

SEX DIFFERENCES IN  
EDUCATIONAL ASPIRATIONS OF  
NEWFOUNDLAND YOUTH: THE  
EFFECTS OF FAMILY, SCHOOL  
AND COMMUNITY VARIABLES

RE FOR NEWFOUNDLAND STUDIES

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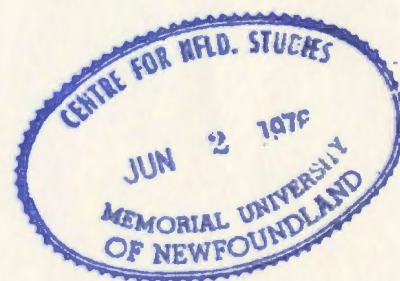
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SEX DIFFERENCES IN EDUCATIONAL ASPIRATIONS OF  
NEWFOUNDLAND YOUTH: THE EFFECTS OF FAMILY,  
SCHOOL AND COMMUNITY VARIABLES



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## ABSTRACT

A study was conducted consisting of all Newfoundland grade eleven high school students who planned on attending a post-secondary school the following year. The purpose of the study was to ascertain the extent to which certain factors within the school, family, and community served as barriers to females attending university, while not to males.

The data used for this study was taken from a questionnaire issued by the committee for the study of enrollment at Memorial University.

A causal model was set up linking the variables to each other. The dependent variables in the model were program of study, self-concept of academic ability, occupational expectation, and probability of attending university. Twenty-one hypotheses were derived in keeping with the purpose of the study. In order to test these, a number of analyses were conducted. At the outset, a regression procedure was used to help choose the variables that were the best predictors of each dependent variable. Spady's measure of association was then utilized to obtain a measure of the strength of the relationship between two variables. In addition, Davies' procedure was used to determine the significance of the difference between two percentages.

The findings revealed that males and females were not influenced by the same factors in their decision to attend university. In addition, certain factors within the

family and school, served as barriers to a female making plans to attend university. It was found that the family served more as a positive influence on a male's program of study than a female's. Also, father's occupation, a proxy for family finances was more of an influence on females than males. A female expecting a high occupation needed a higher self-concept and program of study than did a male expecting the same level of occupation.

It was concluded that there is inequality of educational opportunity for females in Newfoundland. Females were found to suffer from barriers that were not present for males.

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## CHAPTER I

### INTRODUCTION TO THE STUDY

Equality of educational opportunity has become one of the truisms of a democratic society. It has been frequently used as a basis for educational recommendations and legislation. Fleming (1974), for example, reports that the concept of equality of educational opportunity was given its meaning and significance by the creation of new social conditions such as the decline of the family and the church. He further explains that industrialization brought a need for skillful people which may be fulfilled by making education easily accessible to all. In addition, "active intervention (was carried out) to ensure that individuals derived the maximum benefit from educational opportunities " (Fleming, 1974:9).

At the same time, the state took over many duties from the family, one of which was regulating occupations. From this, equality of educational opportunity was encouraged as a human right and as a necessity for the maintenance of the state. In this way, the ideology of equality of educational opportunity developed historically.

The means for securing equality of educational opportunity has been interpreted by many in different ways. Peters (1967), for example, reports that the principle of distributive justice should be utilized and he further explains



that this means equals should be treated equally and unequals unequally. In a sense, this involves categorizing individuals and treating them according to principles which apply to their category. Cunningham (1969) argues further that this principle should entail offering equal access to educational resources to children according to their needs. The present study takes the following view that equality of educational opportunity should be defined as equal access to education.

Pike (1970) notes that many barriers inhibit equal access to education. From this position he argues that the complexity of factors that influence a student's decision must be identified, described, and understood so that we can make sure that there is equal access to university. Furthermore, he has pointed out that many studies undertaken have found that "the effects of social inequalities in educational opportunities are felt more by girls than by boys" (Pike, 1970:70). Another example of this may be found in the Porter et al. (1973) study. More specifically, these researchers found that lower class females were more likely to be deprived than similar males of an opportunity for university. In large part this inequality was due to economic reasons. In addition, they note that "lower class girls in large families suffer a triple jeopardy of sex, class and family size" (Porter et al., 1973:131) when making educational decisions. The purpose of the present study was to examine the factors that served as influences on students so we might ascertain which factors were seen as barriers to females but not to

males. For example, this study hypothesizes that the influences of self-concept on occupational expectation is stronger for females than males. If this is so then we will be able to conclude that a low self-concept serves as more of a barrier to females than to males.

With this introduction in mind, three specific questions may be answered by the present study. These questions are:

1. Will the factors that influence a student's decision to enter university be the same for males and females?
2. Does the magnitude of the influences differ for the sexes?
3. Which factors within the family, school and community serve as barriers to a female attending university and at the same time not be barriers to a male?

#### THE PROBLEM

The basic framework within which we may ask these questions is that females are underrepresented in university attendance. Pike (1970), for example, produces a table that illustrates the unequal representation of the sexes in universities across Canada.

In this table it is observed that for Newfoundland a smaller percentage of both males and females attend university compared with the other provinces. However, the difference between the percentage of males and females is not as great as it is for other provinces in the rest of



Canada. In addition, we are able to see that for Canada in general, the enrollment ratio for women was 6.9% - less than one-half the male ratio. In Newfoundland, the female enrollment is below the national average. Pike explains that this disparity in representation for the sexes is due to the fact that the females that enter university represent mainly those from the upper classes, while for males in university, there is a more varied representation across all classes.

TABLE 1

Full Time University Enrollment in 1966-67 as a Percentage of the Population 18-24 Years Old, by Province of University Attendance and Sex

	<u>Males</u>	<u>Females</u>
Newfoundland	9.1	5.0
Prince Edward Island	12.4	8.4
Nova Scotia	15.8	8.0
New Brunswick	14.1	6.0
Quebec	15.1	6.5
Ontario	13.1	5.8
Manitoba	15.3	9.0
Saskatchewan	14.9	9.0
Alberta	14.3	8.0
British Columbia	17.2	10.0
Yukon and North West Territories	--	--
Canada	14.4	6.9

Source: Pike (1970:205)

Harvey and Lennards (1973) also discuss this problem. They point out that differences between the sexes can not be explained in terms of differential dropout rate because females are more likely to finish high school than males. Differential allocations to streams within the school can not be used either because there is an equal proportion of each sex in each of the programs. In addition, social class was not a sufficient explanation because it was found that within each social class, a lower proportion of females intended to continue their education after high school. More specific to the present study, they suggest that perhaps females encounter certain obstacles not faced by males. As we have already noted, the objective of the present study is to identify some of these obstacles.

In Porter's (1973) study of Canadian high school students, they found that sex was confounded with the effects of social class. That is, they point out that "while the differences in educational aspirations between boys and girls in the higher classes is not great, there is a great difference in the percentage of boys and girls in the lower classes who want and expect to go to university" (Porter et al. 1973:134). They suggest that a university education is not considered as important for females and thus when the financial resources of the family are scarce, the parents are less willing to spend money on females than males.

Percussi (1967:44) has noted that the decision to attend university "represents a complex process of motivations



and opportunity". He contends that many values and aspirations serve as constraints on a student's decision. In a similar vein, Harvey and Lennards (1973) have found that females suffer from such constraints for there are a different set of values and beliefs about education which limit their choices. Also, Epstein (1970) shows how values and social images of the roles of women can be important determinants of their decisions about careers. She explains that values, ideology and images form a basis for the socialization process. Specifically, the socialization of a female into her sex role runs contrary to an occupational role.

Percussi (1967) also contends that the social structure serves as a constraint on a student's decision. In addition, Epstein (1970) notes that people who choose occupations are very much affected by the way occupations are structured and the images and traditions associated with them. Thus, if an occupation is generally made up of one sex, it is unlikely that it will change and if it changes it is likely to change very slowly. Pike (1970) states that teaching and nursing are two of the appropriate careers which are usually considered to be open for females. He suggests that "wider occupational opportunities...might be the key to higher female university participation rates in future years" (Pike, 1970:19).

Porter et al. (1973) indicates that all individuals of both sexes should have an equal chance to strive for the benefits associated with the better occupations. It may be

argued that all people should have an equal chance because this is a social right in our society. But still it has been found that females are underrepresented in university enrollment. As we have already noted, this problem becomes even more apparent when we realize that females are more likely than males to graduate from high school (Banks, 1971).

Thus, sex may be seen as a factor contributing to inequality of educational attainment. The value of educational attainment has been a controversial issue in recent years. It has been shown that schooling scarcely contributes to having equality among people, but it has been found to be strongly related to occupational status (Jencks et al., 1973). Jencks et al. notes that each extra year of schooling increases a person's chance for a high status occupation.

In keeping with the concept of equality of educational opportunity, the task now is to investigate reasons why females are underrepresented in university. This will be done by examining some factors within the school, the family, and the community which have been deemed important in a student's decision to attend university. The factors to be examined within the family are father's and mother's education, father's and mother's occupation, and family size; while the factors within the school are self-concept of academic ability and program of study. In addition, size of the community will be examined. All these factors will be considered separately for males and females, and it is hoped that we will uncover some of the social and economic barriers that



might inhibit a female from attending university.

### THE LIMITATIONS

This study is limited in that all possible influences on a student's decision to attend university are not examined. Only a few factors related to the student's family, school and community are considered. We should be aware that it was impossible to eliminate all extraneous variables. But in most cases those variables deemed important were controlled.

Another limitation is that this study is based on data collected for the committee for the study of enrollment at Memorial University, under the directorship of Dr. Llewellyn Parsons. In using this data, we are limited in the number of variables that we may use. Only those variables which have been included in the questionnaire may be used for the present study. In addition, the present study is limited by the categories of responses supplied on the questionnaire. For example, it may have been more useful for the purpose of this study to have had father's and mother's occupations broken down into more specific categories.

Another limitation is that this study is not based on a random sample of Canadian high school students; rather it is based upon a sample of Newfoundland high school students. This fact may serve to limit the study's generalizability. At one level, Kitchen (1969) has noted that, in comparison

with the rest of Canada, Newfoundland is economically disadvantaged. On another level, Newfoundland may be considered to be culturally different from the rest of Canada (Sterns, 1974). In addition, high school students in Newfoundland enter university following grade eleven, while generally in the rest of Canada they go on to university following grade twelve or thirteen. Since Newfoundland can be seen as being quite distinct, the findings of this study may be limited to this province.

Finally, the analysis conducted for this study is a source of a number of limitations. One of the statistics used, Spady's measure of association, demands that the dependent variables used be placed in dichotomies. This is a limitation which may affect some of the findings and conclusions. Also, by using this measure of association, we are only able to disclose trends rather than actual effect parameters which may have been identified if more powerful statistics were used.

#### SIGNIFICANCE OF THE STUDY

Various studies have been conducted examining the differing influence for males and females on their decision to attend university. The significance of this study lies in examining whether the relationships found in previous studies are similar in Newfoundland. From this, we may be able to add to the body of knowledge already established in



the field of educational research. In addition, this study will examine the many influences separately for each sex. Williams (1972) and Breton (1972) have conducted recent studies on students in Canada and they have included both sexes in their studies. They, as well as others, have reported many sex differences. For example, Alexander and Eckland (1974) have found that sex is significant in educational goal orientation rates after status background and academic ability are controlled. Being aware of the possibility of sex differences, this study conducted a separate analysis for each.

This study of sex differences may be particularly significant in Newfoundland because of the interaction of sex and social inequalities. Kitchen (1968) has noted that in recent studies in Newfoundland, low rates of school completion have been linked to socio-economic variables. Also, as mentioned earlier, social inequalities are felt more by females than males. Therefore, it is important to control socio-economic factors while examining the relationships between specific variables for both males and females.

This study maintained controls on important variables. This is significant because past research has shown that this has been a shortcoming in this field which has led to inconsistencies. For example, Boyle (1965) studied research done by Wilson (1959) and Ramsay (1961) and found that they had conflicting evidence concerning the influence of high school on university. He contended that this was because

both studies dealt with different sized communities and that controlling for community size would resolve some of the confusion between their findings.

This study tried to overcome some of these problems by maintaining controls on some variables. For example, when analyzing the relationship between mother's education and self-concept of academic ability we controlled for program of study. This was done because program of study was also considered to be an influence on self-concept. Thus, maintaining a control on program of study eliminated the influence that it might have had on the relationship between the other two variables.

It is quite apparent that Newfoundland needs a study examining the influences on a student's plans for university for many reasons. One, is that Memorial University has had a drop in enrollment especially between 1972-73. More specifically, in 1970 the enrollment increased 28% over the previous year. However, by 1973 there was an 8% decrease in enrollment (Parsons, 1973).

This study will serve as a guide to explain which factors are of the most importance in a student entering university. Specifically, it will attempt to ascertain the importance of certain aspects of family background, the community and school on a student's decision to enter university. As a result, this study may help the administration at Memorial University to understand why fewer students are enrolling.



In particular, the need for a study in this province is more understandable when we are aware of the small percentage of females who are attending Memorial. Canadian trends show that there has been a 12.1% increase in the percentage of females in university from 1951-68. However, at the same time, the increase has only been 6% for Newfoundland (Zsigmond & Wenaas, 1970:94,100).

Significance of this study also lies in the fact that a causal model approach is being used. The use of causal models allows the researcher to specify and clarify relationships. In addition, variables can be linked together and thus, direct and indirect relationships can be easily shown. Causal models help in this study to explain that a student's decision to enter university is a process involving background factors which in turn influence the student's decision to go to university.

This study will also be able to ascertain the extent to which inequality of accessibility and equal opportunity in university exists in Newfoundland, along with the specific areas in which this inequality occurs.

## CHAPTER II

### REVIEW OF RELATED LITERATURE AND THE DEVELOPMENT OF THE HYPOTHESES

This chapter will be divided into three main sections. The first section will provide the conceptual framework. This framework will help place this study in the realm of work already completed in this field. The second section will consist of the review of related literature. This review will be organized using the causal model as a basis. There will be four sub-sections, one for each of the dependent variables: program of study, self-concept of academic ability, student's occupational expectation, and the probability of attending university. Each of the independent variables will be considered in the light of their contribution to understanding the formation of the dependent variable.

The review follows this format because it helps one to understand the interrelationships between the variables and meshes with the hypotheses which guide the research. The third section of this chapter consists of the hypotheses. These hypotheses give direction to the study because they show specifically what is to be tested.

### CONCEPTUAL FRAMEWORK

Generally research in this area has taken the view that a student's decision to go to university is a process



that consists of a collection of complex factors that occur over a long period of time (Trent, 1970). Such factors include those related to the school, family and community. Each of these factors has been seen as exerting a strong influence, even though there is not consensus on their order of importance. For example, McDill and Coleman (1965) seriously question the widespread view that the family is the most important factor in the student's decision to attend university. Since there isn't agreement on the exact importance of certain variables, it is then necessary to study many factors to ascertain their relative contribution. Such important factors would include the wide ranging social milieu of the student's community, school and family.

