

A STUDY OF VARIABLE SETS AND POTENTIAL PREDICTORS  
OF THE OCCUPATIONAL ASPIRATIONS OF HIGH SCHOOL STUDENTS IN  
FIVE SELECTED SINGLE ENTERPRISE COMMUNITIES

---

A Thesis

Presented to

The Faculty of Graduate Studies and Research

The University of Manitoba

---

In Partial Fulfilment  
of the Requirement for the Degree  
Master of Education

---

by

James Patrick Krecsy

April 1970



## ABSTRACT

This study was concerned with those factors having possible occupational relevance to youth who, according to Super and his associates, would be in the early exploratory stage of vocational development. The communities selected as data sources, being single enterprise, relatively isolated communities, are different in kind from communities generally examined in earlier studies. For this study, data were collected from high school youth living in Flin Flon, Lynn Lake, Pine Falls, and Thompson in Manitoba and Red Lake in Ontario.

The variables employed in the analyses were selected after a careful examination of the related literature and on the basis of their appropriateness for the communities under study. The data were collected by the questionnaire method and analyzed using the statistical techniques of factor analysis and multiple regression analysis to discover:

- 1) the manner in which the selected variables were grouped;
- 2) whether the variables grouped differently according to sex;
- and 3) the relative importance of certain variables as predictors of a level of occupational aspirations of high school youth in the five selected communities.

The major findings of the study are:

- 1) The twenty-one variables employed in the analysis are grouped into three sets with the first set consisting of family-related variables, a second set consisting of variables related to a personal self-assessment, and a third set of variables related to education.

2) When analyzed separately by sex, the variables are grouped into three sets for females and four sets for males but the sets are essentially similar in their constituents.

3) Of the variables employed five appear to be of some importance as predictors of a level of occupational aspirations for males and only four variables are of relative importance as predictors of female occupational aspirations. Intelligence level, socio-economic status, and participation in extra-curricular activities are relatively important predictors for both sexes.

The findings of the study suggest that counsellors and school administrators should insure the greater availability of occupational information and develop slightly different vocational programmes for each sex. Certain findings suggest also that a more detailed examination of the mobility plans of youth in single enterprise communities is warranted.

## ACKNOWLEDGMENTS

The writer owes a debt of gratitude to a number of persons who aided in the preparation of this study.

Special thanks are due Professor J. W. Peach for his words of encouragement, his criticisms, and his technical aid. The consideration given the study by Professors H. E. May and L. B. Siemens has also been deeply appreciated.

Many thanks are extended as well to Professor P. A. Taylor for his technical assistance and to Professor G. A. Kristjanson for providing valuable suggestions during the production of the study.

The financial assistance provided by the Centre for Settlement Studies is gratefully acknowledged.

The author would also like to express his sincere gratitude to Mr. B. Wheaton for some stimulating discussion during the initial stages of this study and to all those colleagues and friends, including a patient parent, for their kind interest during the preparation of the study.

## TABLE OF CONTENTS

CHAPTER	PAGE
I. A STATEMENT OF THE PROBLEM . . . . .	1
Introduction . . . . .	1
Definition of the Problem . . . . .	2
Significance of the Problem . . . . .	2
Source of the Data . . . . .	4
Introduction . . . . .	4
The Five Selected Communities . . . . .	5
A Conceptual Framework . . . . .	9
Introduction . . . . .	9
The Framework . . . . .	10
Summary . . . . .	18
Organization of the Study . . . . .	19
II. A REVIEW OF THE LITERATURE . . . . .	20
Introduction . . . . .	20
The Selected Variables . . . . .	23
Father's Occupational Level . . . . .	24
Opinion of Father's Occupation . . . . .	26
Socio-economic Status (SES) . . . . .	27
Level of Parental Education . . . . .	29
Parental Encouragement for Education . . . . .	31
Ethnic Background . . . . .	32
Home Situation . . . . .	33
School Grade Level . . . . .	33

CHAPTER	PAGE
Intelligence Level . . . . .	35
Teacher Encouragement for Education . . . . .	36
Number of School Grades Failed . . . . .	38
Self-assessed Leadership Rating . . . . .	39
Participation in Extra-curricular Activities . . . . .	40
Community Size and Isolation . . . . .	41
Number of Years Spent in the Community . . . . .	43
Wish to Stay in Community After High School and Further Education . . . . .	45
The Problem Restated . . . . .	47
III. LIMITATIONS AND METHODOLOGY OF THE STUDY . . . . .	49
Limitations and Definitions . . . . .	49
Limitations of the Study . . . . .	49
A Definition of Terms . . . . .	50
Single enterprise community . . . . .	50
Vocational or occupational aspirations . . . . .	50
Level of occupational aspirations (LOA) . . . . .	50
Dependent variable or criterion . . . . .	50
Independent variables or predictors . . . . .	51
Methodology . . . . .	51
The Research Instrument . . . . .	51
Questionnaire Administration . . . . .	52
The Respondents . . . . .	53

CHAPTER	PAGE
Instruments and Coding . . . . .	55
Level of occupational aspirations (LOA) . . . . .	55
Level of father's occupation . . . . .	59
Level of intelligence (I.Q. level) . . . . .	60
Socio-economic status level (SES level) . . . . .	62
Ethnic background . . . . .	66
Community size and isolation . . . . .	68
Other coding . . . . .	69
Processing the Data . . . . .	70
IV. ANALYSIS OF THE DATA . . . . .	71
Introduction . . . . .	71
The Factor Analysis' . . . . .	73
The Analyses . . . . .	73
Total Analyses . . . . .	74
Dimension I (D.I). . . . .	74
Dimension II (D.II). . . . .	78
Dimension III (D.III). . . . .	78
Interpretation . . . . .	78
Male-Female Analyses . . . . .	80
Dimension I (D.I). . . . .	80
Dimension II (D.II). . . . .	80
Dimension III (D.III). . . . .	81
Dimension IV (D.IV). . . . .	82

CHAPTER	PAGE
Interpretation . . . . .	82
Summary of the Analyses . . . . .	85
The Multiple Regression Analysis . . . . .	85
Selection of the Variables . . . . .	87
Analysis I . . . . .	91
Analysis II . . . . .	94
The Predictors . . . . .	96
Intelligence level . . . . .	96
SES level . . . . .	97
Number of extra-curricular activities . . . . .	97
Number of school grades failed . . . . .	98
Father's education . . . . .	98
Leadership rating . . . . .	99
Number of years spent in the community . . . . .	99
A Summary . . . . .	100
V. THE STUDY IN PERSPECTIVE . . . . .	101
Problem, Instrumentation, Population . . . . .	101
The Problem . . . . .	101
Instrumentation . . . . .	102
Population and Data Collected . . . . .	103
Findings and Concluding Comments . . . . .	104
Findings of the Analyses . . . . .	104
Factor Analyses . . . . .	104



CHAPTER	PAGE
Multiple regression analyses . . . . .	106
Conclusions. . . . .	107
Implications . . . . .	110
For counsellors . . . . .	110
For administrators . . . . .	111
For research . . . . .	112
Speculations . . . . .	114
BIBLIOGRAPHY . . . . .	118
APPENDIX A. Variables Identified; Intercorrelation Matrices. .	125
APPENDIX B. Occupational Aspiration Scale Statistics . . . . .	130
APPENDIX C. Coding for Ethnic Background, Data on the Completion of the Questionnaire, and the Questionnaire . . . . .	132

# LIST OF TABLES

TABLE	PAGE
I. Stages of Vocational Development . . . . .	11
II. Number and Percentage of 1061 Respondents By Age . . . . .	54
III. Number and Percentage of 1061 Respondents By Grade . . . . .	55
IV. Descriptive Statistics of the Modified OAS for Boys and Girls . . . . .	58
V. Quartiles, Occupational Aspiration Levels, and Score Intervals by Sex of Students Completing the OAS . . . . .	59
VI. I.Q. Levels by Quartiles on Intelligence Tests for Students in the Five Single Enterprise Communities . . . . .	62
VII. The Scoring of the Modified Version of Sewell's "Short Form of the Farm Family Socioeconomic Status Scale". . . . .	64
VIII. Frequency of SES Scores and SES Levels Based on the Modified Version of Sewell's "Short Form of the Farm Family's Socioeconomic Status Scale" . . . . .	65
IX. Five Selected Communities Ranked by Size and Isolation . . . . .	69
X. Rotated Factor Matrix of Twenty-one Variables on Three Dimensions . . . . .	75
XI. Rotated Factor Matrix of Twenty-one Variables on Four Dimensions: Male Population . . . . .	76
XII. Rotated Factor Matrix of Twenty-one Variables on Three Dimensions: Female Population . . . . .	77
XIII. Multiple Regression Analysis I by Sex with $\beta$ Coefficients in Order of Magnitude . . . . .	92

