
<td>21.2</td>
<td>78.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7.4</td>
<td>27.7</td>
<td></td>
</tr>
<tr>
<td>Column Total</td>
<td>93</td>
<td>189</td>
<td>282</td>
</tr>
<tr>
<td></td>
<td>33.3</td>
<td>67.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

1. Count
2. Row Percentage
3. Column Percentage
4. Total Percentage
5. P<.003

In total, there was an overall 67 percentage response rate of 189 applicants out of a total of 282 sampled applicants. One can see in the table that there is a relationship between type of response and type of offer. That is, there is a positive and significant association between non-response and non-offered.
It should be noted that non-response seemed to be associated with place of residence.

**TABLE F-2 Response Rates Of Applicants By Geographical Place Of Residence**

<table>
<thead>
<tr>
<th>Place Of Residence</th>
<th>Non-response</th>
<th>Response</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hamilton Health Region</td>
<td>20</td>
<td>76</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td>21.5</td>
<td>40.2</td>
<td>34.0</td>
</tr>
<tr>
<td></td>
<td>20.8</td>
<td>79.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7.1</td>
<td>27.0</td>
<td></td>
</tr>
<tr>
<td>North Western Ontario</td>
<td>4</td>
<td>7</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>4.3</td>
<td>3.7</td>
<td>3.9</td>
</tr>
<tr>
<td></td>
<td>36.4</td>
<td>63.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.4</td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>Other Ontario</td>
<td>29</td>
<td>83</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td>31.2</td>
<td>43.9</td>
<td>39.7</td>
</tr>
<tr>
<td></td>
<td>25.9</td>
<td>74.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10.3</td>
<td>29.4</td>
<td></td>
</tr>
<tr>
<td>Other Canada</td>
<td>24</td>
<td>17</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>25.8</td>
<td>9.0</td>
<td>14.5</td>
</tr>
<tr>
<td></td>
<td>58.5</td>
<td>41.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8.5</td>
<td>41.5</td>
<td></td>
</tr>
<tr>
<td>Foreign</td>
<td>16</td>
<td>6</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>17.2</td>
<td>3.2</td>
<td>7.8</td>
</tr>
<tr>
<td></td>
<td>72.7</td>
<td>27.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5.7</td>
<td>2.1</td>
<td></td>
</tr>
<tr>
<td>Column Total</td>
<td>93</td>
<td>189</td>
<td>282</td>
</tr>
<tr>
<td></td>
<td>33.0</td>
<td>67.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

1. Count
2. Row Percentage
3. Column Percentage
4. Total Percentage
5. Significance Level Is \( p < .00 \)
As seen in TABLE F-2, the further the applicant is from the medical school, the lower the response rate. This may be explained by several reasons. The Canadian postal system was experiencing rotating postal strikes at the time the questionnaire was mailed. Mail delivery was unusually poor. In many cases, first class mail was not forwarded. Applicants from afar also tended to have the same permanent and present addresses. If the applicant had moved, there was no recourse to mail the questionnaire to another address.

A telephone follow-up of applicants who resided in Canada and United States was useful. In some cases, the home or permanent address and telephone number was that of a friend or relative who resided much closer to the medical school than the applicant. Several students were travelling and parents did not know the whereabouts of the applicant.

A cross tabulation was conducted between type of response and socio-economic status, age, cumulative grade point average and letter score. There was no significant relationship for these variables and type of response.
The final response for all 394 assessors was 289 responses or 73.4%. The response rate broken down by the type of assessor is given in TABLE 6-1.
### TABLE G-1 Response Rates by Type of Assessor