Studies conducted dealing with this problem have been carried out in many ways. They have been done using high school students' aspirations and/or expectations for university (Bennett & Gist, 1964; Duncan et al., 1968; Rehberg, 1966). Other studies have been done in a retrospective manner where the student is required to recall which factors were important in his decision to go to university (Werts, 1968). Still others have conducted longitudinal studies of students for a number of years examining their plans for university. From this the researcher could obtain a more specific view of the variables involved in their decision and how they had been altered through the years.

This present study is carried out by using high school students' educational and occupational expectations

for the following year. The student is viewed as a decision maker who is influenced by his social environment. These influences may be internal ones consisting of values and aspirations of others, or external ones involving the social structure. This specific viewpoint is based on reference group theory. The theory "aims to systemize the determinants and consequences of these processes of evaluation and self-appraisal in which the individual takes the values or standards of other individuals and groups as a comparative frame of reference " (Merton & Rossi, 1968:35).

Within this study it is assumed that the student takes on the values and opinions of his parents as a frame of reference for his decisions and actions concerning his education and occupation. The capacity to take into account the point of view of others is indicative of the development of self (Mead, 1934). A major exponent of the importance of the self-concept contends that the social self is acquired when the individual thinks about himself in the light of others' attitudes towards him. Cooley (1964) refers to this as the looking glass self, for the behavior of others toward the individual is the mirror in which he sees himself. From this perspective, an individual may have many self-concepts depending on the roles he plays and of particular interest in this study is the student's self-concept of academic ability. Thus, both reference group and self-concept theory are helpful as guiding perspectives.



The responses of some people serve as more important influences than the responses of others. Johnson (1970) points out that those who are significant others for the person will have a great deal of influence on the individual's self-concept. It has been found by many that the basis of an individual's self-concept of academic ability is developed and maintained in the family (Trent, 1970; Elder, 1965).

Furthermore, the self-concept the individual has acquired will influence his behavior in a number of situations. Johnson expresses this best when he states that:

"in the process of interaction with others, the individual comes to take-the-role-of-the-other, basing his beliefs, evaluations and expectations of himself on the beliefs, evaluations and expectations that significant people in his life have of him. The resulting self-attitudes function to direct his behavior" (Johnson, 1970:94).

From this we can see that a student's self-concept will influence his plans for attending university.

Williams (1972) has noted that the theoretical stance which utilizes reference group theory has been quite common in research in this area. It should be noted here that this view does not negate the fact that a student is also influenced by his biological make-up but rather its main emphasis deals with the influences of the social system.

#### THE CAUSAL MODEL

The specific variables examined in this study are: type of community, such as rural or urban (where urban in

this case includes the areas of St. John's, Corner Brook, Gander, Stephenville, Labrador City, Wabush and Grand Falls, and rural is defined as all other areas in Newfoundland), mother's and father's education and father's occupations, family size, self-concept of academic ability, program of study, and occupational expectation. A causal model was set up in order to give meaning to the relationships between the variables. This model helps to show how the student's educational plans can be seen as a process involving many factors. Some factors may be seen as having direct and/or indirect effects on the student's decision to attend university.

Reference to Figure 1, the causal model at the end of the review of the literature will clarify this discussion. It should be noted that the model is recursive, i.e., the causal flow moves in one direction. Also, any variables on the right of a particular variable are not to be considered determinants of that variable.

The model specifically argues that father's and mother's education and occupations and family size influence the program of study the student is enrolled in, and with the exception of family size, they also determine the student's self-concept of academic ability. Program of study and self-concept are seen as each contributing directly to the student's occupational expectations. Program of study, self-concept and occupational expectations are considered direct influences on the student's probability of attending



university. In addition, the education and occupations of both the mother and father and family size can be seen as indirect influences on a student's occupational expectation and probability of attending university, through the variables program of study and self-concept.

Within this model, certain hypotheses regarding specific relationships between the variables have been constructed. The hypotheses which follow later in this chapter were, in part, derived from the reviewed literature. In addition, it should be noted that there are also relationships within the model that are rarely dealt with in the literature. For example, there has been a scarcity of literature explaining the influence that self-concept of academic ability and program of study exerts on occupational expectations, and how these in turn influence a student's probability of attending university.

## REVIEW OF RELATED LITERATURE

### Influences on a Student's Program of Study

When a student reaches high school in Newfoundland he must choose to enter either the academic or the general program of studies. The academic program consists of a group of courses which were established to prepare students who are planning on attending university. The general program consists of courses that prepare students who are vocationally oriented. Often it has been noted by researchers that

there is a relationship between social class and program of study, yet they fail to specify what aspects of social class are of importance.

Porter et al. (1973) have found a link between a student's social class and program. They show that in the fifth year program of Arts and Science which is seen as the step prior to university, the proportion of students from class one to class six decreases by 38%. For example, those students enrolled in the program from class one is 78%, while those in the same program from class six is only 40% (Porter et al., 1973:59). The fourth year business and commerce program is intended to prepare the student for work or attending a college of applied arts and technology. Here we see that as socio-economic status decreased, the percentage of students in this program increased. Their explanation for these findings is that a child whose parents are better educated will most likely encourage him to take courses that they know he will need in order to get into university. They suggest that poorly educated parents may not understand the importance of these choices for the student.

Schafer and Olexa (1971) have also found that social class is an important factor in determining a student's program of study. They note that being in a high social class increases a student's chances of entering the college preparatory track. However, they fail to elaborate on what accounts for this relationship.



Brookover and Gottlieb (1964) have examined this relationship and they too contend that choice of program of study is class based. They note that the college preparatory program is more likely to be taken by high status youth because their parents tend to envision the same positions for their children and thus insist that they enroll in the necessary program to fulfill their goals.

Hyman (1966) offers an additional explanation. On data derived from national surveys of the United States he concluded that the lower classes place less emphasis on college as necessary for advancement and as a desired path for their children. He notes that the lower classes have their own system of beliefs and values which places

"less emphasis upon the traditional high success goals, increased awareness of the lack of opportunity to achieve success, and less emphasis upon the achievement of goals which in turn would be instrumental for success" (Hyman, 1966:186).

He explains that this system is developed out of their appraisal of reality. Thus, he contends that there is a different emphasis on education between the classes and that this remains even when age and sex are controlled. This finding opens up another avenue of thought in explaining why fewer students in the lower classes enroll in the academic program.

The student's future plans, whether they include university or an immediate job, have been seen as influenced by parents' education and occupation through the mechanisms of encouragement and support. Further verification of this

is provided by Rehberg and Westby (1967). These researchers have calculated a measure of association for the relationship between a father's education and parental educational encouragement as .2816 using the gamma statistic. Furthermore, a gamma for the relationship between father's occupation and parental educational encouragement was .3797.

Thus, on the basis of these measurements, Rehberg and Westby (1967) conclude that as father's educational level and occupational status increased, the amount of parental educational encouragement also increases. From this, it is apparent that those parents with high educational levels and occupational statuses very likely encourage their children to enroll in the academic program.

#### Influences on a Student's Self-Concept of Academic Ability

It has been generally found that a student's socio-economic status is very highly related to his self-concept. For example, in Bachman's (1970) study of high school students he found that the student's social class exerted one of the strongest influences on a student's self-concept and that this effect remained after the possible influences of intelligence and other background factors were controlled. Bachman's (1970) measurement of socio-economic level consisted of father's occupational status, mother's and father's education, and a variety of measures of the quality of the home environment.

It has been suggested, by Kemper (1966) on a theoretical level, that parents serve as reference groups for



students. That is, students may internalize the beliefs and expectations of their parents. In Kemper's argument, parents may be seen as having three important functions:

1. To set norms and goals which the individual tries to attain;
2. To serve as basis for comparison, i.e., as role models to be emulated;
3. To constitute for the individual an audience whose good will and other rewards he seeks.

From this it is very likely that a student who is from a high-socio-economic level will see that his parents have achieved and he will be encouraged to model himself after them and thus set the same high goals for achievement.

Program of study has also been examined as an influence on a student's self-concept of academic ability. Schafer and Olexa (1971), for example, point out that assignment to a particular track, especially one not leading to university, "confers on students a stigmatizing label which in turn erodes self-esteem" (Schafer & Olexa, 1971:61). They note that this labelling helps produce "negative personal, educational and behavioral effects" on those in the non-college preparatory track (Schafer & Olexa, 1971:62). Kelly (1974) too has found that students enrolled in low academic programs (which do not lead to university) very often have low academic self-images.

It is very likely that sex differences will occur in the relationship between program of study and self-concept. With regard to this Bardwick (1971) explains that a female's

self-esteem remains dependent upon others longer. Throughout a female's life, she continues to depend upon the appraisal of others. This researcher has also found that females tend to be more susceptible to the influence of the general culture as she sees it through her parents and teachers (Bardwick & Douvan, 1972). That is, females have not been encouraged as males have to "give up depending predominately on the response of others for feelings of self-esteem" (Bardwick & Douvan, 1972:53). Thus, from this discussion, it is reasonable to assume that negative labeling, which occurs in the general program, will have more of a negative effect on a female's self-concept of academic ability than a males.

#### Influences on a Student's Occupational Expectations

It has been noted that any "sociological analysis of occupational choice focuses on the process of occupational decision making" (Taylor, 1968:193). This research further explains that the "social milieu of occupational decision making includes four major types of influences on the choice decision process" (Taylor, 1968:289). These influences are:

1. personal variables such as sex, mental ability and age;
2. impersonal social and cultural factors;
3. perceived interpersonal relationships;
4. values of reference groups.



The fourth one is particularly important to Taylor since he has pointed out that this process presupposes approval by a student's significant others.

A student's occupational choice may be stated in terms of either an aspiration or expectation. Caso et al. (1965) explain that these terms have different meanings. They note that an occupational aspiration is a pure occupational value uncontaminated by perceived limitations while an occupational expectation is a compromise. That is, an occupational expectation is where the student is cognizant of his limitations and decides upon an occupation he may be expected to obtain as opposed to an occupation he would like or desire to have.

Epstein (1970) has generally been interested in the second point mentioned by Taylor. She sees the structure and traditions behind occupations as a source of limitations to individuals, especially females, when choosing a career. In addition, Rossi (1972) has been concerned with the influence of sex and sex roles on occupational choice and she points out that one's sex may limit one's career choices. She explains that certain careers are male-dominated and that a long childhood of sex-role behavior has resulted in women not acquiring any interests for some careers. Females are restricted in their choice of occupations, for when choosing a career, a necessary requirement is that it be able to be combined with their future life prospects which include marriage and children. Pike (1970) points out that nursing

and teaching are among the few occupations regarded as appropriate for females. Gottlieb and Ramsey (1964) also point out that males choose a wider range of occupational choices than females. It has also been found that male preferences for occupations follow the same pattern as the distribution of males in occupations. However, for females this is not true. For example, few women in teaching actually show a preference for this occupation (Breton & MacDonald, 1968). These studies illustrate that sex differences should be examined when studying students' career choices.

A student's social class has also been found to have a large influence on his occupational expectations (Tseng, 1971). Dangier (1973) states that different classes have different models to emulate and different standards of goal achievement set by adults. It has also been pointed out that students from different social classes perceive access to occupations differently. Caso et al. (1965) advocate this view when they explain that often lower classes share the same occupational preference or aspiration but perceive it to be less accessible. They further note that the disparity between aspiration and expectation is largest in the lower classes. Therefore, Caso et al. (1965) contend that this differential perception of access to various occupations contributes to social class differences in the occupational expectations of students.

Some researchers have considered specific dimensions of social class so that they may be more precise in determining



the influences on career choice. For example, Almquist and Angrist (1971) have found that a mother's values and beliefs about her work (which are in turn influenced by her education and type of job) influences the type of career a female will choose. In addition, father's occupation has been seen as related to a student's occupational expectation. Gottlieb and Ramsey (1964) have found that father's occupation has a strong positive influence on a student's occupational expectation. Taylor (1968) adds insight into this relationship by explaining that in a white collar (occupation) family there is an environment consisting of a more favourable image of the world and work with higher expectancies in terms of occupational rewards and higher aspirations. It has also been found that father's education is an influence on a student's occupational expectation. Hanchey (1969) contends that a father's low education restricts the student socially and financially from certain occupations. Breton (1972) notes that the relationship between father's education and the student's choice can not be as easily explained due to the complexity of interaction effects. He has found that the influence of father's education changes according to the amount of education he has. For example, if a father has completed high school then it is more likely that a male child will choose an occupation like his father's regardless of his mother's education. On the other hand, if the father has only an elementary education, then the mother's education will have a positive influence on the student's occupational expectation.

Thus, the influences of social class, specifically, parents' education and occupation have been seen as direct influences on a student's decision. In the previous two subsections it has been shown how program of study and self-concept of academic ability of the student have been influenced by family background factors. Now it will be shown how program of study and self-concept can be seen as influences on a student's occupational expectation. Thus, we are able to say that family factors, specifically parents' education and occupation, also serve as indirect influences on a student's occupational expectation through the mediating variables, self-concept and program of study.

Breton (1972) has noted that when a student does not have a well defined self-concept, he will most likely be undecided about a career. In addition, when an individual has negative feelings about himself and his ability, this may be accompanied by an inadequate assessment and knowledge of his own abilities which may result in his inability to decide upon a particular career.

Breton (1972) found that the relationship between the student's estimate of his academic ability and occupational indecision was different for the sexes. Males who thought their chances of success in post-secondary school were below average were generally undecided about an occupation. However, females' likelihood for deciding upon an occupation was only slightly related to their evaluation of their chances of post-secondary success.



Program of study is another variable which influences a student's occupational expectation. Breton and MacDonald (1968) point out that the career chances available to students along with their occupational preferences depend very much on the program of study they are in. They further explain that enrolling in a particular program of study restricts occupational choices.

As noted earlier, each program of study offers a different preparation for occupations. Because of this, one would expect students in different programs to expect different occupations. Breton and MacDonald (1968) found that occupational preferences varied within the different programs, such that students in the college preparatory program were more likely to express preferences for high status occupations than those in other programs of study. They suggest that students adjust their occupational expectations according to the program of study they are in. Gordon (1972) takes the same view when he notes that the study program the student is enrolled in is an embodiment of his occupational aspiration.

#### Influences on a Student's Probability of Attending University

This area of study specifically examining the influences on educational aspirations of high school students is a well researched field. Research in this field has had many changes of emphases. In the early stages of research the influence of family background was emphasized. However,

later as Michael (1961) points out it was necessary to focus on the student's larger social milieu in order to get a more realistic view of decision making for university attendance. With this, there was an awareness that no one factor such as family background could totally explain a student's decision, but rather his decision was due to the inter-relationship of many factors. This study examined aspects of the student's social milieu and also investigated how each influenced the student differently according to the sex of the student.