TABLE	PAGE
XIV. Multiple Regression Analysis II by Sex with $\beta$ Coefficients	
in Order of Magnitude . . . . .	95
A.1 Variable Names and Identifying Numbers as Employed in	
the Factor Analyses . . . . .	125
A.2 The Total Population Intercorrelation Matrix of Twenty-	
one Variables . . . . .	126
A.3 Male Population Intercorrelation Matrix of Twenty-one	
Variables . . . . .	127
A.4 Female Population Intercorrelation Matrix of Twenty-one	
Variables . . . . .	128
B.1 The Split-Half Reliability Coefficients of the OAS for	
Haller's Male Sample and for Males in Five Selected	
Single Enterprise Communities . . . . .	130
B.2 A Comparison of the Split-Half Reliability Coefficients	
of Females Completing the Haller OAS and Females	
Completing the Peach-Modified OAS . . . . .	130
B.3 The Validity of the Peach-Modified OAS when Tested Against	
the Haller OAS Using 87 Girls and a Seven-Day Interval .	131
C.1 Scores Assigned to Countries in the Assessment of Ethnic	
Background . . . . .	134
C.2 School Enrolment and Questionnaires Completed by each Sex	
in each School . . . . .	135

## CHAPTER I

### A STATEMENT OF THE PROBLEM

#### I. INTRODUCTION

Ginzberg (1951) suggests that there tends to be great wastage of both individual and social resources in the ways individuals reach decisions regarding occupations. Personal capacities and available educational opportunities, for example, are too often either misused or not used at all. Until the factors influencing occupational choice and their relative importance are known, one cannot really understand why such wastage occurs or the means by which such wastage can be reduced.

The present study was undertaken to learn which of a number of different factors were most strongly related to the occupational aspirations of high school students. Such knowledge is necessary before generally useful programmes providing occupational information can logically be instituted. Without a knowledge of the factors and their relative importance, broad vocational programmes and individual counselling may tend to be haphazard.

Past studies concerned with occupational aspirations and choice have concentrated primarily on an examination of those factors thought to be relevant for youth living in urban and rural areas of the United States and Canada. The various investigations reveal that whether the source of the data be urban or rural a number of the same factors, such as sex, intelligence, parental values, family socio-economic status, the size of the community of residence, and parental educational

attainment, consistently appear to be related to the occupational aspirations of youth.

The present study was concerned with many of the same factors researched in the past but differs notably from earlier studies with respect to the kind of community employed as a data source. This study was undertaken to examine the relationship of the factors with the occupational aspirations of youth who live in single enterprise, relatively isolated communities. Since little is known about the occupational aspirations of youth in such communities, such an investigation appears justified.

## II. DEFINITION OF THE PROBLEM

The purpose of the present study was basically threefold. A first purpose was to determine the manner in which certain selected variables were grouped and the underlying common characteristic of the grouped variables. A second purpose was to discover whether variables were grouped differently according to sex. The final purpose was to assess the relative importance of certain variables as predictors of the level of occupational aspirations of high school youth in the five selected communities.

## III. SIGNIFICANCE OF THE PROBLEM

A number of studies concerned with the aspirations of Manitoba high school students and the factors related to those aspirations have been completed (e.g., Forcese and Siemens, 1965; Kristjanson, 1966;

Peach, 1970; Siemens, 1965). Since the previous studies focused on the Interlake region of Manitoba, a small, selected suburban Winnipeg sample, and central and western Manitoba, this study was an attempt to expand the present limited knowledge regarding the occupational aspirations of, particularly, high school youth living in and around selected single enterprise communities of Manitoba and northern Ontario.

The earlier Manitoba studies generally concurred with research completed in the past two decades in the United States and Canada with respect to the relationship of various factors with the aspiration levels of high school students. The present study initially assumed that factors which correlated with students' aspiration levels elsewhere would also be related in single enterprise communities, albeit the relative strengths of the relationships might be different.

As previously noted, past research indicates that certain variables tend to be related to the aspirations of high school students. If the variables related to occupational aspirations elsewhere are related also in single enterprise communities, as this study assumed they might be, then the programmes that would aid in raising the aspirations of youth and of increasing their awareness of available occupations and skills might be implemented and pursued in these communities in the same way as they may be in other less isolated, more economically heterogeneous communities. If the relationships between various factors and occupational aspirations tend to disappear in these communities, however, conventional occupational information programmes may need to be altered and special programmes implemented.

The presence of strong relationships between given variables and occupational aspirations may not alone be justification for the modification of present programmes or the implementation of new ones. In making changes, priority should be given those variables which not only bear a strong relationship to occupational aspirations but also appear to be of utility in predicting a level of occupational aspiration. Thus, if certain variables appear to be reasonably strong predictors of occupational aspirations, primary consideration should be given such variables when change in vocational programmes is contemplated.

#### IV. SOURCE OF THE DATA

##### Introduction

The group of individuals from whom raw data were collected for this study may be defined as a population since no consistent random procedures were employed in selecting the individuals studied (Ferguson, 1966). A population, in statistical terms, may be simply described as an arbitrarily defined group about which information is desired (e.g., McCarthy, 1957; Downie and Heath, 1959; Mood and Graybill, 1963). The communities concerned in this study were jointly selected by representatives of the Faculty of Education and the Department of Sociology for the purpose of examining the relationships of certain independent variables and the occupational or educational aspirations of youth residing in relatively isolated, single enterprise communities. Thus, five communities characterized by such relative isolation and apparent

economic homogeneity were arbitrarily selected. Since the study of youth whose aspirations were reasonably stable was desirable, the decision was made to administer the questionnaire to all senior high school students in grades ten through thirteen, where grade thirteen was present, in the five arbitrarily selected communities of Lynn Lake, Flin Flon, Thompson, and Pine Falls in Manitoba and Red Lake in Ontario. The population may thus be defined as all registered full-time students in grades ten to thirteen, in the five selected communities, who were in attendance at school on the day(s) during which the questionnaire was administered in late May and early June, 1969.

#### The Five Selected Communities

The five communities selected for study have in common the dependence of each upon its own single, and basic, economic enterprise. The economic wealth of each community depends upon that one basic industry and its directly related services. Retail merchants, service personnel, and town employees depend upon the basic industry indirectly through the large number of persons it employs. Four of the five communities under study have one further characteristic in common--their relative isolation from a major urban area when compared with most other communities of comparable size.

Earlier studies have examined aspects of the vocational development of youth representative of a number of environmental origins; however, youth residing in somewhat isolated, single enterprise, economically homogeneous communities have not hitherto been examined in



detail. In general, past studies found significant relationships between a number of personal and environmental variables and the occupational aspirations of youth. Since the communities under study are apparently different in some respects from other communities, the variables selected for study include some variables earlier found significantly related to occupational aspirations, some variables which were not, and some variables thought particularly relevant for the communities examined.

The following capsule outlines of each Manitoba community selected has been based upon the 1968 Community Reports published by the Department of Industry and Commerce, Government of Manitoba.

Flin Flon, a community of 10,220 persons, is approximately 550 miles north-west of Winnipeg. Highway 10 is the sole paved highway to the southern area of the province. The CNR operates a daily freight train to Flin Flon and a passenger service from The Pas. Manitoba Motor Transit and Transair both operate daily passenger services to Winnipeg. The major industry, mining, is controlled by the Hudson Bay Mining and Smelting Co. Ltd. which employs approximately two thousand persons in Flin Flon and another seven hundred in immediately-adjacent Creighton, Saskatchewan and more distant Snow Lake, Manitoba. The Flin Flon General Hospital, the second largest employer in Flin Flon, employs 176 persons. In 1968 no other employer had a staff larger than twenty persons.