<table>
<thead>
<tr>
<th>Type Of Assessor</th>
<th>Non-response Response</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student</td>
<td>40</td>
<td>84</td>
</tr>
<tr>
<td></td>
<td>32.3</td>
<td>67.7</td>
</tr>
<tr>
<td></td>
<td>38.1</td>
<td>29.1</td>
</tr>
<tr>
<td></td>
<td>10.2</td>
<td>21.3</td>
</tr>
<tr>
<td>Faculty Physician</td>
<td>28</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>33.7</td>
<td>66.3</td>
</tr>
<tr>
<td></td>
<td>26.7</td>
<td>19.0</td>
</tr>
<tr>
<td></td>
<td>7.1</td>
<td>14.0</td>
</tr>
<tr>
<td>Faculty Non-Physician</td>
<td>1</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>2.7</td>
<td>97.3</td>
</tr>
<tr>
<td></td>
<td>1.0</td>
<td>12.5</td>
</tr>
<tr>
<td></td>
<td>.3</td>
<td>9.1</td>
</tr>
<tr>
<td>Community Member-Physician</td>
<td>9</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>20.0</td>
<td>80.0</td>
</tr>
<tr>
<td></td>
<td>8.6</td>
<td>12.5</td>
</tr>
<tr>
<td></td>
<td>2.3</td>
<td>9.1</td>
</tr>
<tr>
<td>Community Member, Non-Physician</td>
<td>27</td>
<td>78</td>
</tr>
<tr>
<td></td>
<td>25.7</td>
<td>74.3</td>
</tr>
<tr>
<td></td>
<td>25.7</td>
<td>27.0</td>
</tr>
<tr>
<td></td>
<td>6.9</td>
<td>19.8</td>
</tr>
<tr>
<td>Column Total</td>
<td>105</td>
<td>289</td>
</tr>
<tr>
<td></td>
<td>26.6</td>
<td>73.4</td>
</tr>
</tbody>
</table>

1. Count  
2. Row Percentage  
3. Column Percentage  
4. Total Percentage  

Of the five assessment groups, as seen in TABLE G-1, faculty non-physicians had the highest response rate. Only 1 person out of 37 did not respond in this assessment group. The lowest response group was faculty followed very closely by medical students. Even though these two groups had the lowest
responses, approximately 2/3 did in fact respond to the questionnaire. The response rate for each assessment group controlling for the three stages in the admissions process is shown in TABLE 6-2.

<table>
<thead>
<tr>
<th>Assessment Group</th>
<th>Non-response</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letter Readers</td>
<td>25.5</td>
<td>74.5</td>
</tr>
<tr>
<td>Personal Interviewers</td>
<td>28.8</td>
<td>71.2</td>
</tr>
<tr>
<td>Simulated Tutors</td>
<td>18.2</td>
<td>81.8</td>
</tr>
</tbody>
</table>

Assessors who participated in the simulated tutorial had the highest response rate which was 81.1%. Assessors involved in personal interviews and letter reading had response rates of 71.2 and 74.5, respectively.

There was one follow up of negligent non-responders. Assessors who did not respond after two weeks were mailed a second questionnaire. This attempt had little effect in raising the response rate. It is conjectured that individuals had made a fast and binding decision and consistently refused to answer. In some cases, the most recent address was outdated. For example, some faculty members were on sabbatical.

Was there any response bias among the assessors? Only two variables were collected for both responders and
non-responders. These variables were sex and present occupation. Present occupation was coded into Blishen scores. When socio-economic status (Blishen scores) was cross tabulated with response or non-response, there was no significant association. However, this was not true for sex. Of the total number of assessors, 117 were female and 278 were male. When sex of the assessor was cross tabulated with response or non-response, there was a significant relationship ($p<.04$). It appeared that males responded more readily than females.
APPENDIX H

Are there more A students applying to McMaster medical school than B students? The percentage of A’s and B’s of applicants to McMaster medical school from 1970 to 1975 for the first three undergraduate years is given in TABLE H.

TABLE H Percentage Of A’s And B’s Of Applicants To McMaster Medical School From 1970 To 1975 For The First Three Undergraduate Years.

<table>
<thead>
<tr>
<th>Year</th>
<th>first year</th>
<th>second year</th>
<th>third year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% of A’s</td>
<td>% of A’s</td>
<td>% of A’s</td>
</tr>
<tr>
<td></td>
<td>% of b’s</td>
<td>% of B’s</td>
<td>% of B’s</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>N</td>
<td>N</td>
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<tr>
<td>1970</td>
<td>15.9</td>
<td>14.7</td>
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<td></td>
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<td>56.8</td>
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<tr>
<td></td>
<td>n=477</td>
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<td>1971</td>
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<td>18.6</td>
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<tr>
<td></td>
<td>50.6</td>
<td>57.0</td>
<td>67.6</td>
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<tr>
<td></td>
<td>n=1017</td>
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<td>23.0</td>
<td>18.6</td>
<td>30.7</td>
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<td></td>
<td>47.4</td>
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<td></td>
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</table>
One would expect that applicants as a group would do better in third year than first year. This trend is found. There is a greater percentage of A’s in third year than first year from 1970 to 1975. What is interesting is that in 1970, the percentage of A’s and B’s was 24 and 69. In 1975, these percentages had changed to 46 and 29. In just six years, the percentage of A’s had increased approximately 25 to 50 percent in the third undergraduate year. The percentage of B’s had decreased in the third undergraduate year. In short, the problem of differentiation still persists. There is a remarkable increase in A students and a decline in B students. The problem of selecting students on the basis of academic scores has increased.
## APPENDIX I(a)