In this context, two studies of particular interest are those of Breton (1972) and Porter et al. (1973). Few studies in this field have been as wide in scope as the study by Breton (1972). This study was designed to examine the many social and academic conditions that determine a student's career decision. Their conceptual framework is based on the premise that the choice of an adolescent's career depends on "three interrelated sets of factors: his social origin, his present experience and attitudes...and preparedness with respect to the future" (Breton, 1972:3). Furthermore, they note that these factors may be seen as direct and indirect influences through a number of mediating variables.

Porter's (1973) study, although less comprehensive and complex in analysis and presentation than Breton (1972), is still useful. Basically, this study explores class structure and demonstrates that "educational and occupational



horizons of Ontario high school students are bounded by the class structure of the society in which they live" (Porter et al., 1973:x). They concluded that financial barriers and those imposed by the attitudes and values of many different social groups may prevent lower class children from aspiring to university. In Breton (1972) and this present study, finances are not seen as a significant barrier to students' decisions to attend university; rather, we see that finances may have secondary importance to other factors such as program of study and self-concept that are of importance in this study.

Family background has generally been seen as an influence on a student's plans for attending university. Porter et al. (1972) have found that a student's plans are related to the position of his family in the social structure. With regard to this, Jencks et al. (1972) conclude that fathers whose education and occupation was high exert a great influence on their sons' educational and occupational plans. McDill et al. (1968) have also noted the importance of father's education. They conclude that in their study father's education was found to be more important than ability as an influence on a student's plans.

In addition to father's education, mother's education has also been seen as having an influence on a student's plans. Breton (1972) has noted that mother's education has a significant effect on educational plans for both sexes. However, this effect was stronger for females than for males.

Krauss (1964) shows that when there was a disparity in the parent's education within a family, mother's education was especially effective as an influence on the student's plans for university.

Father's occupation has also been found to be a significant influence on a student's plans for university. Bordua (1960) notes that this relationship remains for both sexes and across all socio-economic levels. Breton (1972) found similar results which showed that as father's occupational status got higher, the percentage of students, both males and females, who planned on attending a post-secondary school increased.

Rarely has there been research conducted on the influence of mother's occupation on educational plans. However, Krauss (1964) has examined this and noted the important findings that a mother has considerable influence upon the occupational plans of her children. In particular, the mother's influence was especially strong when she had a higher education than her husband.

Family size is another factor within the family that has been considered as having an influence on a student's educational plans. Rehberg (1966) has noted that family size is negatively correlated with adolescent educational expectations. In addition, similar findings have been disclosed in Newfoundland. Parsons (1973), for example, has shown that a great percentage of students from large families tended to have lower educational expectations than students



from small families.

William Sewell has provided outstanding research in this area. He has pointed out that one main weakness in this field of research has been that many important variables were not being controlled.) For example, studies have shown that educational and occupational aspirations were related to intelligence and that intelligence was related to social status. Thus, it was possible that the effects of social status may be confounded with intelligence. He conducted a study to test this and he found that the effects of social status were not due to the common relationship of these variables to intelligence but that social status did make an independent contribution to educational and occupational aspirations.

In addition, Sewell and Shah (1968) sought to examine the relationship between intelligence, socio-economic status and college plans. They found that for both sexes, socio-economic status and intelligence were related to college plans separately, while the other variables were controlled. The magnitude of the effects, however, differed for the sexes, with the socio-economic factor being greater for females, while the intelligence effect being greater for males.

Sewell and Shah (1968) note that it is important to see if social class differences can be explained in terms of differences in the level of perceived parental encouragement when intelligence is controlled. They found that the relationship between parental encouragement and college plans

is stronger for females than males and stronger than the influences of socio-economic status and intelligence. This finding is characteristic of the research which finds that parental encouragement is more important for females. Sewell and Shah (1968) suggest that it is due to the differential patterning of role expectations of the sexes. They explain that college may not be as desirable and necessary for females, and thus, family resources are a stronger influence for females. For males, the situation is different, university may be seen as necessary for fulfilling a great number of male occupational roles.

It becomes apparent that educational attainment is also influenced by a number of social psychological variables. An important variable studied is significant others which has been seen as influenced directly by socio-economic status and indirectly by mental ability. Its importance lies in the fact that it has a mediating effect between socio-economic status and educational and occupational aspirations.

Alexander and Eckland (1974) conducted a study on a national sample of United States students. These researchers confirmed many of the findings of Sewell and Shah. More specifically, they found that socio-economic status was a more important factor for females than males in shaping educational plans, while academic ability was a more important factor for males than females. They also found that the effect of sex remained, even after other factors deemed important were controlled.



Size and type of community have also been examined as influences on a student's educational plans. Pike (1970) has found that university participation varies with the size of the community. Generally, it was shown that university participation is positively related to urban communities (George & Kim, 1971; Jencks & Reisman, 1968). Sewell has noted that this may be due to differing social processes within communities. Specifically, he states that there are certain social pressures existing in small rural communities that effect social and educational aspirations of youth. He contends that there is indeed a relationship but that findings of studies may be misleading because of a failure to control the influence of other factors, such as sex, intelligence, and socio-economic status, that have been known to be associated with common background and educational aspirations. Having controlled on these variables, the results of his study show that "there are sizable differences in the college plans of rural and urban youth which are not artifacts of sex, intelligence and socio-economic status" (Sewell, 1964:35). He offers an explanation for this relationship by saying they may be due to the following four factors:

1. The opportunity structure in rural communities is rather limited in educational and occupational dimensions and thus, the urban areas offer greater access to higher education;
2. Urban schools provide a more academically stimulating climate than rural schools because of their better facilities and more highly trained faculties;

3. Urban communities offer a more varied range of occupational opportunities than do rural communities with the minimum requirements for entry being college training;
4. In rural communities, students are less likely to have first hand exposure to high prestige positions.

Pike (1970) has pointed out that the relationship between urban and university attendance may result because students in urban areas tend to live closer to universities. In addition, he contends that there may be a differing set of values and beliefs about education in rural and urban areas. In the same vein, Jencks and Reisman (1968) have found that with the increase in urbanization there has been a parallel increase in the number of families who can afford to send their children to college because they are likely to be closer to a university and thus, the total cost is lower. Also, living in a city increases a student's chances of getting a part-time job to help finance his education.

Sex differences have been uncovered with regard to the relationship between university plans and urban areas. Sewell (1964) found that this relationship was largely accounted for because of intelligence and socio-economic differences for females. He explains this in terms of the rural opportunity structure. He notes that females in rural areas are far more restricted in terms of occupational opportunities than males and thus, they have to look to the urban labor market for employment. Therefore, rural females "do not differ greatly from their urban counterparts in



their vocational and educational aspirations" (Sewell, 1964:36).

Gordon (1972) contends that a student needs a high self-concept in order to have a high educational aspiration. Kelly (1974) was concerned with this when he pointed out that if a student's self-concept is eroded then it is very likely that he will not plan to continue his education. It has been suggested that when a student is deciding to attend university, his self-esteem and self-concept are major factors in this consideration (Breton, 1972; Slocum, 1966).

Breton (1972) illustrates the relationship between self-concept and educational plans. More specifically, he notes that 77% of the males who estimate their chances of success as above average aspire to post-secondary education, while only 33% of those who estimate their chances of success as below average have such aspirations. For females similar results are noted, for example, 74% of those who estimate their chances of success as above average while only 35% of those who estimate their chances of success as below average have aspirations for a post-secondary education. Thus, we can see that there are great differences for both sexes between those students who have high estimates of their chances compared to those with low estimates.

Breton (1972) reports that the decision concerning the high school study program includes an implicit decision about an individual's future education. He explains that this is so because it is generally known that the different

high school programs are preparing students to take different occupations. Therefore, it is not surprising that a relationship has been found between program of study and the educational plans of high school students.

Jencks et al. (1972) note that little is known about the influences of tracking. However, they suspect that if a student is placed in an academic program rather than a non-academic program then it is more likely that he will plan to attend university. In addition, Kandel and Lesser (1970) note that most students with university plans tended to be in the same study program, the high academic program.

Breton (1972) has found that the relationship between program of study and educational plans maintains itself when mental ability, socio-economic background and language are taken into account.

Furthermore, Anderson and Tissier (1973) conducted a study where they found that the type of program the student was enrolled in was the single largest determinant of his educational aspiration level.

A student's plans for a particular occupation will also influence his decision to go to university or not. Hall (1969) contends that education is seen as a prerequisite for occupations in an industrial and technological changing society. Thus, it is reasonable to assume that a student planning on a certain career will most likely include university in his plans, especially if his occupational expectation is high. Coleman (1966) concurs with this when



he notes that students who have high educational expectations also have high occupational expectations. Venn (1964) explains that a student must now be aware that for a wide range of occupations, a high education is generally necessary.

On the basis of this review of the literature a causal model has been set up which specifies the relationship to be examined in the study (see Figure 1).

### THE HYPOTHESES

The following hypotheses have been organized into two sections, general research hypotheses and those hypotheses related to sex differences. The general hypotheses concern the broad aspects of this study, specifically the influences on a student's educational and career decisions. These hypotheses were used as background information and were tested while we examined the specific hypotheses relating to sex differences.

#### General Research Hypotheses

- 1 a. Mother's educational level will exert a positive influence on the program of study of males.
- b. Mother's educational level will exert a positive influence on the program of study of females.
- 2 a. Father's educational level will exert a positive influence on the study program of males.
- b. Father's educational level will exert a positive influence on the study program of females.
- 3 a. Mother's occupation will exert a positive influence on the program of study of males.

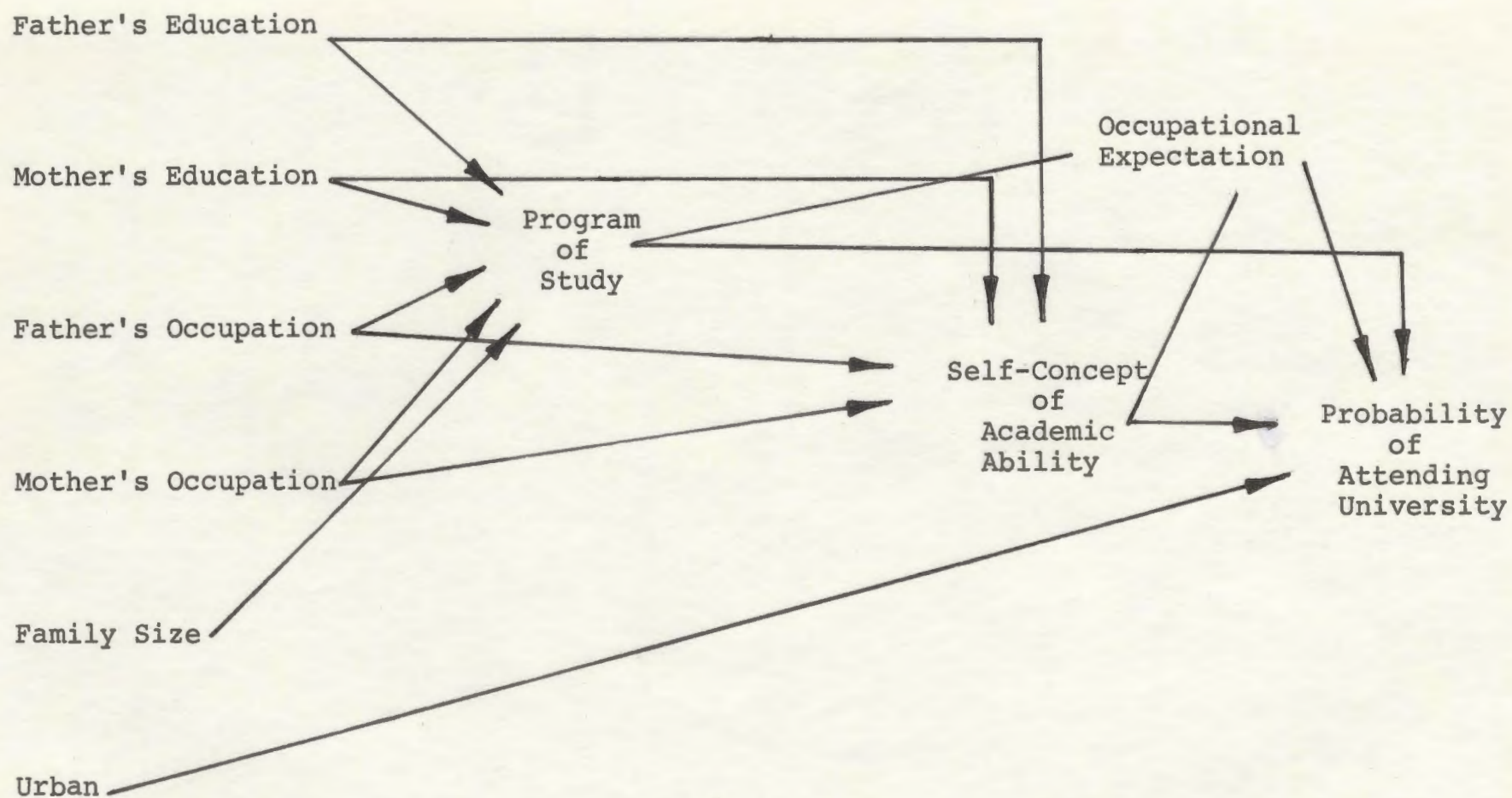


FIGURE 1. The Causal Model



- b. Mother's occupation will exert a positive influence on the program of study of females.
- 4 a. Father's occupation will exert a positive influence on the program of study for males.
- b. Father's occupation will exert a positive influence on the program of study for females.
- 5 a. The male's family size will exert a negative influence on his program of study.
- b. The female's family size will exert a negative influence on her program of study.
- 6 a. Mother's education will exert a positive influence on the self-concept of academic ability of males.
- b. Mother's education will exert a positive influence on the self-concept of academic ability of females.
- 7 a. Father's education will exert a positive influence on the student's self-concept of academic ability for males.
- b. Father's education will exert a positive influence on the student's self-concept of academic ability for females.
- 8 a. Mother's occupation will exert a positive influence on a male's self-concept of academic ability.
- b. Mother's occupation will exert a positive influence on a female's self-concept of academic ability.
- 9 a. Father's occupation will have a positive influence on a male's self-concept of academic ability.
- b. Father's occupation will have a positive influence on a female's self-concept of academic ability.
- 10 a. Program of study will have a positive influence on a male's self-concept of academic ability.
- b. Program of study will have a positive influence on a female's self-concept of academic ability.
- 11 a. Program of study will exert a positive influence on a male's occupational expectation.
- b. Program of study will exert a positive influence on a female's occupational expectation.