Lynn Lake is 150 miles north of Flin Flon. This community of 2,350 persons was the most geographically remote of the communities

studied if only because there is no access to the community by road from other Manitoba points. It is reasonably well-serviced otherwise by Transair which operates an air service six times weekly. Three chartered airlines also give service to the community. It is the terminus of the CNR branch line. Thrice weekly there is a mixed passenger-freight service from The Pas, south of Flin Flon. Sherritt-Gordon Mines Ltd., employing 725 persons, controls the major industry of mining. Canada Catering, the second largest employer, has twenty-three persons on staff.

Pine Falls is the least geographically remote and the smallest of the communities studied. The population of 1,245 live in a community which is only eighty-five miles north-east of Winnipeg. The community receives CNR freight service. Grey Goose Bus Lines operates a daily passenger service to Winnipeg along each of the paved highways, 11 and 12. The Abitibi Manitoba Paper Ltd., which controls the town's pulp and paper industry, employs 390 persons year round and between fifteen hundred and two thousand during its winter woods operation. No other employers employ more than ten persons.

Thompson was the largest community studied. The 1968 population estimate of fifteen thousand has been, by all informal reports, far surpassed. Although Thompson is only four hundred miles north of Winnipeg, actual road distance is approximately seven hundred miles, nearly one-third of which is gravel. For this reason Thompson is considered rather isolated. There is, however, CNR passenger service five days a week, Manitoba Motor Transit service daily to Brandon, and

Transair service at least once daily. Like Flin Flon, Thompson has a number of very small businesses and independent professional people. The Town of Thompson, Thompson-General Hospital, and the School District of Mystery Lake vie as the second largest employer, each having approximately one hundred employees in 1968. The largest employer by far, with over three thousand employees, is the International Nickel Company Ltd. which dominates the mining industry in the area.

Red Lake, Ontario, a community of 2,510 persons, was the only non-Manitoba community studied. The Red Lake District High School, located in the town of Red Lake, serves the educational needs of high school youth residing in Red Lake, Madsen, Balmertown, and Cochenour. The population of the district at the 1966 census was approximately forty-five hundred persons. Red Lake and its adjacent communities are 175 road miles north of Kenora, Ontario and 140 miles from Dryden. Only recently was the highway paved. There is daily bus service to the southern communities and Transair service daily to Winnipeg. In the district the major industry, mining, employs approximately one thousand persons. Five major companies operate producing mines in the immediate area (Meyers, 1968). Red Lake is the largest of the four communities. There are no large retail concerns in the town. The three major manufacturers employ between three and fifteen persons. Various government agencies employ approximately sixty persons (Industrial Directory of Municipal Data, Vol. 2, 1968).

## V. A CONCEPTUAL FRAMEWORK

### Introduction

The wastage of resources of which Ginzberg speaks occurs in part because:

. . . the individual making an occupational choice is an adolescent, still developing, both intellectually and emotionally. Unfortunately, he must make his decision at a time when he is ill-fitted to do so. First, young people do not understand the complex nature of society, and, second, they are undergoing deep-seated emotional experiences which obscure their basic needs and desires (Ginzberg, 1951, p. 5).

The "complex nature of society" consists of a number of factors, the influence of which upon his vocational development the individual does not understand and over which he has little control. Yet these factors do indeed exert an influence upon the decisions having relevance for the individual's development and ultimate occupational choice (Ginzberg, 1951).

This study was concerned with the adolescent in high school whose occupational aspirations and future occupational choice were assumed to be related to certain of these factors.

Over a period of years the individual encounters various persons playing a variety of roles, has a multitude of personal experiences, and must make a series of decisions regarding his personal interests, his needs, his attitudes towards his environment, his immediate and future goals, his values, and his experiences. Some of these roles, experiences, and decisions are vocationally relevant and constitute a vocational growth or development process akin to physical or emotional

development (Super and Overstreet, 1960). The individual's aspirations for an occupation and his ultimate choice were seen in this study as aspects of the broader vocational development process. Those experiences and various personal and environmental factors related to the adolescent's vocational development are in effect related to vocational aspirations during this adolescent period. The process, then, may be viewed as a growing and learning process during which the individual acquires beliefs about himself and his social milieu and translates these into vocationally relevant behaviors.

#### The Framework

Donald Super and his associates have presented a theory of vocational development or career patterns based upon some of Ginzberg's suggestions (1951) for approaching a theory and upon Buehler's presentation of life stages (Super, 1957). As is evident from Table I, the stages and substages of vocational development expressed by Super and his associates extend from birth through the declining years. The present study was concerned with only one of the five stages of Super's vocational development theory summarized in Table I. Specifically, the concern was with those variables of possible occupational relevance to the individual during the tentative and transition substages of the exploration stage.

Ginzberg (1951) suggested that a theory of vocational development include three phases. His proposed fantasy period extends from age six to eleven. The tentative period of vocational growth consists

TABLE I  
STAGES OF VOCATIONAL DEVELOPMENT<sup>a</sup>

Stage	Age Span	Characteristics
I. <u>Growth</u>	Birth to age 14	
a) fantasy	4 - 10	- needs are dominant; a variety of roles are played; there is differentiation of character; needs are fulfilled through fantasy
b) interest	11 - 12	- aspirations and activities are determined by likes and dislikes
c) capacity	13 - 14	- abilities become important; abilities are objectively assessed; reality considerations are important; external pressures are felt
II. <u>Exploration</u>	Age 15 to 24	
a) tentative	15 - 17	- interests, capacities, values, and future needs are considered; values assume importance; self concept faces test of reality; tentative occupational choices made
b) transition	18 - 21	- weight given to reality; individual attempts vocational implementation of self concept
c) early trial	22 - 24	- exploration of different jobs in occupational field; one or two jobs selected as viable possibilities
III. <u>Establishment</u>	Age 25 to 44	
a) late trial	25 - 30	- some job shifting; self concept clarified
b) stabilization and advancement	31 - 44	- individual is goal-directed; stabilization in one job; self concept clear; advances in chosen field
IV. <u>Maintenance</u>	Age 45 to 64	- established by age 45; vocational fulfillment or frustration felt
V. <u>Decline</u>	Over age 65	- changed self concept, work roles, way of life

<sup>a</sup>Donald E. Super, The Psychology of Careers (New York: Harper and Row, Publishers, 1957); Donald E. Super, et al., Vocational Development: A Framework for Research (New York: Columbia University, Teachers College Press, 1957).

of four stages: an interest stage dominant through ages eleven and twelve; a capacity stage at ages thirteen and fourteen; a value stage at ages fifteen and sixteen; and a transition stage occurring until age nineteen. During Ginzberg's realistic period the individual 1) explores a few occupational possibilities; 2) crystallizes one specific field for in-depth consideration and final commitment; and then 3) specifies one particular area within that field.

The Ginzberg approach stops with the individual's specification of an occupational field and level while Super's theory suggests that vocational development is a life-long process. Notwithstanding this difference, a similarity between Ginzberg's tentative period and Super's late growth and early exploration stages is evident. It was with the possible influences upon the individual's vocational development during these latter two stages that this study was particularly concerned.

Behavior refers to "the responses the individual makes to the circumstances, figures, and objects in his world regardless of his age" (Super, et al., 1957, p. 34). At any given stage of an individual's vocational development society demands certain behaviors, thought to be appropriate for his age level, from the individual. The behaviors society expects, then, vary with the age level and development stage of the person (Super and Overstreet, 1960). As the individual develops vocationally, as he learns and matures, his behavioral responses to both internal and external factors undergo modification and increase in kind and number (Super, et al., 1957). With increasing age the individual should, through the acquisition of new and socially appropriate

behaviors, progress from one stage to another. The rate of such development varies with the individual's personal resources, such as intelligence, and with such environmental characteristics as the family's socio-economic level and community of orientation. With increased mental, physical, and emotional maturity, the individual's modified and newly acquired vocationally relevant behaviors enable him to respond more efficiently and independently to new environmental demands.

Each stage of vocational development has its associated developmental tasks. The crystallization of a vocational preference, the specification and implementation of such a preference, stabilization in a vocation, and the consolidation of status and advancement in one's vocation are examples of such tasks (Super, et al., 1963). There are environmental pressures exerted upon the individual to acquire the vocationally relevant behaviors necessary for the accomplishment of the developmental tasks characteristic of any given developmental stage. The successful achievement of the tasks of any stage depends partially upon the ease or difficulty with which earlier tasks were handled and upon the acquisition of appropriate behaviors to handle the new tasks (Super and Overstreet, 1960). Super and his associates summarized the dynamics of the process of meeting vocational developmental tasks as follows:

- 1) the individual faced with a new task of vocational development,
- 2) brings to bear upon that task his potential for and repertoire of behavior,
- 3) has some degree of success or failure in handling the task,
- 4) incorporates whatever has been learned in this experience, and
- 5) uses this learning to add to or modify his existing repertoire (Super, et al., 1957, p. 45).