**CORRELATION MATRIX FOR EXOGENOUS VARIABLES IN TABLE V-1.**

\[ N = 176 \]

<table>
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<th>Other Canada</th>
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## APPENDIX I(b)

**CORRELATION MATRIX FOR EXOGENOUS VARIABLES IN TABLE V-3 AND V-4.**

\[ N = 103 \]

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<th>Family Size</th>
<th>H.H.R.</th>
<th>N.W.O.</th>
<th>Other Canada</th>
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</thead>
<tbody>
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## APPENDIX I(c)

**CORRELATION MATRIX FOR EXOGENOUS VARIABLES FOR TABLE V-5.**

\[ N = 170 \]

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<th>Foreign</th>
<th>Academic</th>
<th>Letter</th>
<th>Interview</th>
<th>Tutor</th>
<th>View</th>
<th>Interv</th>
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**APPENDIX M**

**PEARSON CORRELATIONS BETWEEN EXOGENEOUS VARIABLES**

AS SEEN IN TABLE VI-4 FOR NON-PHYSICIANS ONLY.  \( N = 80 \)

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</table>

*Labels given below*

- Assessors' Professional scale
- Applicants' Professional scale
- Assessors' Personal Characteristics scale
- Applicants' Personal Characteristics scale
- Assessors' sex
- Applicants' sex
- Applicants' social class
- Assessors' social class
- Interaction between 1. & 2.
- Interaction between 3. & 4.
APPENDIX J

Coding of Variables From 1969 to 1975

1. Academic score
   1969 N. A.
   1970 10 to 100
   1971 1 to 4
   1972 4 to 12
   1973 1 to 13
   1974 4 to 12
   1975 1.00 to 4.00

2. Letter score
   1969 N. A.
   1970 N. A.
   1971 0 or 1
   1972 0 or 1
   1973 1 or 2
   1974 3 to 12
   1975 3 to 12

3. Personal interview score
   1973 3 to 15
   1974 3 to 21
   1975 4 to 23

4. Sex
   1=male
   2=female

5. Social class
   Blishen scores were assigned to father’s occupation

6. Simulated tutorial score
   1974 10 to 30
   1975 3 to 21

7. Admission level
   1=not offered
   2=not offered and on the waiting list
   3=offered while on the waiting list
   4=offered (including those who declined)

8. Admission level when dichotomised
   0=not offered (not offered and not offered while on the waiting list)
   1=offered (offered and offered while on the waiting list)
APPENDIX K

PEARSON CORRELATIONS BETWEEN EXOGENEOUS VARIABLES AS SEEN IN TABLE VI-4 FOR PHYSICIANS ONLY. N = 117

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* Labels given below
** Not collected

1. Assessors' Professional scale
2. Applicants' Professional scale
3. Assessors' Personal Characteristics scale
4. Applicants' Personal Characteristics scale
5. Assessors' sex
6. Applicants' sex
7. Applicants' social class
8. Assessors' social class
APPENDIX L

PEARSON CORRELATIONS BETWEEN EXOGENEOUS VARIABLES
AS SEEN IN TABLE V1-4 FOR STUDENTS ONLY. N = 113

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<td>.08</td>
<td>.01</td>
<td>.09</td>
<td>.99</td>
<td>-.06</td>
<td>.18</td>
</tr>
</tbody>
</table>

*LABELS GIVEN BELOW

Assessors' Professional scale
Applicants' Professional scale
Assessors' Personal Characteristics scale
Applicants' Personal Characteristics scale
Assessors' sex
Applicants' sex
Applicants' social class
Assessors' social class
Interaction between 1. & 2.
Interaction between 3. & 4.
Interaction between 5. & 6.