- 12 a. Self-concept will have a positive influence on a male's occupational expectations.
- b. Self-concept will have a positive influence on a female's occupational expectations.
- 13 a. Program of study will have a positive influence on a male's plans for university.
- b. Program of study will have a positive influence on a female's plans for university.
- 14 a. Self-concept of academic ability will exert a positive influence on a male's plans to attend university.
- b. Self-concept of academic ability will exert a positive influence on a female's plans to attend university.
- 15 a. Occupational expectation will exert a positive influence on a male's plans to attend university.
- b. Occupational expectation will exert a positive influence on a female's plans to attend university.

#### Hypotheses Related to Sex Differences

- 1. The influence of mother's education on program of study will be greater for females than males.
- 2. The influence of father's education on program of study will be less for females than males.
- 3. The influence of mother's occupation on program of study will be greater for females than males.
- 4. The influence of father's occupation on program of study will be less for females than males.
- 5. The influence of self-concept on a student's occupational expectation will be greater for females than males.
- 6. The influence of self-concept on plans to attend university will be greater for females than males.
- 7. The influence of occupational expectation on a student's plans to attend university will be less for females than males.



## CHAPTER III

### SAMPLE AND METHODOLOGY

This chapter consists of a description of the sample, instrument, and analysis of the data used in this study.

#### SAMPLE

The population of this study consisted of all grade eleven students who were enrolled in high schools in Newfoundland in 1973-74. All of these students were sent questionnaires by the enrollment committee. This committee was originally set up by Memorial University to study the drop in enrollment. The rate of return of the questionnaire was 87.6%. That is, 7,008 questionnaires were returned.

The data used in this study consisted of only those students who responded yes to question twenty on the questionnaire, specifically asking, "Do you plan to attend a post-secondary school next year?". There were 5,414 students who answered affirmatively on this question. The following table will help in providing a description of the sample of students we are dealing with.

From this, we can see that of the 5,283 students who aspired to post-secondary education, 54% (2,853) were females and 46% (2,430) were males. In addition, students in rural areas tended to be in the general program of study

more than the academic program for both sexes while students in urban areas were enrolled more in the academic than in the general program.

TABLE 2

Students with Post-Secondary School Plans by Sex, Program of Study and Urbanity

		Sex				Total
		Male		Female		
Program of Study		General	Academic	General	Academic	Total
Urbanity	Rural	68.3%	51.2%	69.7%	58.7%	3,076
		(364)	(972)	(407)	(1333)	
	Urban	31.7%	48.8%	30.3%	41.3%	2,207
		(169)	(925)	(177)	(936)	
Totals		533	1,897	584	2,269	5,283
		Missing Data				131
		Grand Total				5,414

## INSTRUMENT

The instrument used in this study consisted of a questionnaire that contained close-ended items. This questionnaire was constructed by the committee for the study of the decline in the enrollment at Memorial University, under



the supervision of Dr. Llewellyn Parsons.

For this study, the specific items on the questionnaire that were used and their operational definitions are the following:

### Sex

This variable was measured by the use of question one on the questionnaire which asked whether an individual was male or female.

### Father's and Mother's Occupation

These variables were measured by the use of question two which asked, "What are your parent's occupations?" A separate column was provided for the student to check both his father's and mother's occupation. The responses provided were as follows:

- Owner/manager of a large business
- Owner/manager of a small business
- Professional/technical
- Clerical
- Home Duties
- Sales
- Service and Recreation
- Transport and Communication
- Fishing
- Farm and Farm Workers
- Logging and Mining
- Craftsman
- Laborer
- Unemployed
- Other (please specify)
- Deceased

Father's occupation was split into five categories. Category one included those who were owners/managers of large and small businesses, and professional/technical men.

Category two included those in clerical, sales and craftsman occupations. Category three consisted of men in service and recreation and transport and communications. Category four included men in fishing, farming and logging. Category five consisted of laborers and those unemployed. Category one was said to be high, while category five was considered low on the father's occupational scale in descending order. Marginal distributions were consulted to ensure that roughly the same percentage of men were in each category. In addition, Blishen's (1968) occupational scale was used to help place the various occupations in the appropriate categories. Later on in the study, for the purpose of simpler cross tabulations and a more meaningful measure of association, father's occupation was dichotomized into high and low. High was a combination of all the occupations in the previous top three categories while low was categories four and five together.

Mother's occupation was dichotomized into working and non-working (response equalled home duties); a low measure on mother's occupation was non-working, while high meant working. Mother's occupation was not split into five categories as was father's occupation because the bulk of the mother's occupations reported (73.1%) was in the category of home duties and thus the other categories would have been too small for analysis.

#### Father's and Mother's Education

These variables were based on question four of the questionnaire which asked, "How far did your parents go in



school?" A separate column was provided for the student to check father's and mother's education. The responses provided for this question were the following:

- Grade five or less
- Grade six
- Grade seven
- Grade eight
- Grade nine
- Grade ten
- Grade eleven
- Some university
- Graduated from university
- Other post-secondary school
- Post-secondary technical training
- Nursing school
- Other (please specify)

Both father's and mother's education was dichotomized into high and low. Low consisted of grade nine or less while high was grade ten or more. The variables were split this way because marginal distributions indicated that this dichotomy roughly split the sample into equal parts.

### Family Size

This variable was based on question six in the questionnaire. This question asked, "How many brothers and sisters do you have?" The responses for this question were the following:

- None
- One
- Two
- Three
- Four
- Five
- Six
- Seven
- Eight or more

Family size was then divided into three parts: small, medium and large. Small families consisted of one or two children, medium families ranged from three to five children and large families consisted of six or more children. Family size was split in this way because the marginal distributions showed that generally an equal number of people were in each of the categories.

### Program of Study

Program of study was measured on the basis of question nine in the questionnaire. This question asked, "Which program of studies are you enrolled in this year?" The responses supplied were either academic or general. This variable was dichotomized into high, which is the academic program, and low, which is the general program of study. In theory, the academic program was designed to prepare the student for university while the general program was designed to prepare the student for a job or entry into a vocational or technical school.

### Self-Concept of Academic Ability

This variable was based on question seventeen which asked the student to rate himself on six dimensions. Specifically, the question asked, "Rate yourself along each of the dimensions listed below."

Your ability compared with that of your close friends

Your ability compared with that of other members of your school class



Your ability to complete a university degree

Your ability to complete a post-graduate university degree like a M.A.

The quality of your own work at present

The kind of grades (marks) you are capable of getting

The students were asked to rate themselves along each of these six statements on a five point scale from low (1) to high (5). The highest possible score a student could get was thirty, which meant that he answered five on all six dimensions. The variable was dichotomized in such a way that a score of one to fifteen was considered low while a score from sixteen to thirty was high. Since there was a need to dichotomize this variable for the analysis it was reasonable to choose midway between thirty for the dividing point.

#### Occupational Expectation

This variable was based on question nineteen in the questionnaire. This question asked the student to "please indicate the category of occupations you would like to have and the category you expect to have when you finish your schooling. The responses provided were the following:

- Owner/manager of a large business
- Professional/technical
- Owner/manager of a small business
- Clerical
- Sales
- Service and Recreation
- Transport and Communication
- Fishing
- Farm and Farm Workers
- Logging and Mining

Craftsman  
 Laborer  
 Other  
 Home Duties

This variable was split into five parts using the same categories as father's occupation, where category one is high and category five is low.

### Aspirations to Attend University

This variable was based on question twenty-one on the questionnaire, which asked, "Which post-secondary school do you expect to attend in 1974-75?" The responses provided are the following:

College of Trades and Technology  
 College of Fisheries  
 Vocational School (which one)  
 Memorial University  
 Other university (which one)  
 Nursing School  
 Other (please specify)

This variable was then dichotomized into university and other. The other category consisted of College of Trades and Technology, College of Fisheries, Vocational School, another university, nursing school, and other. A high score on this variable consisted of the reply, Memorial University.

### Urban

The urbanity variable was based on the school number that was placed on each questionnaire. The school and community could be identified from this number. The variable was dichotomized into rural and urban areas. Urban areas consisted of St. John's, Corner Brook, Stephenville, Labrador



City, Wabush, Gander and Grand Falls. All other areas in Newfoundland were classified as rural.

#### ANALYSIS OF THE DATA

The variables chosen for this study were based on a review of the literature which showed that these were important factors in a student's educational and career decisions. These variables that were suggested by reviewing the literature were verified by regression analysis.

Cross tabulations were then made for the independent variables and their dependent variables for males and females separately. From these calculations, tables were constructed showing the relationships between variables. The percentage differences within these tables were tested for significance by a method devised by Davies (1962). For this procedure, the .01 level was considered necessary for important differences. This method, however, can only be used for sample sizes between ten and one thousand; therefore, some percentage differences could not be examined.

In order to test the hypotheses, Spady's measure of association, Weighted Net Percentage difference was used. This procedure is a non-parametric technique for analyzing individual effects and interrelationships of several variables at one time. Spady notes that it is a "convenient and useful technique for computing the net (or partial) effect of a given ordinal or categorical independent variable on a

categorical dependent variable" (Spady, 1970:3). This is done while holding the other independent variables constant. One who is familiar with the multiple-regression approach will understand that it basically does the same work as a regression analysis.

The measure received for the relationship between the two variables can be easily interpreted. The strength of the relationship can be determined by examining the magnitude of the differences in the percentage in the categories of the dependent variable. To this effect, Spady (1970:4) states that "in general the larger the percentage difference the more the dependent variable varies according to changes in the independent variable, i.e., the more they are related".



## CHAPTER IV

### FINDINGS AND DISCUSSION

This chapter is divided into two sections. In the first section, we examine the specific findings of the study using cross-tabular analysis. The findings are examined under sub-headings which represent the twenty-two hypotheses we set out to test. In other words, each hypothesis is stated and the results are given which lead to either their acceptance or rejection. In the second section of this chapter we will discuss the findings in light of previous research.

### RESULTS

The regression program and the review of the literature were the basis for the development of the hypotheses. The cross-tabular results given in this section show the strength and direction of the relationships in the causal model. We begin this analyses by examining Hypothesis 1 of the general research hypotheses.

Hypothesis 1 a. Mother's educational level will exert a positive influence on the program of study for males.

Table 3 shows the relationships between these variables. This table provides the data for the calculation of Spady's WNPD.

TABLE 3

Program of Study, Mother's Education, Father's Occupation, Father's Education and Family Size for Males

FATHER'S OCCUPATION		1 (Low)						2											
FATHER'S EDUCATION		Low			High			Low			High								
FAMILY SIZE		S	M	L	S	M	L	S	M	L	S	M	L						
LOW	LOW	22.2	30.7	36.8	50.0	15.4	11.1	13.6	34.0	29.2	--	33.3	--						
		(6)	(23)	(32)	(1)	(2)	(1)	(3)	(16)	(14)	--	(1)	--						
	HIGH	77.8	69.3	63.2	50.0	84.6	88.9	86.4	66.0	70.8	100.0	66.7	100.0						
		(21)	(52)	(55)	(1)	(11)	(8)	(19)	(31)	(34)	(1)	(2)	(1)						
HIGH	LOW	28.6	32.0	25.0	28.6	27.3	46.2	42.9	11.1	10.0	--	--	--						
		(2)	(8)	(6)	(2)	(3)	(6)	(3)	(2)	(1)	--	--	--						
	HIGH	71.4	68.0	75.0	71.4	72.7	53.8	57.1	88.9	90.0	100.0	100.0	100.0						
		(5)	(17)	(18)	(5)	(8)	(7)	(4)	(16)	(9)	(3)	(2)	(2)						
<hr/>																			
FATHER'S OCCUPATION		3						4						5 (High)					
FATHER'S EDUCATION		Low			High			Low			High			Low			High		
FAMILY SIZE		S	M	L	S	M	L	S	M	L	S	M	L	S	M	L	S	M	L
LOW	LOW	16.7	18.8	46.7	--	28.6	20.0	18.4	32.1	33.3	19.0	30.0	20.0	27.3	39.1	50.0	18.2	17.6	10.0
		(2)	(3)	(7)	--	(2)	(2)	(7)	(18)	(26)	(4)	(9)	(6)	(3)	(9)	(10)	(2)	(3)	(1)
	HIGH	83.3	81.3	53.3	100.0	71.4	80.0	81.6	67.9	66.7	81.0	70.0	80.0	72.7	60.9	50.0	81.8	82.4	90.0
		(10)	(13)	(8)	(3)	(5)	(8)	(31)	(38)	(52)	(17)	(21)	(24)	(8)	(14)	(10)	(9)	(14)	(9)
HIGH	LOW	33.3	25.0	20.0	5.6	7.7	31.3	22.2	25.0	18.4	7.1	10.2	11.1	--	17.2	13.3	1.1	6.2	11.8
		(2)	(2)	(3)	(1)	(1)	(5)	(6)	(11)	(7)	(4)	(9)	(5)	--	(5)	(2)	(1)	(6)	(4)
	HIGH	66.7	75.0	80.0	94.4	92.3	68.8	77.8	75.0	81.6	92.9	89.8	88.9	100.0	82.8	86.7	98.9	93.8	88.2
		(4)	(6)	(12)	(17)	(12)	(11)	(21)	(33)	(31)	(52)	(79)	(40)	(13)	(24)	(13)	(91)	(91)	(30)



In the analysis using WNPD, the measure of association between mother's education and program of study is 9.44%. That is, males whose mothers' educations are high have a 9.44% advantage over those males whose mothers' educations are low when enrolling in the academic program of study.

More specifically, the effect of mother's education on a male's program of study was especially strong when father's occupation was low (4), father's education was high, and family size was medium. When these variables had such values, the difference between males whose mothers' educations were low and high was 19.8% in favor of those whose mothers' educations were high. This is a statistically significant difference between the percentages 70.0% and 89.8% in Table 3.

We may now conclude that this hypothesis is accepted. Mother's education was seen as having a positive influence upon program of study for males.

Hypothesis 1 b. Mother's educational level will exert a positive influence on the program of study for females.