Related to the concept of vocational tasks and their appropriate behaviors is the concept of vocational maturity. The development of vocational behavior through the various stages may be evaluated by assessing the individual's vocational maturity (Super and Overstreet, 1960). Vocational maturity may be assessed in either of two ways. First, the individual's actual life stage as determined by his development tasks is compared with the life stage he should be at according to his age. Secondly, the behavior of the individual may be compared with the behavior of others who are dealing with the same developmental tasks. In this case the assessment of vocational maturity is concerned with the maturity and scope of the behaviors exhibited by the individual and their appropriateness in dealing with his evident development tasks, "regardless of whether they are the tasks considered appropriate for his age and expected life stage" (Super, et al., 1957, p. 57).

While vocational maturity involves an examination of the kinds of vocational behaviors exhibited by an individual, vocational adjustment examines the outcomes of vocational behaviors (Super, 1957).

Super and Overstreet defined vocational adjustment as follows:

Essentially, evaluation of the outcomes of vocational behavior is evaluation of integrative vocational adjustment. . . . Integrative vocational adjustment is. . . the extent to which vocational behavior results in the accomplishment of a vocational development task with long-term satisfaction to the individual in meeting social objectives (Super and Overstreet, 1960, p. 9).

Maturity and adjustment are interrelated since the degree of maturity attained does affect adjustment. The individual's adjustment to social demands may facilitate or interfere with further vocational behavior

development which, in turn, affects the future level of vocational maturity (Super, et al., 1957).

With such characteristics of vocational development in mind, the present study focused on the late growth stage and specifically the exploratory stage of development.

During the exploratory stage of vocational development the individual should have matured to the extent that he considers his future seriously. While indicating that exploratory behavior need not be vocationally relevant, Jordaan noted that:

Vocational exploratory behavior refers to activities, mental or physical, undertaken with the more or less conscious purpose or hope of eliciting information about oneself or one's environment, or of verifying or arriving at a basis for a conclusion or hypothesis which will aid one in choosing, preparing for, entering, adjusting to, or progressing in, an occupation (Super, et al., 1963, p. 59).

It is during this exploratory stage of development that possible determinants of vocational behavior and development have particular potency. Such determinants must be known before the behavior and development of the adolescent can be understood, evaluated, or predicted (Super, et al., 1957). The possible determinants may be grouped into three broad categories: 1) role factors, 2) personal factors, and 3) situational factors.

(1) Role Factors: As the child grows, he first differentiates his physical attributes from the physical attributes of others. In time he also perceives similarities and differences in needs and desires, in interests, in capabilities, in behavior, and in values. These perceived similarities and differences permit the individual to

formulate a concept of self which he tests in a variety of situations and activities at home, at school, in the immediate community, and in society at large. Those qualities of self which prove satisfying are retained; those which are not satisfying are rejected and the self concept thereby modified.

Of particular importance in the development of the self concept is the individual's identification with others. As a result either of similarities the individual may perceive between himself and others or perhaps of simple admiration for traits seen in some other person, the individual may adopt such persons as role models. In various appropriate situations the maturing individual will adopt the traits of his model as part of his self concept (Super, 1957). Should the traits, when tested, prove unsatisfying, they will be rejected and the self concept modified. Role models are crucial to development and, while they change, they are of importance in organizing a consistent self concept. This developed self concept, generally clear by adolescence, is translated into occupational terms at that time (Super, et al., 1957).

(2) Personal Factors: Personal factors which function as determinants of vocational behavior and development may include such factors as age, intelligence, special aptitudes, the individual's interests, his values with respect to work and life goals, and his attitudes (Super, et al., 1957). The intelligence of the individual particularly appears to bear a very strong relation to the vocational level to which the individual aspires, though not necessarily to

vocational success (Super, 1957). Aspects of the individual's personality, including special aptitudes, interests, and particular traits, do not always appear to bear a significant relation to vocational development (Super, 1957).

(3) Situational Factors: Situational or environmental factors constitute the final broad category of possible determinants of vocational behavior and development. The family's socio-economic status may, for example, affect the child's vocational development since such status may influence aspects of the child's personal development, his aspirations, his social mobility, or the family's capacity to provide vocationally relevant experiences or information. The family's socio-economic status may also affect the amount and quality of education available to the child and, indirectly therefore, the occupational aspirations of the child insofar as educational attainment and occupational level are related. The prestige level of the father's occupation, often closely related to the family's socio-economic status, may through social contacts determine the number and variety of roles to which the child is exposed and upon which the child may base his occupational preferences. The home atmosphere, the ethnic background of the parents, the religion of the family and child, the parental attitude toward the child, and the parental attitude toward education all may be related to the child's vocational behavior and development (e.g., Super, et al., 1957; Super, 1957).

Family-related factors are not the sole important situational factors. Such factors as the comparative standards of the school the

child attends, the scope of the curriculum, the individual's peers, and the encouragement teachers give for further education may also affect the individual's occupational development and his aspirations. Such variables as size of community of residence, participation in school activities, and grade may also be related to vocational development (Super and Overstreet, 1960).

The various personal and situational factors are not of uniform importance in affecting vocational development and aspirations. The importance of these and other possible correlates may vary with the individual, and with time. Generally, however, the factors mentioned are assumed to be effective determinants of vocational development for virtually all adolescents in the late growth and early exploratory stages (Super, et al., 1957). While the various factors interact in their relationship with vocational development, and while this interaction generally occurs without the individual's awareness, a knowledge of the related factors may provide the opportunity to alter their possible effects and their interaction favorably through the provision of vocationally relevant school and community programmes.

#### Summary

Many of an individual's own personal experiences and characteristics and the features of the environment may contribute to the vocational development of the individual. At any given stage of vocational development certain kinds of behavior are considered appropriate. A person is considered vocationally mature if the behaviors

are compatible with the individual's actual age level and with the behaviors expected at that age or with the individual's evident vocational development stage. The behaviors of a vocationally mature individual will provide outcomes which reveal good vocational adjustment. During adolescence vocational aspirations and the major vocational task of choosing a future occupation are most important in the vocational development of the individual. At this time in the growth of the individual, a number of personal factors such as sex and intelligence and many environmental factors may be strongly related to his aspirations and his ultimate vocational choice.

## VI. ORGANIZATION OF THE STUDY

The intent of this study and its conceptual foundation have been outlined. Chapter II is concerned with a review of relevant literature with specific focus upon those studies which have examined the relationships between occupational aspirations and the variables selected for examination in this study. In Chapter III the methodology, the coding of the variables, and the respondents are described.

Chapter IV contains a presentation of the results of the various analyses undertaken. The concluding chapter summarizes the major findings of the study, presents some conclusions, and suggests certain implications of the results.

## CHAPTER II

### A REVIEW OF THE LITERATURE

#### I. INTRODUCTION

The conceptual framework for this study is based upon the theory of vocational development presented by Donald Super and his associates. Super hypothesized that individuals in the late growth and early exploratory stages of development may be influenced in their vocational development by a number of personal and environmental factors. Researchers, in examining both the suggested and other hypothesized factors, have provided abundant data. For some factors, or variables, there is substantial agreement that a strong relationship with vocational development and aspirations exists; for certain other variables there is agreement that no significant relationship exists; and for still others the results are contradictory. The purpose of this chapter is to examine the actual variables selected for study to determine the manner in which the variables may be grouped.

In the past many aspects of vocational development such as vocational aspirations, vocational choice, vocational maturity, and vocational mobility have been studied. To clarify some relationships and establish a frame of reference relevant for a subsequent review of the variables employed in this study, some brief but pertinent points must be made with respect to occupational aspirations and choice, the role of educational aspirations, and sex differences in vocational development.

In this study vocational or occupational aspirations are viewed as a phase of vocational development; vocational choice is a vocational task requiring appropriate behaviors for completion. Holden (1961) and Ginzberg (1951) note that youths younger than fifteen do not typically make appropriate vocational choices. Choices at such early ages generally represent a choice level or aspiration (Caplow, 1964). Even in later adolescence a hypothetical choice may really represent the selection of a level. Holden suggests that the choice level may be influenced by parental roles, values, sex differences, and socio-economic status level. Similarly, Glick (1965), Schwarzweller (1959), and Haller (1968) suggest that aspirations or choice level is tempered by obstacles of a personal and environmental nature.

Whether educational or occupational aspirations take chronological precedence for individuals is conjectural. Some may aspire occupationally first and then pursue the education requisite for achieving their occupational objective; some may simply aspire educationally and select an occupation later. Apart from the chronological element, a number of writers have noted the close relationship between occupational aspirations and educational aspirations. Asbury (1968), Slocum (1958), and Kahl (1953) have each suggested that students appear to use education not in pursuit of a specific occupational objective but rather as a means of securing an occupational level and its concomitants. If educational and occupational aspirations are closely related, it is probable that both may also be related to many of the same personal and family factors (e.g., Forcese and Siemens, 1965; Siemens, 1965).



Ginzberg (1951), Super and his associates (e.g., Super, et al., 1957; Super and Overstreet, 1960), and Holland (1966) developed their respective theories of occupational choice primarily for males. The results of Ginzberg's examination of a small sample of college women suggest that most women are marriage-oriented rather than work-oriented. Roe (1956) noted that various physical, psychological, and social differences between males and females influence the two sexes in the kinds of occupations each group seeks.

While most researchers have centred their attention on the correlates of vocational choice for males, a number have examined both sexes and found important vocational differences between the sexes. Edlefson and Crowe (1961) suggested that as they grow older and pass from one school grade level to the next, girls increasingly prefer the occupation of housewife and fewer prefer high and middle class jobs. Boys, meanwhile, appeared to prefer higher status jobs with an increase in grade. Dipboye and Anderson, in their 1959 study, noted that different values were held by each sex, resulting in differential aspirations. Similarly, Slocum and Bowles (1968) found that a considerably higher percentage of boys than girls aspired to professional or technical occupations. In his study of the relationship between selected family variables and the level of occupational aspirations, or LOA, of males and females, Siemens (1965) found that some variables significantly related to the LOA of males but were not so related to the occupational aspiration levels of females.

Herriott (1963) suggested that boys do not aspire higher than

girls simply because they are boys. Rather, social forces, the individual's self-assessment, and the expectations others have for the person's behavior function as "intervening variables" resulting in differential aspirations between the sexes.

In summary, then, the vocational choices made by youth may be viewed as the selection of a vocational choice level, or occupational aspiration level, which may be influenced by a number of personal and environmental factors. Moreover, since educational and occupational aspirations appear to be closely interwoven, those factors which are strongly related to educational aspirations are often related also to occupational aspirations. Factors which may be strongly related to the occupational aspirations of one sex, however, are sometimes not strongly related for the other.

With the broad conceptual framework established and certain relationships revealed in past studies noted, the literature may be reviewed according to the variables selected for analysis in this study.

## II. THE SELECTED VARIABLES

That certain characteristics of the family are related to the total development of the child has emerged as an accepted generalization. The child may inherit the father's occupation (Caplow, 1964) or otherwise be the recipient of the projected ambitions or interests of the parents (e.g., Brunkan, 1966; Werts, 1968). Parents, in their individual and collective roles, may mould the attitudes, motivations,

and goals of their (e.g., Kahl, 1953; Lipsett, 1962; Bell, 1969). Parental interest in and expectations of the child's ability and development provides impetus to the child's aspirations and his desire to achieve (e.g., Elder, 1963; Joiner, et al., 1969). More specifically, certain variables associated with the family have been examined for their possible relationships with the child's occupational aspirations.

#### Father's Occupational Level

A number of studies have examined the relationship between youths' occupational aspirations and their fathers' occupational prestige level with many of the same conclusions resulting. In their separate studies, Krippner (1963) and Mowseian and his associates (1966) found that the children's occupational aspiration levels or preferences were a direct reflection of the occupational prestige level of the fathers' occupations. Similarly, in their sample of nearly three thousand Washington state junior and senior high school students, Edlefson and Crowe (1960) found that individuals from middle and high occupational status families wanted at least the same occupational levels as their fathers.

Youmans (1956) hypothesized that position in the social structure as determined by the father's occupational status was more important in formulating the occupational expectations of youth than other home, school, or work experiences. The parental occupations of the broad, mostly urban, sample of 6,789 males were stratified into

three groups: white collar workers, manual workers, and farmers. Nearly 31 per cent of the sons of white collar workers actually expected to be professionals, their aspiration level, while only 20.6 per cent and 12.0 per cent respectively of the sons from the latter two strata expected to be professionals. The downward adjustment from aspirations to expectations was reflected by the sons' social status origins.

Stephenson (1955) had earlier made a distinction between student plans or expectations and aspirations. His study of 443 junior high school students revealed that all students, regardless of their fathers' occupational level, tended to aspire high. Large differences between those aspirations and expectations were actually found. With grouping by fathers' occupational levels, plans were more closely related than aspirations to fathers' occupational levels. Students from lower social status families lowered their aspirations the most.

Siemens (1965) and Peach (1970) examined, respectively, 1844 and 3,378 high school students in selected areas of Manitoba. Utilizing a modified version of Haller and Miller's Occupational Aspiration Scale (OAS), Siemens noted that the students' derived levels of occupational aspirations (LOA) and fathers' occupational levels were statistically significant at the .01 level. Using ordered means, Peach found that students' scores on the OAS were reflected by family social status as expressed by the father's occupational level.

It has been pointed out that conclusions about the relationship between student aspirations and social status, particularly as measured

by the father's occupational level, may be spurious since both social status and aspirations are linked to intelligence (e.g., Sewell, Haller, and Strauss, 1957). Thus, the social status effects upon individual aspirations may be partly attributed to the relation of intelligence with both social status and aspirations.

Cognizant of the strong relationship of I.Q. scores and socio-economic status with occupational aspirations revealed in earlier studies, and noting different aspirational patterns between the sexes, Kristjanson (1967) examined the relationship between fathers' occupational prestige levels and student aspirations using the same raw data available to Siemens (1965). Holding sex and intelligence level constant, a chi square relationship between the two variables was significant at the .01 level. With a control on sex and socio-economic status no significant relationship between occupational level and aspirations appeared, suggesting a close relationship between socio-economic status and the prestige level of fathers' occupations. A significant relationship at the .02 level was found when sex, intelligence, and socio-economic status level were held constant. Kristjanson suggested, as a result, that occupational aspiration levels were more closely related to socio-economic status than to intelligence as measured by I.Q. scores.

#### Opinion of Father's Occupation

Research results generally support the hypothesis that the higher the socially-ascribed occupational status of the father the

higher the child will aspire. The relationship, however, may be affected by the child's opinion of his father's occupation since the child may ascribe a status to his father's job which is different from the social ascription. The child's opinion of the father's occupation may be related to the child's aspirations; the opinion, however, may be relative to the child's social class origins.

Analyzing his data by chi square and applying controls of sex and intelligence level, sex and socio-economic status level, and the three combined, Kristjanson (1967) noted no statistically significant difference at the .05 level between students' subjective evaluations of their fathers' occupations and the aspirations of those students. A disproportionate number of the students who were classified as high aspirers in the study rated their fathers' occupations low. Because the result in itself does not indicate the relative importance of subjective evaluation of a father's occupation in occupational decision-making or prediction, the variable was included in the present analysis to assess its importance relative to other variables.

#### Socio-economic Status (SES)

Family social status is largely ascribed on the basis of the prestige level of the father's occupation. Attempts have been made to assign occupations to levels, and thus assign social status from a socio-economic base. Socio-economic scales for such occupational assignment have not, however, been stable over time (Caplow, 1964). Nonetheless, social status as assessed by prestige-based scales and

SES is usually related although the relationship is not always consistent. Super (1957) noted that high social status did not necessarily mean high SES since occupations could be assigned high prestige without yielding high incomes, which are generally requisite for high SES.

Most studies have concurred in their results that a strong positive relationship exists between SES and student aspirations. Siemens (1965), for example, found significant chi square relationships between the occupational aspirations of his Manitoba high school sample and the SES of the parents. Sewell and his associates (1957) found a similar significant relationship in their United States study even with intelligence controlled.