Table 4 shows the relationship between these variables. In the analysis using WNPD, based on this table, the measure of association between mother's education and program of study is 12.74%. This indicates that there is a strong positive relationship between these variables. That is, females whose mothers have a high educational level have a 12.74% advantage of enrolling in the academic program of

TABLE 4

Program of Study, Mother's Education, Father's Occupation and Family Size for Females

MOTHER'S EDUCATION		Low														
		1			2			3			4			5		
FATHER'S OCCUPATION		S	M	L	S	M	L	S	M	L	S	M	L	S	M	L
FAMILY SIZE		S	M	L	S	M	L	S	M	L	S	M	L	S	M	L
PROGRAM OF STUDY	LOW	31.7	26.1	30.5	26.9	35.6	22.7	25.0	29.4	36.1	18.8	19.7	33.1	4.2	23.8	17.9
		(13)	(29)	(51)	(7)	(21)	(17)	(6)	(15)	(13)	(9)	(26)	(45)	(1)	(15)	(7)
	HIGH	68.3	73.9	69.5	73.1	64.4	77.3	75.0	70.6	63.9	81.3	80.3	66.9	95.8	76.2	82.1
		(28)	(82)	(116)	(19)	(38)	(58)	(18)	(36)	(23)	(39)	(106)	(91)	(23)	(48)	(32)
-----																
MOTHER'S EDUCATION		High														
		1			2			3			4			5		
FATHER'S OCCUPATION		S	M	L	S	M	L	S	M	L	S	M	L	S	M	L
FAMILY SIZE		S	M	L	S	M	L	S	M	L	S	M	L	S	M	L
PROGRAM OF STUDY	LOW	15.4	21.7	13.9	18.8	16.1	100.0	5.3	8.8	26.9	9.9	13.6	12.0	1.2	4.4	16.7
		(4)	(13)	(5)	(3)	(5)	(2)	(2)	(6)	(7)	(9)	(19)	(10)	(1)	(5)	(10)
	HIGH	84.6	78.3	86.1	81.3	83.9	90.0	94.7	91.2	73.1	90.1	86.4	88.0	98.8	95.6	83.3
		(22)	(47)	(31)	(13)	(26)	(18)	(36)	(62)	(19)	(82)	(121)	(73)	(81)	(109)	(50)



study over the female students whose mothers have a low educational level.

Furthermore, there are large significant percentage differences between the females in the academic program whose mother's educations are low as compared to those whose mother's educations are high, particularly when father's occupation is low and family size is medium (Table 4).

Thus, we may conclude that Hypothesis 1 b. is accepted.

Hypothesis 2 a. Father's educational level will exert a positive influence on the program of study for males.

Table 3 was used in calculating the WNPD for the relationship between father's education and program of study. As a result of this procedure, the measure of association between these variables was 9.61% which indicates that a positive association exists between father's education and program of study. We may conclude that this hypothesis is accepted for males. Father's education did exert a positive influence on their program of study.

Hypothesis 2 b. Father's educational level will exert a positive influence on the program of study for females.

The data for this study did not meet regression analysis assumptions. However, the regression procedure was sufficient to give an estimate of the value of Spady's measure of association had it been calculated. The regression procedure revealed that father's educational level

was not a significant influence on a female's program of study at the .05 level and thus, if a WNPD would have been calculated between these two variables, it would have most likely been almost negligible.

Therefore, we may conclude that Hypothesis 2 b. is rejected.

Hypothesis 3 a. Mother's occupation will exert a positive influence on a male's program of study.

The regression procedure revealed that there was not a significant relationship between these two variables at the .05 level. This regression procedure provided a basis for estimating the WNPD for this analysis. Since the regression procedure did not find this relationship significant, we may assume that a measure of association calculated would have probably been very small.

Thus, we are able to conclude that this hypothesis is rejected.

Hypothesis 3 b. Mother's occupation will exert a positive influence on a female's program of study.

For females, we may also estimate that there is not a significant relationship between mother's occupation and program of study. This is so because the regression procedure did not find this relationship significant and thus, if a measure of association had been calculated it would have very likely been negligible. Therefore, we may conclude that Hypothesis 3 b. is rejected.



Hypothesis 4 a. Father's occupation will exert a positive influence on program of study for males.

Table 3 provides the data for the calculation of the WNPD procedure between these two variables. The value obtained from this procedure was 11.50%. This indicates that males whose fathers' occupations are high have a 11.50% advantage over those whose fathers' occupations are low.

The results of this analysis lead us to accept this hypothesis.

Hypothesis 4 b. Father's occupation will exert a positive influence on program of study for females.

Table 4 shows the basic cross tabular relationships between these variables. The WNPD procedure showed that the measure of association between these two variables was 6.03% which indicates that father's occupation is a positive influence on a female's program of study. In addition, when mother's education was low and family size was small, the influence of father's occupation on a female's program of study is particularly strong. When mother's education, family size and father's occupation were controlled, there is a 13.8% difference between those females in the academic program whose fathers' occupations are low (17.9%) compared to those whose fathers' occupations are high (31.7%). The influence of father's occupation on program of study is also strong when mother's education was high and family size was medium, and so when these variables are held constant, there is a 17.3% difference between those females enrolled in the

academic program whose father's have a low occupation (4.4%) and those who have a high occupation (21.7%).

Therefore, we may accept Hypothesis 4 b. Father's occupation was found to be a positive influence on a female's program of study.

Hypothesis 5 a. The student's family size will exert a negative influence on a male's program of study.

Table 3 shows the relationship between these two variables for males. The measure of association calculated for these students was 6.6%. This value indicates that those males who come from large families have a 6.6% disadvantage when entering the academic program over those from small families.

As a result of this analysis, we are able to accept the hypothesis that family size exerts a negative influence on a male's program of study.

Hypothesis 5 b. The student's family size will exert a negative influence on a female's program of study.

The relationships between these variables, family size and program of study are shown in Table 4. For females, family size was found to influence their program of study. The measure of association between family size and program of study was calculated as 9.2%. This value indicates that family size exerts a strong negative effect on a female's program of study. In other words, those females who come from a family of six or more children have a 9.2% dis-



advantage when compared with those who come from families of one or two.

More specifically, family size was seen as having a particularly strong negative effect on a female's program of study when mother's education was high and father's occupation was low. When these values for mother's education and father's occupation were held constant, the percentage difference between females in the academic program with small families which was 90.1%, and those with large families which was 88.0%, was found statistically significant. Thus, the interaction of mother's education and father's occupation helped to strengthen the effect of family size on program of study.

Therefore, we may conclude that Hypothesis 5 b. is accepted.

Hypothesis 6 a. Mother's education exerts a positive influence on self-concept of academic ability for males.

Table 5 shows the relationship between mother's education and self-concept for males. Mother's education was seen as having a positive influence on the self-concept of academic ability of males. The measure of association calculated for this relationship was 5.11%. That is, a male whose mother's education is high has a 5.11% advantage over one whose mother's education is low. More specifically, mother's education was seen as having a particularly strong effect especially when the male's program of study

was high. At this level we found that there was a significant difference between the percentages of students having a high self-concept whose mothers' educations were low (79.6%) and those students whose mothers' educations were high (91.3%) (Table 5).

As a result of this analysis, we may conclude that Hypothesis 6 a. is accepted.

TABLE 5

Self-Concept of Academic Ability, Mother's Education, Program of Study for Males

Mother's Education		Low		High	
Program of Study		General	Academic	General	Academic
SELF-CONCEPT OF ACADEMIC ABILITY	Low	30.1 (96)	12.8 (97)	20.4 (32)	8.7 (82)
	High	69.9 (223)	87.2 (660)	79.6 (125)	91.3 (862)

Hypothesis 6 b. Mother's education exerts a positive influence on self-concept of academic ability for females.

Table 6 shows the relationship between these variables. Mother's education was seen as having a positive influence on a female's program of study. Spady's measure of association between these two variables was 4.86% which



indicates that a female whose mother's education is high has a 4.86% advantage of having a high self-concept over that of a female whose mother's education is low when program of study is controlled. Furthermore, the effect of this relationship was strongest when the female's program of study was high. That is, a significant difference was found between the percentage of high self-concept females whose mothers' educations were low (86.3%) and those whose mothers' educations were high (90.8%) when program of study was high. Thus, a high program of study helped to strengthen the relationship between mother's education and self-concept for females.

Therefore, we may conclude that Hypothesis 6 b. is accepted.

TABLE 6

Self-Concept of Academic Ability, Mother's Education and Program of Study for Females

Mother's Education		Low		High	
Program of Study		General	Academic	General	Academic
SELF-CONCEPT OF ACADEMIC ABILITY	Low	31.3 (122)	13.7 (142)	23.0 (34)	9.2 (95)
	High	68.7 (268)	86.3 (896)	77.0 (114)	90.8 (933)

Hypothesis 7 a. Father's education will exert a positive influence on a male's self-concept of academic ability.

The regression procedure showed that there was not a significant relationship between the variables father's education and self-concept. These results provided a basis for estimating that a measure of association calculated would most likely be very small.

Therefore, we may conclude that this hypothesis is rejected.

Hypothesis 7 b. Father's education will exert a positive influence on a female's self-concept of academic ability.

For females, we may also estimate that there is not a significant relationship between father's education and self-concept. The regression analysis did not find this relationship significant at the .05 level and, therefore, if a measure of association had been calculated it most likely would have been very small.

On the basis of this, Hypothesis 7 b. is rejected.

Hypothesis 8 a. Mother's occupation will exert a positive influence on a male's self-concept of academic ability.

The regression procedure revealed that mother's occupation was not a significant influence on a male's self-concept of academic ability. From this, we may estimate that a measure of association calculated for these variables would be almost negligible.

Thus, we may conclude that Hypothesis 8 a. is rejected. Mother's occupation may not be seen as a significant



influence on a male's self-concept of academic ability.

Hypothesis 8 b. Mother's occupation will exert a positive influence on a female's self-concept of academic ability.

For females, the regression procedure also showed that mother's occupation was not a significant influence on their self-concept. As a result of this, it can be estimated that Spady's measure of association between these variables would be very small.

Therefore, we are able to reject Hypothesis 8 b.

Hypothesis 9 a. Father's occupational status will have a positive influence on a male's self-concept of academic ability.

The regression procedure conducted revealed that father's occupational status was not a significant influence on a male's self-concept. This finding leads us to estimate that a measure of association calculated for these variables would very likely be negligible.

Therefore, we may reject this hypothesis that father's occupational status is a positive influence on a male's self-concept.

Hypothesis 9 b. Father's occupational status will have a positive influence on a female's self-concept of academic ability.

The regression procedure also showed that father's occupation was not a significant influence on a female's self-concept. As a result of the finding, we may conclude

a measure of association calculated for these variables would most likely be very small.

Therefore, we may reject Hypothesis 9 b.

Hypothesis 10 a. Program of study will have a positive influence on a male's self-concept of academic ability.

Table 5 shows the relationship between program of study and self-concept for males. It should be noted that there exists a positive association between their program of study and their self-concept. The measure of association between these two variables is 14.8%. This indicates that those who are enrolled in the academic program of study have a 14.83% advantage of having a high self-concept over those in the general program. It may be noted that the magnitude of the association is very similar to this same relationship for females.

This relationship remained strong for males when mothers had a low or high education. In other words, within all the categories of mother's education, the percentage differences in self-concept between those in the general and those in the academic program were found to be statistically significant. These percentage differences can be seen in Table 5. As a result of this analysis, Hypothesis 10 a. is accepted.

Hypothesis 10 b. Program of study will have a positive influence on a female's self-concept of academic ability.

Table 6 shows the relationships between these two variables. For females, it is noted that a high positive



relationship exists between program of study and self-concept. The measure of association calculated for this relationship had a value of 15.63%. This indicates that females who are enrolled in the academic program have a 15.63% advantage over those enrolled in the general program in terms of having a high self-concept. Furthermore, the effect of program of study on students' self-concept was especially strong when mother's education was both high and low. Thus, within both categories of mother's education, the percentage differences in self-concept between those in the general and academic program were quite large and found to be statistically significant. These percentages can be found in Table 6 for females.

The results of this analysis lead us to accept Hypothesis 10 b.

Hypothesis 11 a. Program of study will exert a positive influence on a student's occupational expectations for males.

The relationship between program of study and occupational expectation is shown in Table 7. For males, a measure of association was calculated for the relationship between program of study and occupational expectation and the value obtained is 21.93%. This is indicative of a very strong positive relationship between these variables. In addition, the effect of program of study on occupational expectation was found to be generally strong when father's and mother's education were low, family size was large, and

self-concept was high. When the values for these variables were held constant, the percentages of males with high occupational expectations in the general program differed significantly from the males with high occupational expectations in the academic program. These percentages can be found in Table 7.

From this analysis, Hypothesis 11 a. is accepted.

Hypothesis 11 b. Program of study will exert a positive influence on a student's occupational expectations for females.

The relationships between program of study and occupational expectation are shown in Table 8. The measure of association for this relationship is 30.05% for females. In other words, females who are enrolled in the academic program have a 30.03% advantage over those in the general program of having a high occupational expectation. Furthermore, the effect of program of study on occupational expectation is especially strong when mother's education was low or high, self-concept was high, and father's occupation was low (value of 4 or 5). When the values of these variables were held constant as above, there was a significant difference between the percentages of students who had a high occupational expectation in the academic program, compared with the students who had a high occupational expectation in the general program. Thus, certain aspects of the variables mother's education, self-concept and father's occupation helped contribute to strengthening the effect of



TABLE 7

Occupational Expectation, Father's Education, Mother's Education, Family Size, Program of Study and Self-Concept of Academic Ability for Males

		MOTHER'S EDUCATION													
		Low													
		FAMILY SIZE				Medium				Large					
		Small		High		Low		High		Low		High			
		PROGRAM OF STUDY		Low		High		Low		High		Low		High	
		SELF-CONCEPT OF ACADEMIC ABILITY		L	H	L	H	L	H	L	H	L	H	L	H
Occupational Expectation	Father's Education	LOW	60.0 (3)	78.6 (11)	85.7 (12)	53.2 (42)	83.3 (10)	74.1 (40)	66.7 (10)	63.1 (82)	86.5 (32)	78.3 (47)	85.7 (18)	58.1 (79)	
		HIGH	100.0 (4)	100.0 (4)	100.0 (1)	41.9 (13)	100.0 (2)	80.0 (8)	60.0 (3)	54.7 (29)	33.3 (1)	90.0 (10)	80.0 (4)	62.2 (23)	
		LOW	40.0 (2)	21.4 (3)	14.3 (2)	46.8 (37)	16.7 (2)	25.9 (14)	33.3 (5)	36.9 (48)	13.5 (5)	21.7 (13)	14.3 (3)	41.9 (57)	
		HIGH	--	--	--	58.1 (18)	--	20.0 (2)	40.0 (2)	45.3 (24)	66.7 (2)	9.1 (1)	20.0 (1)	37.8 (14)	
		MOTHER'S EDUCATION													
		High													
		FAMILY SIZE				Medium				Large					
		Small		High		Low		High		Low		High			
		PROGRAM OF STUDY		Low		High		Low		High		Low		High	
		SELF-CONCEPT OF ACADEMIC ABILITY		L	H	L	H	L	H	L	H	L	H	L	H
Occupational Expectation	Father's Education	LOW	60.0 (3)	62.5 (5)	50.0 (2)	50.0 (24)	83.3 (5)	55.0 (11)	71.4 (10)	47.1 (41)	--	82.4 (14)	66.7 (4)	61.0 (47)	
		HIGH	100.0 (2)	60.0 (3)	71.4 (5)	32.2 (57)	75.0 (3)	69.2 (9)	68.8 (11)	37.7 (69)	83.3 (5)	70.6 (12)	71.4 (5)	53.8 (43)	
		LOW	40.0 (2)	37.5 (3)	50.0 (2)	50.0 (24)	16.7 (1)	45.0 (9)	28.6 (4)	52.9 (46)	--	17.6 (3)	33.3 (2)	39.0 (30)	
		HIGH	--	40.0 (2)	28.6 (2)	67.8 (120)	25.0 (1)	30.8 (4)	31.3 (5)	62.3 (114)	16.7 (1)	29.4 (5)	28.6 (2)	46.3 (37)	