Others also have examined the same possible relationship with a concern for intelligence effects. Crowley (1959) found a significant positive relationship between SES and intelligence and noted that individuals from high SES families had the same goals as individuals with high intelligence. Similarly, low SES individuals and those with low intelligence had similar goals. If there is a reasonably strong relationship between educational and occupational aspirations (e.g., Burchinal, 1961; Siemens, 1965), then the study by Youmans (1958) is pertinent. The Youmans' study revealed that one-quarter of the youth in 480 Kentucky families planned on college. When the families involved were divided according to SES level, three SES groups of approximately equal size resulted. The division revealed that one-half of the youth who planned on college came from the high SES group. The occupational

plans of the college-bound youth, though high, were not clearly formulated.

Henderson's examination (1966) of SES relative to real and ideal aspirations revealed that 82 per cent of the middle class students in his study and 78 per cent of the lower class students aspired to professional and managerial positions. Of the middle class students aspiring to such positions 87.9 per cent actually believed they would reach their goal; only 11.9 per cent of the lower class students believed they also would reach their goal. There is a large discrepancy between the hopes and expectations of the lower SES group. Similarly, Weiner and Murray (1963) had earlier found that lower and upper SES groups differed in their feelings that their aspirations were "reachable." The presence of such differences may be explained by the relationship of social factors to occupational motivation (Lipsett, 1962), by different values or different membership behavior (Weiner and Murray, 1963), by varying emphases (Lipsman, 1967), or different available role models (Uzzell, 1961).

#### Level of Parental Education

It is generally assumed that the level of educational attainment is largely determined by intelligence. Further, occupational prestige status is partly determined by educational attainment and intelligence (e.g., Caplow, 1964; Reiss, 1966); SES is usually related strongly to occupational prestige status. Since SES and the father's occupational prestige level may be related to the child's occupational



aspirations, it is not difficult to hypothesize that parental educational attainment, a measure of SES and occupational prestige, may also be related to the child's occupational aspirations. The interrelationships between such variables and the relationship of each with occupational aspirations was indirectly suggested by Kristjanson (1967) who, when he controlled for sex and intelligence, sex and SES, and all three variables combined, found no significant relationship between student aspirations and either parent's educational attainment. Kristjanson suggested, as a result, that the student's intelligence was related to the parental educational levels and that the relationships usually found between the LOA and parental education was a reflection of more than education.

Separately examining boys' and girls' occupational aspirations and the educational attainment of each parent, Siemens (1965) reported that the aspirations of each sex appeared to increase with the father's educational attainment. A significant relationship was also revealed between boys' aspirations and mothers' educational achievement; except for the high SES group, girls' aspirations were not significantly related to mothers' achievement. Youmans' study (1956) of male expectations revealed that boys' occupational expectations similarly increased with the educational level of the father.

In his Washington state sample of two thousand older students, Slocum (1958) found that 70 per cent of those students with college graduate fathers also planned on college. Students with fathers of lesser educational achievement planned more often on entering the

labor force. Educational aspirations bore a positive relationship to the father's educational attainment. Since most boys see college as preparation for an occupation (e.g., Case, 1956), occupational aspirations would presumably bear a similar relationship to fathers' educational achievement.

#### Parental Encouragement for Education

Kahl (1953) studied twenty-four boys from twenty-four middle class families. Although all of the boys were sufficiently intelligent to do college-level work, only twelve aspired to attend college. Focusing on the possible social determinants of the differential aspirations of boys wishing to attend college and boys not wishing to attend college, Kahl noted that nine of the twelve boys having college aspirations were strongly encouraged by their parents to take school seriously as preparation for a good job. The parents of only three college aspirants and the twelve non-aspirants did not similarly encourage their sons.

Examining the comparative educational and occupational aspirations of youth living in communities of different sizes, Burchinal (1961) found that youth in urban areas generally aspired higher than youth in rural small town and farming areas. His hypotheses that the parents of youth living in rural areas were neither as frequently involved in their children's occupational planning nor gave as much encouragement for continued education as other parents were both supported.

In their separate studies of the same raw data collected from Manitoba high school youth, Siemens (1965) and Kristjanson (1967) reported that parental encouragement for education was directly related to the level of occupational aspirations, or LOA, of both sexes. In both studies father's encouragement, however, was somewhat more strongly related to the LOA than was mother's encouragement. In Kristjanson's study, mother's encouragement and the LOA of children were strongly related except when sex and SES were controlled.

#### Ethnic Background

While some studies have noted the relationship between ethnic background and educationally-related variables (e.g., Marshall, et al., 1953; Sewell, et al., 1953), the relationship between ethnicity and the level of occupational aspirations (LOA) has not been conclusively established and requires further examination. Although he noted some inconsistencies in the analyzed data concerned with ethnicity, Siemens rejected the hypothesis of a relationship between ethnic background and the LOA in his sample of Manitoba high school students. Kristjanson (1967) could not reject his hypothesis of no relationship when he analyzed ethnicity and the LOA with various controls.

Some religions are often identified with certain ethnic backgrounds. Researchers have concentrated study so far upon the possible relationship between religion and the LOA. Results of the studies are inconclusive (e.g., McLelland, 1955; Super and Overstreet, 1960; Kristjanson, 1967; Miner, 1968). Further examination of the relationship

between ethnic background and the LOA, employing different approaches, is warranted.

#### Home Situation

The term "home situation" may encompass many possible headings. Employing that term, Youmans (1956) examined the amount of work done at home, spending money received, allowances, family size, and sibling position. One very basic aspect of the total home situation which may be relevant for occupational aspirations is the number of parents present in the "home situation." Siemens (1965) suggested that students from "normal" homes, where both parents were present, would have higher occupational aspirations than those from "broken" homes, where one or no parents were present. After analyzing his data Siemens concluded that the hypothesis of no relationship between the home situation as measured and the level of occupational aspirations could not be rejected. Because the population employed in the present study appears to be somewhat different from the sample in the earlier study, the "home situation" variable, as assessed by Siemens, was included for reanalysis in this study.

#### School Grade Level

In this as in other studies grade or grade level refers not to academic achievement but to the number of years of formal education completed. Thus, grade refers to the student's presence in grade nine or ten, and so on.

The relationship between the child's grade level in school and

his occupational development is not uniformly clear. Research has suggested that students at junior and senior high school grade levels do differ somewhat in their occupational development. Generally, such students will be in one of the developmental substages of the broad exploratory stage of vocational development. Thus, differences in occupational development and aspirations may be a reflection of the different substages.

Dipboye and Anderson (1959) pointed out that in terms of occupational values grade nine and twelve males are essentially the same. Grade nine students in the study, however, placed higher value on security than salary; grade twelve's emphasized salary. Girls' values, markedly different from boys' values, were the same whether in grade nine or twelve.

Although the value sets of each sex over time appear stable, occupational aspirations and/or expectations are less stable. A study of 111 Boston-area students over a five-year period revealed that 61 per cent of the students preferred professional occupations when they were in grade eight, 57 per cent when the same students were in grade ten, and 55 per cent had the same preference when they were in grade twelve (Gribbons and Lohnes, 1966). In a study of the educational expectations of 109 suburban New York City students over a four-year period, Holden (1961) found that 91 per cent of his initial grade eight sample aspired to an education beyond high school. Of the aspirers, 66 per cent expected to attend college. After four years only 33 per cent of the same group had the same expectation. A large

proportion of each intelligence level in grade eight expected to attend college. By grade eleven it was the low intelligence individuals who had changed their educational expectation levels most noticeably. In both studies aspirations or expectations appear unreasonably high. Young people apparently do not typically make appropriate occupational or educational choices. Some unknown events occur between grades eight and eleven or twelve which affect aspirations and expectations (e.g., Edlefsen and Crowe, 1960).

### Intelligence Level

On the basis of available research it has become an accepted generalization that the child's intelligence level and parental level of intelligence each bear a relationship to aspects of child development, including vocational development. Intelligence has, for example, been suggested as an important factor in vocational maturity, in selecting an occupation, and in occupational success (e.g., Super and Overstreet, 1960; Roe, 1956; Super, et al., 1957). Other research has indicated that the intelligence of parents and child is so strongly related to such factors as SES and education attained that the relationship between such factors and aspects of occupational development are unclear (Youmans, 1958; Crowley, 1959).