TABLE 8

Occupational Expectation, Father's Occupation, Mother's Education, Program of Study and Self-Concept of Academic Ability for Females

Occupational Expectations		Father's Occupation	Low				High			
			Mother's Education		Program of Study		Mother's Education		Program of Study	
			General	Academic	General	Academic	General	Academic	General	Academic
Self-Concept of Academic Ability			L	H	L	H	L	H	L	H
LOW	1	1	76.2 (16)	88.1 (37)	80.0 (20)	70.0 (105)	100.0 (2)	76.9 (10)	62.5 (5)	44.1 (30)
		2	75.0 (3)	84.0 (21)	100.0 (13)	57.7 (45)	100.0 (4)	66.7 (4)	33.3 (1)	46.5 (20)
		3	91.7 (11)	70.0 (7)	75.0 (3)	47.5 (28)	100.0 (2)	55.6 (5)	60.0 (6)	52.4 (44)
		4	85.0 (17)	83.7 (36)	87.0 (20)	48.1 (78)	66.7 (4)	87.5 (14)	93.8 (15)	40.7 (83)
		5	100.0 (2)	85.7 (12)	75.0 (6)	39.7 (31)	-- (4)	66.7 (8)	66.7 (8)	34.4 (66)
		1	23.8 (5)	11.9 (5)	20.0 (5)	30.0 (45)	-- (3)	23.1 (3)	37.5 (3)	55.9 (38)
		2	25.0 (1)	16.0 (4)	-- (33)	42.3 (33)	-- (2)	33.3 (2)	66.7 (2)	53.5 (23)
		3	8.3 (1)	30.0 (3)	25.0 (1)	52.5 (31)	-- (4)	44.4 (4)	40.0 (4)	47.6 (40)
		4	15.0 (3)	16.3 (7)	13.0 (3)	51.9 (84)	33.3 (2)	12.5 (2)	6.3 (1)	59.3 (121)
		5	-- (2)	14.3 (2)	25.0 (2)	60.3 (47)	100.0 (2)	33.3 (2)	33.3 (4)	65.6 (126)



program of study on occupational expectation.

Therefore, we are able to conclude that program of study does exert a positive influence on occupational expectation. On the basis of this, Hypothesis 11 b. is accepted.

Hypothesis 12 a. Self-concept will exert a positive influence on the occupational expectations of males.

The relationship between self-concept and occupational expectation is shown in Table 7. The measure of association calculated for this relationship was 23.10% which indicates that a strong positive association exists between self-concept and occupational expectation for males. In addition, those males with high self-concepts have a 23.10% advantage of having a high occupational expectation over those whose self-concepts are low.

From this analysis, we are lead to accept Hypothesis 12 a.

Hypothesis 12 b. Self-concept will exert a positive influence on the occupational expectations of females.

Table 8 shows the relationship between these two variables. A measure of association was calculated for the relationship between self-concept and occupational expectation and the resulting value if 28.80% for females. This indicates that a strong positive association exists between these two variables. The relationship was especially strong when father's and mother's education was low, program of

study was high and family size was small. It should be noted that the relationship between self-concept and occupational expectation also remained strong when mother's and father's education was low, program of study was high and family size was medium. Thus, the interaction of these variables helps to strengthen the effect of self-concept on occupational expectations.

From this analysis, we are lead to accept Hypothesis 12 b.

Thus, we have shown that self-concept of academic ability and program of study have strong positive effects on a student's occupational expectation. Although not hypothesized, some family factors were also found to directly influence a student's occupational expectation. As a result of the regression procedure, it was found that mother's education, father's education, father's occupation, and family size had a significant influence on the occupational expectations of both males and females. Measures of association, using Spady's procedure, were calculated for the relationships between these family factors and occupational expectation, and they are presented in Table 9.

It is observed that for males, the higher the mother's and father's education, and the smaller the family size, the more they were likely to have a high occupational expectation. Father's occupation was not found to be a significant influence on occupational expectation in the regression procedure, and therefore, no further analysis



was done concerning it. For females, the higher the mother's education and father's occupation, the more likely females were to exhibit a high occupational expectation. It should be noted that for females, father's education and family size were not found to be significant influences in the regression procedure for occupational expectation, therefore no further analyses were conducted concerning these variables.

TABLE 9

WNPD for Occupational Expectation Resulting From Mother's and Father's Education, Father's Occupation, and Family Size for Both Sexes

Family Factors	Sex	
	Males	Females
Mother's Education	9.47%	8.60%
Father's Education	7.90%	--
Father's Occupation	--	10.4 %
Family Size	-11.6 %	--

Upon further examination of the relationship between the family factors and occupational expectation, it was found that the influence of each family factor was strongest when program of study and self-concept were high. This indicates that the influence of family factors on occupational expectation was partially contingent upon the student having a high self-concept and being enrolled in the academic program of study.

Thus, we may generally conclude that with regard to a student's occupational expectation, program of study and self-concept of academic ability are the major influences for both sexes. Furthermore, these effects are almost twice as powerful as any other factor.

Hypothesis 13 a. Program of study will have a positive influence on a male's plans for university.

The relationship between program of study and plans for university is shown in Table 10. For males, the measure of association calculated for the relationship was 46%. This indicates that a very strong relationship occurs between these two variables, such that a male who is in the academic program has a 46% advantage over one in the general program of planning on attending university.

From this, we are able to accept Hypothesis 13 a.

Hypothesis 13 b. Program of study will have a positive influence on a female's plans for university.

Table 10 shows the relationship between these two variables. For females, the measure of association calculated for program of study and plans for university showed a value of 36.08%. This value indicates that there is a positive relationship between these two variables and that a student in the academic program has a 36.08% advantage over one in the general program of planning on attending university.

Therefore, we are lead to accept Hypothesis 13 b.



TABLE 10

Probability of Attending University by Mother's Education, Father's Education, Family Size, Program of Study, Self-Concept, Occupational Expectations and Urbanity for Males

PROGRAM OF STUDY				Low								High							
SELF-CONCEPT				Low				High				Low				High			
OCCUPATIONAL EXPECTATION				Low		High		Low		High		Low		High		Low		High	
URBANITY				L	H	L	H	L	H	L	H	L	H	L	H	L	H	L	H
WOL	Low	WOL	S	100.0	100.0	100.0		100.0	100.0	100.0	100.0	90.0	100.0			83.3	77.8	44.0	54.4
			M	(2)	(1)	(2)		(7)	(4)	(2)	(1)	(9)	(1)			(25)	(7)	(11)	(6)
			L	100.0	100.0	100.0		96.7	100.0	90.0	100.0	100.0	100.0	75.0		81.5	53.8	67.6	54.5
				(5)	(2)	(2)		(29)	(9)	(9)	(3)	(9)	(1)	(3)		(53)	(7)	(25)	(6)
			S	100.0	100.0	100.0		97.1	100.0	100.0	100.0	100.0	100.0	100.0	100.0	76.7	83.3	61.6	50.0
				(24)	(8)	(5)		(34)	(10)	(10)	(1)	(15)	(2)	(1)	(2)	(46)	(15)	(22)	(8)
	High	WOL	S	100.0	100.0			100.0	100.0			100.0	100.0			85.7	66.7	25.0	44.4
			M	(2)	(1)			(3)	(1)			(2)	(1)			(6)	(4)	(2)	(4)
			L	100.0	100.0			100.0	100.0	100.0		100.0	100.0	100.0	100.0	50.0	50.7	46.2	44.4
				(4)	(2)			(4)	(3)	(2)		(1)	(2)	(1)	(1)	(7)	(7)	(6)	(4)
			S	100.0		100.0		100.0	100.0	100.0		100.0	100.0		100.0	81.8	66.7	50.0	33.3
				(1)		(2)		(4)	(6)	(1)		(2)	(2)		(1)	(9)	(8)	(4)	(2)
WOL	High	WOL	S	100.0	100.0	100.0	100.0	100.0	100.0	50.0		100.0	100.0	100.0	100.0	46.2	81.8	35.7	22.2
			M	(2)	(1)	(1)	(1)	(2)	(1)	(1)		(1)	(1)	(1)	(1)	(6)	(9)	(5)	(2)
			L	100.0	100.0	100.0		88.9	100.0	100.0	100.0	100.0	100.0	50.0	50.0	80.8	80.0	55.6	33.3
				(3)	(2)	(1)		(8)	(2)	(3)	(5)	(6)	(3)	(1)	(1)	(21)	(12)	(15)	(6)
			S	100.0				100.0	83.3	100.0	100.0	66.7	100.0		50.0	72.7	75.0	73.3	42.9
				(1)				(8)	(5)	(1)	(1)	(2)	(1)		(1)	(24)	(9)	(11)	(6)
	High	WOL	S	100.0	100.0			100.0	100.0	100.0	100.0	100.0		50.0	57.9	51.4	38.1	31.6	
			M	(1)	(1)			(2)	(1)	(1)	(1)			(1)	(11)	(19)	(8)	(30)	
			L		100.0		100.0	100.0	66.7	100.0		75.0	85.7	66.7	100.0	76.2	52.3	30.3	26.6
					(3)		(1)		(6)	(2)	(1)	(3)	(2)	(2)	(2)	(16)	(23)	(10)	(21)
			S	100.0	100.0			100.0	83.3	100.0	100.0		100.0		100.0	92.2	65.5	50.0	50.0
				(2)	(3)			(5)	(5)	(4)	(1)		(3)		(2)	(13)	(19)	(5)	(3)
WOL	High	WOL	S									10.0			100.0	16.7	22.2	56.0	45.5
			M					3.3		10.0		(1)			(2)	(5)	(2)	(14)	(5)
			L					(1)		(1)				25.0	100.0	18.5	46.2	32.4	45.5
														(1)	(1)	(12)	(6)	(12)	(5)
			S													23.3	16.7	38.9	50.0
																(14)	(3)	(14)	(8)
	High	WOL	S													14.3	33.3	75.0	55.6
			M													(1)	(2)	(6)	(5)
			L					100.0					85.7			50.0	50.0	53.8	55.6
								(3)					(6)			(7)	(7)	(7)	(5)
			S							50.0		33.3				18.2	33.3	50.0	66.7
										(1)		(1)				(2)	(4)	(4)	(4)
WOL	High	WOL	S													53.8	18.2	64.3	77.8
			M													(7)	(2)	(9)	(7)
			L					11.1			16.7			50.0	50.0	19.2	20.0	44.4	66.7
								(1)			(1)			(1)	(1)	(5)	(3)	(12)	(12)
			S					2.9						50.0	26.7	27.3	25.0	26.7	57.1
								(1)						(1)	(9)	(3)	(4)	(8)	
	High	WOL	S												50.0	42.1	48.6	61.9	68.4
			M													(8)	(18)	(13)	(65)
			L							33.3		25.0	14.3	33.3	23.8	47.7	69.7	73.4	
										(1)		(1)	(1)	(1)	(1)	(10)	(5)	(3)	
			S					16.7				100.0			7.1	34.5	50.0	50.0	
								(1)				(2)			(1)	(10)	(5)	(3)	

Hypothesis 14 a. Self-concept of academic ability will exert a positive influence on a male's plans to attend university.

The relationship between self-concept and plans to attend university is shown in Table 10. The measure of association calculated for these two variables is 34%. This indicates that a strong positive relationship exists between self-concept and plans to attend university, such that a male student with a high self-concept is more likely to plan on attending university than one with a low self-concept.

This analysis leads us to accept Hypothesis 14 a.

Hypothesis 14 b. Self-concept of academic ability will exert a positive influence on a female's plans to attend university.

The relationships between these two variables is shown in Table 11. The measure of association calculated for self-concept and plans to attend university is 28.1% for females. This indicates that a strong positive association exists between these two variables such that a female with a high self-concept will have a 28.1% advantage of attending university over one with a low self-concept.

Therefore, Hypothesis 14 b. is accepted.

Hypothesis 15 a. Occupational expectation will exert a positive influence on a male's plans to attend university.

Table 10 shows the relationship between these variables. For males, the measure of association between occupational expectation and plans to attend university had



TABLE 11

Probability of Attending University by Father's Education, Mother's Education, Program of Study, Self-Concept, Occupational Expectation, Father's Occupation and Urbanity for Females

PROGRAM OF STUDY			Low								High										
			Low				High				Low				High						
			Low		High		Low		High		Low		High		Low		High				
			L	H	L	H	L	H	L	H	L	H	L	H	L	H	L	H			
FATHER'S OCCUPATION	PROB. OF ATTENDING UNIVERSITY	FATHER'S ED.	MOTHER'S ED.	URBANITY	SELF-CONCEPT																
					OCCUPATIONAL EXPECTATION																
					URBANITY																
					SELF-CONCEPT																
Low	Low	L	L	100.0 (17)	100.0 (5)	100.0 (4)			63.5 (40)	100.0 (13)	90.0 (9)	100.0 (1)	96.7 (29)	100.0 (3)	100.0 (3)	89.5 (34)	90.7 (88)	91.7 (22)	68.4 (52)	53.9 (7)	
			H	100.0 (6)				100.0 (8)	100.0 (1)	100.0 (2)	100.0 (2)	100.0 (6)	100.0 (2)	100.0 (3)	88.9 (16)	95.7 (22)	83.3 (10)	50.0 (18)	52.9 (9)		
		H	L	100.0 (1)	100.0 (4)	100.0 (2)			100.0 (4)	100.0 (1)	100.0 (1)		100.0 (2)		100.0 (2)	100.0 (6)	100.0 (5)	100.0 (6)	60.0 (6)	83.3 (5)	
			H	100.0 (2)				100.0 (2)	100.0 (5)	100.0 (4)	100.0 (1)	100.0 (1)	100.0 (1)		100.0 (3)	73.3 (11)	71.4 (15)	57.1 (8)	60.7 (17)		
	High	L	L						100.0 (1)		10.0 (1)		3.3 (1)			10.5 (4)	9.3 (9)	8.3 (2)	31.6 (24)	46.1 (6)	
			H													11.1 (2)	4.3 (1)	16.7 (2)	50.0 (18)	47.1 (8)	
		H	L														0 (4)	0 (6)	40.0 (6)	16.7 (11)	
			H															26.7 (4)	28.6 (6)	42.9 (6)	39.3 (11)
	High	Low	L	L	100.0 (2)	100.0 (5)	100.0 (3)			95.9 (23)	100.0 (7)	80.0 (4)	100.0 (1)	88.9 (8)	100.0 (5)	100.0 (3)		94.1 (48)	100.0 (14)	78.8 (41)	45.0 (9)
				H		100.0 (1)	100.0 (1)	100.0 (1)		71.4 (5)	100.0 (4)	100.0 (2)	100.0 (1)	100.0 (3)	100.0 (1)		82.1 (23)	76.5 (13)	59.1 (26)	61.1 (11)	
			H	L		100.00 (2)				100.0 (8)	100.0 (4)	100.0 (2)		100.0 (4)	83.3 (5)	100.0 (1)		77.8 (14)	66.7 (12)	65.5 (19)	64.7 (11)
				H	100.0 (2)		100.0 (2)			100.0 (3)	100.0 (2)	100.0 (1)		100.0 (3)	69.2 (9)	100.0 (1)	100.0 (2)	72.4 (21)	77.6 (45)	48.0 (24)	47.3 (52)
High		L	L						4.1 (1)		20.0 (1)		11.1 (1)			100.0 (1)	5.9 (3)	21.2 (11)	55.0 (11)		
			H						28.6 (2)								17.9 (5)	23.5 (4)	40.9 (18)	38.9 (7)	
		H	L										16.7 (1)			22.2 (4)	33.3 (6)	34.5 (10)	35.3 (6)		
			H										30.8 (4)			27.6 (8)	22.4 (13)	52.0 (26)	52.7 (58)		

a value of 18%. This indicates that indeed a high occupational expectation increases a male's chances of planning to attend university. In addition, this relationship was especially strong when mother's and father's education, family size, program of study, self-concept, and urban were all high and also, when all the above variables were high and the student came from a rural area. This relationship was also strong when program of study and self-concept were high, while mother's and father's education, family size and urban were low.

Thus, we are to conclude that Hypothesis 15 a. is accepted.

Hypothesis 15 b. Occupational expectation will exert a positive influence on a female's plans to attend university.

The relationship between occupational expectations and plans to attend university is shown in Table 11.

A measure of association was calculated between these variables for females, and the obtained value was 16.9%. This is indicative of a strong positive relationship between occupational expectation and plans for university. Furthermore, the effect of occupational variables were held constant. For example, when father's occupation was low, and mother's and father's occupations, program of study, self-concept were high and the students came from an urban area, significant differences were found between the percentage of females with plans for university with low occupational expectation (12.5%) and the percentage of females with plans



for university with a high occupational expectation (48.8%).

Therefore, from this analysis, we are lead to accept Hypothesis 15 b.

In addition to program of study, self-concept, and occupational expectation, some family factors have also been found to influence a student's plans to attend university. These family factors were not hypothesized as being influential but the regression analysis illistrated that some of them were significant. Reference to Figure 2 at the end of this section will show that some of these family factors also indirectly influence the student's plans through self-concept and program of study. From this we observe that for males, mother's and father's education, father's occupation, and family size influenced the student's program of study. Program of study, in turn, directly influenced plans for university and thus, these factors can be seen as exerting an indirect effect through program of study. In the same light, mother's education, father's occupation, and family size, were seen as influencing program of study for females and since program of study was found to directly influence plans for university, these family factors can be seen as contributing indirectly to a female's plans for university.

Although not hypothesized, some family and community factors were found to influence a student's plans to attend university directly. As a result of the regression procedure, it was found that mother's and father's education,

father's occupation, family size, and urban were significant influences for either males or females. Measures of association were then calculated for the relationships between these family factors and the student's plans to attend university and they are presented in Table 12.

TABLE 12

WNPD for Plans to Attend University Resulting From Mother's and Father's Education, Family Size, and Urbanity for Both Sexes

Family Factors	Sex	
	Males	Females
Mother's Education	7%	11.2%
Father's Education	12%	3.7%
Father's Occupation	--	5.6%
Family Size	-1.92%	--
Urban	6%	.35%

It is observed that for males, the higher the mother's and father's education, the smaller the family size, and the fact that they live in an urban area, the more probability the male will have of planning to attend university. Father's occupation was not revealed as a significant influence on a male's plans for university, so therefore measures of association were not calculated for its relationship with the student's plans for university. For females, the higher the mother's and father's education,



father's occupation, and the fact that they lived in an urban area, increased their chances that they would plan on attending university.

It should be noted that all factors considered, the strongest influences for both males and females, on their plans to attend university are program of study, self-concept and occupational expectation.

#### DISCUSSION OF FINDINGS

The research and literature in this field has considered a number of family factors to be influences on a student's program of study such as mother's education, father's occupation, and family size. Therefore, it was not surprising that females in this study were influenced by such factors. It was found that female students in a small family, whose mothers had a high educational level, and whose fathers had a high occupational status were more likely to enter the academic program of study. These same factors, along with father's education were found to be influences on a male's program of study. Porter et al. (1973) explain that the influence of mother's and father's education on a student's program of study is generally due to the fact that better educated parents are more likely to have knowledge of the courses that are needed to obtain a high education. As mentioned in the previous section, father's education was a positive influence on a male's

program of study, but it was not an important influence upon female's program of study. This is understandable in terms of Osborn's (1971) findings which state that children are generally influenced by their same sex parent. That is, females may be socialized as far as education is concerned, by their mothers while males are socialized by their fathers. However, this study also found that for both males and females, mother's education was a significant influence on their program of study. Here it is realized that Osborn (1971) may have overlooked the strong influence of mother's education upon her son's choice of program. A mother may be a more potentially powerful influence because generally she is available in the home more than a father, and thus, there is more likelihood for encouragement from her. This may be evident here, since mother's education was an influence for both sexes.

Father's occupation has also been found to be a significant influence on a student's program of study. Porter et al. (1973) have noted similar effects to ours. They argue that fathers in high occupational levels may wish to instill in their children a desire for the same level of status.

Family size may serve as a proxy for family finances, and if so, it is likely that a large family will have fewer resources to support each child. Thus, a student in a large family may have to choose the general rather than the academic program of study because of limited finances. A



large family size may also evoke in the student a responsibility to help the family. Thus, the student would most likely not enroll in the academic program because he would not have any plans for university.

The variables that have been found to influence the student's program of study may be seen as working together to produce particularly strong effects. For females, the effect of mother's education was seen as being especially strong when the father's occupation was low and the family size was medium or large. Therefore, we have a situation where a mother, with a high education, and in addition, she may have a strong desire for her child to overcome the socioeconomic status they occupy as a result of the child's father's occupational status and large family size. Thus, we may see that the mother would encourage and support her child to enroll in the academic program.

For males, the effect of mother's education on program of study was also strong when father's occupation was low, and family size was medium or large. Thus, a mother may encourage her son to enroll in the academic program for the same reasons. In addition, the influence of mother's education is strong when father's education is high also. Therefore, for males, the mother's influence is reinforced by the father's education being high also.

The effect of father's occupation on program of study was seen as particularly strong for females when family size was small or medium. This indicates that the father

may encourage his daughter to enroll in the academic program especially when he has finances available to support her. This may be more likely when he also has a small family. It was also found that for females, family size had a strong negative effect on their plans to enroll in the academic program when their father's occupation was low. It is plausible that both a large family and a father's low occupation indicate that the female will be unable to obtain financial support for her education from her family.

Thus, we should note that there are differences between the sexes on the influences on their program of study. More specifically, father's education was shown to be an influence for males, while not for females. Mother's education was seen as an influence for both males and females; however, the influence was greater for females. Family size was found to exert more or a negative influence on females than males. This may be explained in terms of family finances. A large family with limited finances would generally be more willing to give their support to males rather than females. Riesman (1970) contends that there is a tendency in many families to see the daughter's education as less important than the males. These findings lend support to this proposition.

In past research, self-concept of academic ability has been seen as being influenced by family factors. In this study, mother's education was the only family background factor which had a significant influence on the



student's self-concept for both sexes. Again, we see evidence that mother's education is a strong influence. Anderson and Wadel (1972) in particular, argue that Newfoundland fishing families are mother-centered, such that the mother disciplines and educates her children. In addition, father's education may be less influential on a student's self-concept because if he is away from home working he may not be as aware of his child's educational progress and thus, unable to give him the encouragement he needs to exhibit a high self-concept.

In addition to family factors the program of study the student is enrolled in has also been cited in the literature as having an influence on a student's self-concept. Program of study was found to be an influence in this study also. Schafer and Olexa (1971) argue that the labels attached to each program of study form the basis for the student's self-concept. In the same light, Bulcock (1975) contends that programs of study serve as opportunity mechanisms that have different prestige. Thus, when a student has been enrolled in a particular program for a few years and influenced by its prestige and labelling, it is reasonable to assume that this would contribute to his self-concept of academic ability.

In this study, it has been observed that program of study exhibited a much stronger influence on a student's self-concept than mother's education for both sexes. Figure 2 illustrates that program of study exerts almost three times

the influence that mother's education does on the self-concept of both sexes. In addition, when the relationship between mother's education and a student's self-concept was further examined, it was found that for both sexes, mother's education was a particularly strong influence on the student's self-concept, especially when the student was already enrolled in the academic program. This indicates that perhaps the mother's encouragement is contingent upon the student indicating to her that he is capable of being in the academic program. Thus, the variables which influence a student's self-concept of academic ability were similar for both sexes. Program of study was a stronger influence than mother's education on program of study for both sexes.

As anticipated in this study, self-concept and program of study were found to be important determinants of a student's occupational expectation for both sexes. Breton and MacDonald (1968) explain that self-concept exerts an influence on a student's occupational expectation by serving as a basis for evaluating the student's chances for a specific occupation. Therefore, if a student has a high self-concept he will most likely perceive a high occupation for himself. They further explain that program of study may be seen as an influence on a student's occupational expectation. The program of study the student is enrolled in guides his perception of his chances for a particular occupation.

The effects of program of study and self-concept on occupational expectation are strongest when they are con-



sidered in the light of family background factors. For females, the influence of program of study on occupational expectation is especially strong when the student's self-concept is high and her father's occupation is low. This indicates that for a female, the effects of a high self-concept on occupational expectation is so strong that it may overcome the fact that she belongs to a low socio-economic background (measured by her father's occupation). For males, the influence of program of study is especially strong when both mother's and father's educations are low, their family size is large and their self-concept is high. Again, this may be indicative of the student's strong desire to improve his lot in life.

The relationship between self-concept and occupational expectation was found to be especially strong for females when their self-concept was high, regardless of their mother's education or father's occupation. For males, the relationship between self-concept and occupational expectation was strongest when mothers' and fathers' educations were low, family size was small and program of study was high. These indicate that program of study and self-concept are strong influences on occupational expectation especially when the student's socio-economic level is low (indicated by parent's low education and occupation).

Males and females were not influenced by the same factors in their occupational expectations. Father's education and family size were found to be influences on a

male's occupational expectation while not on a female's. The fact that family size was seen as a negative influence for males, and not females, may indicate that males take on the responsibility to help the family economically more than females. Therefore, a male in a large family, realizing that he must help, is deterred from expecting a high occupation because with this he would most likely have to stay in school longer and thus forego providing financial support. Father's education may be seen as influencing a male's occupational expectations more than a female's because it has been generally noted that fathers show greater interest in their sons' plans than their daughters' (George & Kim, 1971).

Program of study, self-concept and mother's education were all influences on students' occupational expectations for both sexes. The magnitude of their influences, however, differed for males and females. For example, the influence of program of study and self-concept on occupational expectation was greater for females. This may indicate that for males, there is a need to develop a high occupational expectation. This need and desire may override other factors. In terms of this finding, Spady (1970) has noted that men face the necessity to establish a position in the occupational structure in which their future income and status will depend. Thus, it is possible that even if males do not have a high self-concept, they will strive for a high occupational expectation out of necessity. It should be



noted that there does exist a strong relationship between self-concept and program of study and occupational expectation for the sexes. For females, however, the relationships were found to be stronger than for males. The influence of mother's education on occupational expectation was found to be of basically the same strength for both sexes. Thus, we should note that self-concept and program of study were found to be the strongest influences on a student's occupational expectation. We should recognize, however, the importance of many family factors on occupational expectation. Although their direct influence may not to be strong, we must still be cognizant of their indirect influences through program of study and self-concept.

As anticipated for both sexes, self-concept, program of study, and occupational expectation were all found to be significant influences on a student's plans to attend university. This is consistent with Breton (1972) who has shown that a student's evaluation of his own ability has more of an impact on his plans than his socio-economic status. Breton (1970) has also shown that program of study served as the strongest influence on a student's plans for university. This supports the findings presented in this study.

The relationship between occupational expectation and plans to attend university was strong, however not as strong as was the relationship between self-concept and plans to attend university, and program of study and plans to attend university. Coleman (1966) indicated that whenever

a student had a high occupational expectation, he also had a high educational expectation. This may not be as strongly supported in this study because occupational expectation was only the third most important influence on a student's plans. In addition, it should be noted that this relationship was strongest for both sexes when program of study and self-concept were high, along with high measures on some family background factors. Thus, the influence of occupational expectation was generally dependent on the student already having a high self-concept and being enrolled in the academic program of study.

In addition to these factors, we have observed that some family factors have been found to influence a male's and female's plans to attend university. However, the strongest influences on their plans were program of study, self-concept and occupational expectation for both males and females. A plausible explanation for this is that by the time students are in their senior year in high school, they have made a decision to enter university on the basis of their past experience in school and an appraisal of their chances for continuing their education. At this stage in a student's life, parents are seen as having a smaller direct influence on their plans. Program of study and self-concept serve to encourage the student, while his occupational expectation directs his behavior. This view is generally supported by Breton (1970, 1972).



The influences on a student's plan to attend university were found to differ between the sexes. As with occupational expectation, family size was found to have a negative influence for males while no effect for females. Females were found to be influenced by their father's occupation while males were not. Since father's occupation may be seen as indicative of family finances, this may point out that females are more dependent on finances from the family than males. The unavailability of high paying summer jobs for females may make financial help necessary to attend university. In addition, females may be less willing to borrow and accumulate a debt from financing their education. This would be a negative factor for females planning on getting married in the near future.

These factors influencing both sexes, such as mother's and father's education, program of study, self-concept, and urban residency did not have the same strength for males and females. As anticipated, the influence of mother's education on plans to attend university was seen as larger for females. Also, the influence of the parent on the same sex child may be indicative of the influence of modelling.