The level of the child's intelligence, however, does appear to be positively related to aspirations and expectations (e.g., Youmans, 1958; Holden, 1961; Davis, et al., 1962). The relationship may not be truly revealed until after the student reaches high school. In

their Boston study Gribbons and Lohnes (1966) noted that it was the students below an I.Q. score of 114 who changed their aspirations most noticeably between grades eight and twelve. Presumably such students originally selected occupations most inconsistent with their intelligence.

In her New York City study of eighty-five high school males, Crowley (1959) found that high and low intelligence groups differed considerably in their goals, in their perception of existing obstacles to goal fulfilment, and in perceived aids to such fulfilment. Rezler (1967) studied 515 high school juniors and seniors from a middle-class midwestern suburb. Of the 515 females thirty-three girls selected such pioneer occupations for women as scientist or physician. Such girls could be differentiated, partially on the basis of intelligence, from girls selecting traditional female occupations. A study of males in grades nine and twelve in Ohio by Riccio (1965) attempted to determine whether students recently migrated from the Appalachian south and long-time, non-migrant, residents had differential occupational aspirations. Using Haller's Occupational Aspiration Scale (OAS), Riccio noted a positive correlation between intelligence and performance on the OAS. His two groups of students did not differ significantly in intelligence nor was there a significant difference in their occupational aspirations, regardless of their differential backgrounds.

#### Teacher Encouragement for Education

Because children spend so many hours in the school situation

and because teachers are directly involved in children's formal education, it seems plausible that teacher encouragement may be related to children's aspirations, both educational and occupational. A problem of causality, however, does exist. Whether students have higher aspirations because of the encouragement received or whether teachers tend to encourage those already having high aspirations is conjectural.

While Lipsett (1962) noted that teachers did influence the attitudes, motivations, and goals of high school students, Day (1966) found that direct or indirect teacher influence was not uniform for both sexes. In his study of the vocational preferences of 116 male and female high school seniors in Oregon, Day revealed that 44 per cent of the sample were influenced to some degree by teachers in their vocational preferences and plans. A significantly greater percentage of the boys were so influenced. Further, the amount of teacher influence was directly proportional to the amount of training required by the vocational preference.

In their Manitoba study, Forcese and Siemens (1965) reported that there was a significant positive relationship between the LOA and the amount of teacher encouragement within low and medium SES groups but that such a relationship was not evident within the high SES group. Applying controls of sex and I.Q., sex and SES, and all three variables together, Kristjanson (1967) rejected his hypothesis of no relationship between the LOA and the amount of teacher encouragement.



### Number of School Grades Failed

Donald Super and his associates have been the primary exponents of a self concept-vocational development relationship (e.g., Super, 1957; Super, et al., 1957; Super and Overstreet, 1960; Super, et al., 1963; Tiedeman and O'Hara, 1963). Early in life the home usually provides experiences of relevance for the development of the self concept. With increased exposure in the school and in the larger community new experiences and new roles may contribute to self concept development. During his adolescence the child generally begins to think seriously about a future occupation; it is at this period of life that the concept of self may have particular occupational relevance. Many different experiences or variables may contribute to the self concept, one of which may be the number of school grades failed.

Failure or bad grades in school may have considerable impact upon those individuals involved. In her study of eighty-five high school males in New York City, Crowley (1959) noted that some students perceived their lack of ability and poor grades as real obstacles to the attainment of their limited goals. Other students felt their ability was an aid to their high occupational goals. Slocum's Washington state study (1958) of two thousand boys and girls revealed that proportionately more students rating themselves high in ability as students planned on college. Presumably students with failures or bad grades would not rate themselves high as students.

Achievement alone does not determine educational or occupational aspirations. Herriott (1963) points out that knowledge of the achievement

of others whose ability can be assessed relative to one's own helps determine an individual's aspirations. The individual's assessment of his achievement level or position relative to others may influence his aspiration level.

#### Self-assessed Leadership Rating

Super (1957) suggested that the individual can assess himself partially on the basis of his perceived impact on others. In making a self-assessment of leadership ability the individual is actually assessing his impact upon other individuals relative to the apparent impact that other individuals have. It is also an assessment of his group responsibility and influence. If they are endowed with a strong measure of responsibility and influence, individuals are likely to have self-confidence. In the realm of occupations, occupational prestige is partially assessed by the occupation's associated responsibility and power. Prestigious occupations connote responsibility for and influence with others. A Rutgers' study of eighty-one male students (Oppenheimer, 1966, p. 194) indicated that persons "preferred occupations perceived as congruent with their self concepts." If this is true, it follows that individuals ranking themselves high in leadership ability will likely seek occupations permitting them the exercise of leadership qualities. Since such occupations are generally ranked high in the occupational prestige status hierarchy, such individuals will frequently aspire high occupationally.

Slocum (1958) noted that individuals rating themselves high in

leadership generally aspired to college. Force and Siemens (1965) found in their study of Manitoba high school youth that leadership rating and both educational and occupational aspirations were positively related. Controlling for sex, I.Q., and SES in different combinations, Kristjanson (1967) also found statistically significant relationships between the LOA and students' self-assessment of their leadership ability.

#### Participation in Extra-curricular Activities

The validity of the individual's self concept is explored in a variety of home, school, and community situations. Through new experiences and new associations the individual can explore his self concept, modify it, and expose himself to new knowledge of potential occupational relevance. Lack of participation in extra-curricular activities may restrict exposure to situations of potential occupational relevance and importance; participation in such activities will, on the other hand, broaden exposure to situations of potential relevance.

Extra-curricular activities have been suggested as important in different areas of vocational development. Participation in such activities was positively correlated with vocational maturity in Super and Overstreet's study (1960). Super (1957) suggests also that such activities may be important in securing a job. Regardless of the type of activity, the most active individuals in extra-curricular activities tend to plan on college (Slocum, 1958). With various controls

applied, Kristjanson (1967) reported a chi square value significant at .01 and a coefficient of contingency of .224 when he related the level of occupational aspiration (LOA) to the amount of participation in extra-curricular activities. Forcese and Siemens (1965) also found a significant relationship between such activities and the educational and occupational aspirations of high and medium SES groups.

#### Community Size and Isolation

Lipsett has noted that youth from large urban areas

. . . are more likely to be acquainted with the occupational possibilities which exist in such communities than will those who are raised in the occupationally less heterogeneous smaller communities (Lipsett, 1955, p. 226).

Usually, as the population size of a community increases, there is a greater likelihood of a child's exposure to a diversity of occupations. But in relatively isolated, single enterprise communities two other considerations may apply. First, the isolation of the community may preclude the individual's being exposed to a number of occupations in other communities. Second, the economic nature of the single enterprise community may be occupationally restrictive since the economic homogeneity itself, by definition, includes primarily those occupations relevant for the single industry. The individual in such a community is most often exposed, then, to the incumbents of jobs associated with the single industrial enterprise rather than the variety of occupations of an economically heterogeneous community. The restrictions in exposure to occupations imposed by size, isolation, and economic homogeneity may, however, be counterbalanced by the presence of men, in

mining communities particularly, having a high degree of professional or technical knowledge.

Virtually no literature relevant for an examination of isolated single enterprise communities is extant. Some parallels, however, can be drawn from urban-rural studies.

A large number of studies have suggested that between urban and rural youth there are some basic differences which are occupationally relevant (e.g., Youmans, 1956; Sewell, et al., 1957; Middleton and Grigg, 1959; Burchinal, 1961; Cowhig, 1962; Elder, 1963; Boyle, 1966). Haller and Wolff (1962), for example, examined 442 Michigan boys from farm, rural non-farm, and small urban environments and found a significant difference at the .001 level between place of residence and scores on the Occupational Aspirational Scale. As a result of finding significant differences by residence on such variables as I.Q., self-confidence, self-sufficiency, and evaluation of mobility, Haller and Wolff suggested that the orientations of urban males were such that they were likely to be more adaptive to the urban occupational structure than were rural males.

Lipsett (1955) earlier reported marked differences in the amount of time groups from various environments spent in non-manual occupations. Individuals from farms, from rural non-farm areas and cities under two hundred and fifty thousand persons, and from larger urban areas spent, respectively, 27 per cent, 41-46 per cent, and over 52 per cent of their time in non-manual occupations. Lipsett suggested that such differences may result from better metropolitan-area schools, greater

educational opportunities, more visible educational rewards, greater mobility, and higher occupational aspirations.