The influences of program of study and self-concept on plans to attend university was greater for males than for females. These relationships were not anticipated. They become more understandable, however, when Spady's (1970) findings are considered. He contends that females are freer

to deal with university and have less pressure to finish. Since it is not as drastic if females do not finish university, they need not be as sure that they are able to cope with it. Thus, a female would not need to be in the academic program of study and have a high self-concept in order to have plans to attend university. Another interpretation may be made which suggests that females may go to university for different reasons from males, such as cultural enrichment and marriage prospects.

Urban residency was found to influence a male's plans for university. However, for females the influence was almost negligible. These findings support the view of Sewell (1964) who explains that because of the rural opportunity structure for females, they are forced to look to the urban labor market and thus, females in urban areas differ very little from those in rural areas in educational and vocational plans.

Generally, it has been argued that the student's decision is a process where family factors are the initiating force influencing the student's program of study and self-concept. These factors then take over as influences by convincing the student that he is capable of attending university. Bulcock (1975) extends this argument by stating that the students' decisions to attend university is manipulable. Bulcock (1975) contends that because school related factors such as self-concept, program of study, and occupational expectation were found to be most responsible



for the student's decision, this may mean that changes can be made with little effort to alter the number of students planning on university. It is reasonable to assume that it is an easier task to manipulate the influences of the school rather than those of the family.

From the results of this study, we can see that females in Newfoundland do suffer from inequality of educational opportunity. They have been found to be restricted by barriers that are not present for males. Previous research contends that females depend more strongly on social class origins (Alexander & Eckland, 1974). This was found prevalent in the present study also. Conventional usage for social origin of the family is the father's occupation and in this study, a female's father's occupation was a significant influence on her occupational expectation and plans for university, however, not an influence for males. In this same light, Porter et al. (1973) notes that there is a strong relationship between income of the student's family (indicated by father's occupation) and educational aspiration. Thus, income or father's occupation serves to restrict a female in her occupational and educational expectations.

In addition, females are restricted by family factors more than males, when enrolling in the academic program of study. Examination of family influences such as mother's and father's education, and father's occupation in total on a student enrolling in the academic program shows that

generally family factors serve more as a positive influence to males than females. For example, the sum total of positive influences on a male's program of study is 30.55% while for females it is only 18.77%. The fact that family factors are more positive influences for males than females on their program of study, may indicate that families give males more support and encouragement to enter the academic program of study than females. Also, family size is more of a negative influence for females, which indicates that perhaps as financial resources of the family are scarce (due to the large family size) females suffer by being encouraged less than males to enter the academic program of study. The fact that females may be encouraged less to enter the academic program of study becomes very significant when we realize what a powerful influence program of study has on a student's self-concept, occupational expectation, and plans to attend university. As mentioned earlier, females were found to need a high self-concept and be in the academic program in order to have a high occupational expectation. This may indicate that when females are developing an occupational expectation they are restricted more by a lower self-concept and program of study and thus need more constant reassurance than males. This is understandable due to the fact that sex role stereotyping decreases the likelihood that a female will have a high occupational expectation. A high self-concept and program of study is needed to counteract the prevailing norms.



Thus, we can conclude that females, like males, are influenced by the interaction of individual characteristics and social structure in their educational plans. Some of these influences, however, have been found to deter a female in her plans more than a male. This study can not conclude that for the most part females are barred because of financial reasons. These findings reveal that the reasons are much more complex. It is suggested that females are not encouraged as much by their families as males and thus, education may not be seen as important for them. For each sex, society has different occupational and educational expectations, so therefore, when a female counteracts the prevailing norms by having a high occupational expectation she needs a higher self-concept and be in the academic program of study.

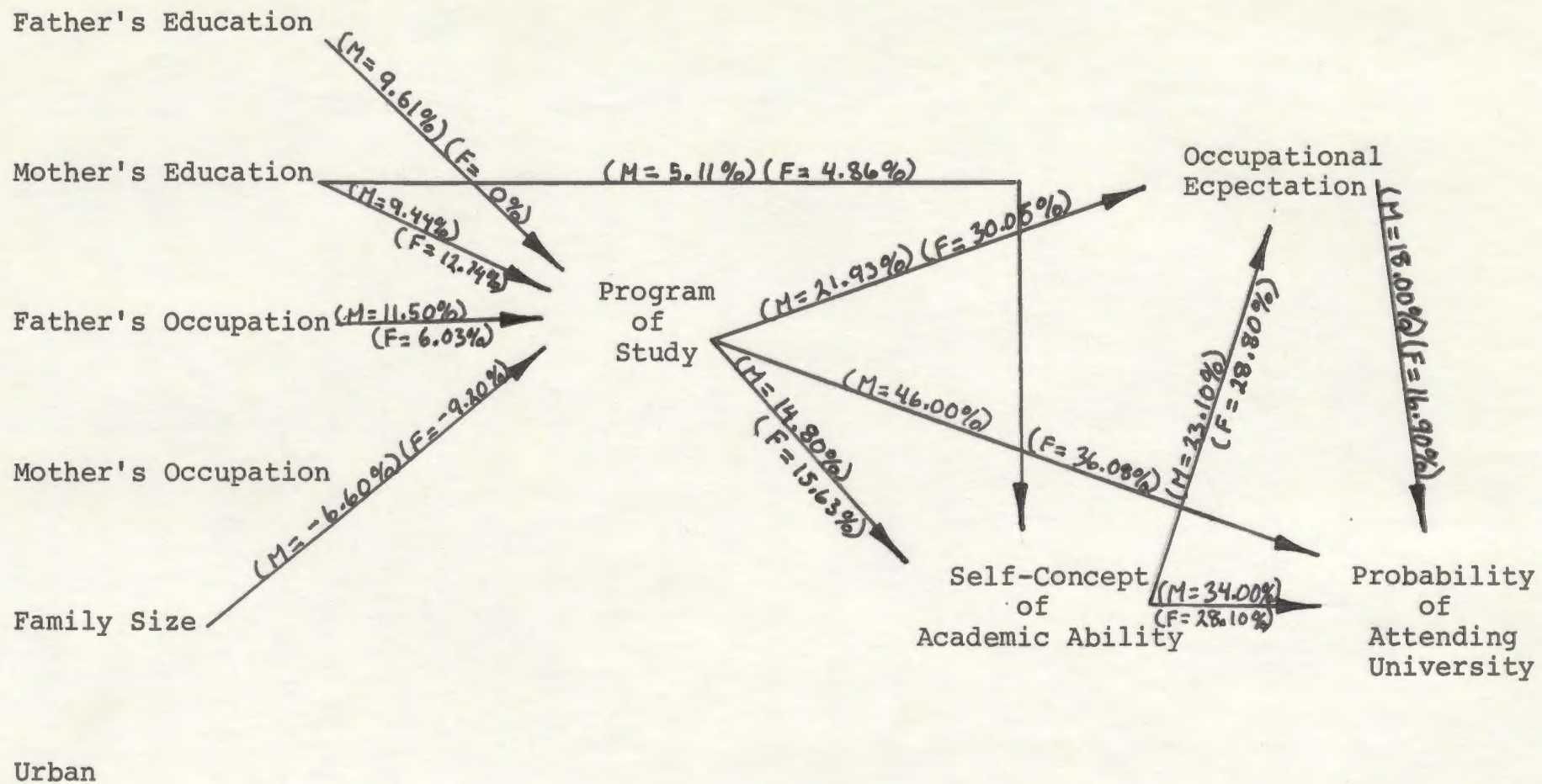


FIGURE 2. Causal Model with Effect Parameters



## CHAPTER V

### SUMMARY AND CONCLUSIONS

This final chapter is divided into three sections, the summary, implications for education, and suggestions for further research.

#### THE SUMMARY

In this summary, we discuss the statement of the problem, the methods used, and the findings of this study.

In the research literature, it has been shown that females aspire less to university than males. It has been concluded that this lower level of aspiration for females is not due to differential allocation to streams within high school, or social class factors (Pike, 1970). Harvey and Lennards (1973) suggest that there may be attitudinal differences concerning the value of education for the sexes which may cause these lower aspirations for females.

The purpose of this study was to investigate possible reasons why females in Newfoundland did not plan to attend university as much as males. Specifically, this was done by examining many factors within the high school, family, and community to see if they were sources of constraint to a female, while not a male's plans for university. The family factors examined were mother's education, father's

education, mother's occupation, father's occupation, and family size. The school related factors that were examined are program of study, and self-concept of academic ability. The type of community, rural or urban, was also considered. All of these factors were examined in the light of their contribution to the student's occupational expectation and plans to attend university. Thus, we had two main objectives: one to examine the aspirations of grade eleven students to university, and two, to examine the differences between males and females. The latter objective was given more emphasis. The first objective may be seen as a foundation for the analysis of the second objective. Since this study was primarily concerned with seeking differences for males and females, a separate analysis was conducted for each sex.

In order to examine the relative importance of each factor in a student's decision, a causal model was developed linking the factors together. A set of major and minor hypotheses were then constructed which were congruent with the major problem of the study. Each of the variables chosen for the study along with the hypotheses that were established, were based on an extensive review of the literature presented in Chapter II. Following the review of the literature, a preliminary exploratory analysis was conducted using multiple regression. The results of this procedure revealed that all the variables that we thought were significant from the review of the literature were found to be important determinants of the dependent variables in this study.



All Newfoundland grade eleven high school students were issued a questionnaire. The rate of return was 87.6%. Of those that returned the questionnaire, 5,414 students replied that they planned on attending a post-secondary school the following year. These students served as the sample for this study.

Cross-tabular analyses were used to show the relationship between each dependent variable and its independent variables. Following this, Davies' (1962) procedure was used to test the significance between the percentages in the tables. Measures of association were then calculated by using the weighted Net Percentage Difference procedure (Spady, 1970). This procedure shows the strength of a relationship between two variables when a number of other variables are held constant.

The results of the study showed that the factors seen as being influences on the students' aspirations were not entirely the same for both sexes. For example, it was observed that for males, mother's education, father's education, father's occupation, and family size were influences on their program of study, while for females, only mother's education, father's occupation, and family size were seen as being influential. There were no differences between the sexes on the factors which influenced the academic self-concept. Both mother's education and program of study were found to be the only influences for males and females. It has been rarely demonstrated that mother's

education has an influence on male students, however, given the fact that many Newfoundland families are mother-centered (Anderson & Wadel, 1973) makes this more understandable. For males, the significant influences on occupational expectations were mother's education, father's education, program of study and family size, while for females, the influences were mother's education, program of study, father's occupation and self-concept. A male's plans for attending university were influenced by mother's education, father's education, program of study, self-concept, occupational expectation, family size, and urban residency. For females, on the other hand, the influences on their plans for attending university were the same as males except for family size, and in addition, the influence of father's occupation was evident.

From the previous paragraph, one can see that although some of the influences differed for the sexes, there were also many in common to both sexes. Many of these variables that were common to both sexes differed in magnitude. For example, the influence of mother's education on program of study was stronger for females than males, while father's occupation was more of an influence on a male's program of study than on a female's. In addition, father's education was more of an influence on a male's program of study, occupational expectation, and plans for university than on a female's. The influence of family size on occupational expectation also differed for the sexes, such that it was more of a negative effect on a male's



occupational expectation than a female's.

Program of study and self-concept were more important influences on a female's occupational expectation than on a male's expectation, while program of study and self-concept were more of an influence on a male's plans for university than on a female's.

Thus, it should be noted that some of these findings were rather surprising. The family was more of a positive influence on a male's program of study than a female's. In addition, females were found to be more dependent on their families finances, such that they were influenced more by their fathers' occupations (indicative of family finances) in their educational and occupational choice than males. That is, males did not depend on family finances as much as females. For females, being enrolled in the general program, and having a low self-concept served as more of a barrier in the development of expectation, than these factors did for males.

In summary, it may be seen that the determinants of a student's educational decision were largely school related variables such as self-concept of academic ability and program of study.

#### IMPLICATIONS FOR EDUCATION

The findings disclosed in this study have some educational implications for Newfoundland. It was found that

the family served as more of a positive influence on a male's education than in a female's. This may imply that education in Newfoundland is valued more for males than females. It may also be noted that the gaining of a high occupational status may not be viewed as either necessary or suitable for females. The findings showed that generally males had a high occupational status regardless of a low self-concept or enrollment in the academic program. Aspirations for a high occupational status was much more rare for females. Only those females with high self-concepts and enrollment in the academic program exhibited aspirations for a high occupational status. It has been suggested that development of an occupational expectation is more necessary for a male's status than a female's status. In addition, it has been observed that females were deterred from a high occupational expectation and plans for university when their father's occupation was low. This may imply that females suffer from financial barriers.

Therefore, one might note that females suffer from sex-role stereotyping and financial constraints. Any guideline of action to remedy these constraints must take them into account. It would be helpful to develop programs that would make finances more readily available through bursaries and such. However, this study has shown that financial assistance is not enough.

The factors, program of study, self-concept, and occupational expectation were found to be the largest deter-



minants of a student's educational decision. This information can provide guidance in setting up programs to encourage students to continue their education, regardless of their sex. Teachers, administrators, and guidance counselors should be advised of the powerful influence that program of study and self-concept have on a student's plans. They could then establish in-service workshops to ensure that all teachers would be aware of techniques that should be utilized to influence student's plans. A community school would be most useful here also. The concept of the community school entails providing links with the school and family. The parents may eventually alter their views about education for the sexes, through the help of the school. This direct relationship between the school and family would help the family see the school as a less threatening agency and more as a source of guidance for the child and family.

In concluding, we must be aware that females in Newfoundland do suffer from inequalities of educational opportunity. Furthermore, it is observed that this concept may be a common goal shared by society generally, but sufficient action is not being taken to see that it is carried out. We can see that other values, specifically those related to education for females runs contrary to this goal. It is hoped that the school may make a contribution to equality of educational opportunity and that this may, in turn, affect the family's view.

## SUGGESTIONS FOR EDUCATION

While conducting this research, many problems were realized. First, it should be noted that this study examined the student's plans and expectations for the next year. It was assumed that when the students answered the questionnaire, they were definite and realistic about their plans for the following year.

The research conducted in this study may lead to further research, for example, an in-depth study could be undertaken examining one specific aspect of this study. For example, the students' self-concept of academic ability could be investigated further so that a more precise understanding of its importance in a student's plans would be known.

In addition, a follow-up study could be conducted using the same sample of students. From this, we would have a better knowledge of this process of educational decision-making. In addition, this type of study would be valuable in ascertaining the validity of the students' answers on the questionnaires, that is, to see whether they did in fact carry out their plans. In addition to testing the hypotheses, a follow-up study may also be useful to examine factors not included in this present study. For example, the role of peers and guidance counselors were not considered in the present study. As suggested by other researchers, information on a female's marital and fertility views might be



valuable in helping explain some of the sex difference findings. Further research may probe these areas.

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