Some studies have applied controls on some variables since intervening variables may contribute to a revealed relationship between place of residence and the LOA. Forcese and Siemens (1965) controlled for SES and Kristjanson (1967) controlled for sex and I.Q., sex and SES, and sex, I.Q., and SES in their analyses of Manitoba data. Neither study found significant differences between place of residence and the LOA with such controls. In contrast, Grigg and Middleton (1960) initially divided over twenty-six thousand white grade nine students in Florida into five size-of-community classifications. The communities ranged in size from twenty-five hundred to two hundred and fifty thousand persons. When they partialled out the effects of intelligence and father's occupation from the analysis, they found a statistically significant difference between community size and boys' LOA. The relationship did not, however, hold for girls. Evidently, community size, occupational aspirations, SES, and father's occupational level require further study.

#### Number of Years Spent in the Community

Urban-rural studies have tended to group students according to community of residence, implicitly assuming that residence has been long-term. Considering population movement trends the assumption is probably warranted, especially for farm and small town youth. The number of years spent in the community is really a general method of

assessing the exposure to rural or urban community life. Presumably, in the case of smaller communities, having lived in the community only a short time suggests that one has been exposed to individuals in other communities and to various experiences of potential occupational relevance. Individuals who have lived in the smaller community for some time, on the other hand, have been exposed to familiar values, beliefs and attitudes for that time and supposedly have had more limited social exposure than the mobile individuals.

The number of years spent living in a community may be a measure of geographic mobility and social exposure in the same way that the number of schools a youth attends may be a measure of parental geographic mobility and social exposure. On the initial assumption that the number of schools attended reflects social experience, and the number and variety of social experiences may be of occupational relevance, Forcese and Siemens (1965) and Kristjanson (1967) examined the relationship between the number of schools and the LOA, or level of occupational aspirations. The 1965 study of Manitoba high school youth revealed that only the high SES individuals who had attended a number of elementary schools had significantly higher aspiration levels. No significant relationship was revealed between the LOA and the number of high schools attended. Introducing controls of sex, I.Q., and SES in various combinations, Kristjanson's 1967 study reported no significant relationships.

Mobility may consist of job, occupational, or community mobility. Lipsett and Bendix (1952) reported that of the manual group of workers

the unskilled were the most occupationally unstable; in the non-manual group upper white-collar workers and proprietors were the most mobile in terms of jobs and occupations. Today, when consideration is given the rather prohibitive costs of uprooting families and moving, especially to individuals in isolated areas, it is probable that only those individuals in the upper occupational strata are really geographically mobile. Since this group generally occupy the upper SES level, and given the widely accepted relationship between SES and LOA, it may not be surprising that the relationship between a mobility measure and the LOA may disappear with an SES control.

The number of years spent living in the community implies mobility and both may imply exposure to individuals and experiences of occupational relevance. The association of years spent in the community with family SES, with mobility as a demographic variable, or with measures of school experience must yet be examined.

#### Wish to Stay in Community After High School and Further Education

In an A.R.D.A. study of the rural Musquodoboit Valley area of Nova Scotia, Connor and McGill (1965) found that 75 per cent of the over six hundred respondents planned on migrating from their present community for further education or a job. When approximately the same number were asked about their desire to migrate, 47 per cent of the respondents said they were either satisfied or eager to leave after high school. In the same study, nearly 80 per cent of 578 student respondents aspired to occupations for which education or training



beyond high school was required. Of the 578 respondents only 52 per cent actually expected to complete the necessary education. Youth desiring or expecting further education were compelled to leave their community since formal education or training beyond the high school level was not available in their immediate environment. In the three specific communities studied the very geographic location and inherent community limitations appeared to contribute to the migration of youth.

The limitations of size, of relative isolation, and of the availability of formal education beyond high school in the single community may contribute to youth's desire to migrate to other communities. Assuming that educational and occupational aspirations are positively and significantly correlated, individuals with a high level of aspirations will necessarily desire to leave the community after high school. Similarly, individuals not wishing to return to the community after post-high school education may make their decision simply because they cannot practise their occupation in the community. Individuals with a low level of aspirations who also wish to leave the community probably base their decision on occupational or community demographic considerations. Thus, the strength of the desire to stay in the community may be related to educational considerations, occupational considerations, or to such aspects of the community situation, as size, isolation, restricted mobility, and restricted educational and occupational opportunities.

### III. THE PROBLEM RESTATED

The population examined in the present study was assumed to be in the exploratory stage hypothesized by vocational development theory. Super and his associates proposed that certain role, personal, and environmental factors are operative influences on the individual during this stage of his development. As one aspect of vocational development, occupational aspirations were assumed to be similarly related to the proposed factors.

Variables, or factors, were selected primarily on the basis of vocational development theory proposals, upon an examination of some earlier research, and on the basis of relevance for the communities examined. An examination of the variables selected for analysis suggested that certain variables may be closely associated or have some underlying common characteristic. Thus, the variables may be divided into three variable groups, hereafter referred to as variable sets.

#### Variable Set I: Orientation to Family

- 1) Father's occupation
- 2) Child's opinion of father's occupation
- 3) Socio-economic status level (SES)
- 4) Father's education
- 5) Mother's education
- 6) Father's encouragement for the child's education
- 7) Mother's encouragement for the child's education

- 8) The child's level of occupational aspiration (LOA)
- 9) Ethnic background
- 10) Home situation

Variable Set II: Variables of Educational Relevance

- 1) Grade
- 2) Teacher encouragement for the child's education
- 3) Intelligence level
- 4) Number of school grades failed
- 5) Self-rating of leadership
- 6) Number of extra-curricular activities

Variable Set III: Community-related Variables

- 1) Number of years spent in the community
- 2) Wish to stay in community after high school
- 3) Wish to stay in community after further education
- 4) Community size
- 5) Community isolation

The division of variables into three variable sets provided a focus for the examination of the actual variable sets resulting from the analysis of the data. The results of this analysis are presented in Chapter IV. Further analyses provided the opportunity of examining the variable sets for each sex separately and a selection basis for an analysis of the relative importance of certain variables as predictors of the level of occupational aspirations. The results of these analyses are also presented in Chapter IV. A description of the methodology employed in preparing the data for analysis is the subject of the following chapter.

## CHAPTER III

### LIMITATIONS AND METHODOLOGY OF THE STUDY

#### I. LIMITATIONS AND DEFINITIONS

##### Limitations of the Study

This study, not unlike many studies, has inherent limitations resulting from the complexities of human behavior and development. Identification of those variables which cause changes in vocational development, which is one aspect of total individual development, is extremely difficult for two reasons. First, many personal and environmental variables which may influence vocational growth are themselves related and to identify the strength of each individually with some aspect of vocational growth is consequently difficult. Second, the actual impact of a given variable upon vocational growth may not be evident for some years. The best that earlier studies have done is to indicate some statistical, but not causal, relationships between certain personal and environmental variables and aspects of vocational development. This study, then, is limited by the very complexities of human behavior and interaction. Further, two specific limitations must be noted with respect to this study.

Because this study was concerned solely with high school students, at least two considerations must be borne in mind. First, the students are theoretically in the same broad stage of vocational development of which vocational aspirations are an important phase. Secondly, the study does not include for analysis those students of

high school age who attend grades lower than grade ten or students of high school age who may have quit school. The inclusion of such students could conceivably alter the results of the present study.

Some caution should be exercised in generalizing the results of this study either to other single enterprise communities or to non-single enterprise communities. This is advisable since the five areas studied differ from each other, and from other single enterprise communities, in terms of size, with the communities ranging in population from 1,250 to fifteen thousand, in terms of geographic location, and in terms of the dominant industry and company present. With caution, however, certain generalizations may be warranted.

#### A Definition of Terms

Single enterprise community. The single enterprise community, in this study, may be defined as a community whose economic existence is based upon one single, basic economic enterprise; that is, it is economically homogeneous.

Vocational or occupational aspirations. Vocational or occupational aspirations refer to the occupations or vocations to which the individual aspires, idealistically and realistically.

Level of occupational aspirations (LOA). In the present study it is assumed that different occupations are generally given differential social evaluations and therefore occupy varying levels in an occupational prestige hierarchy.

Dependent variable or criterion. The dependent variable, or

criterion, is the LOA as measured by a prestige-based occupational scale.

Independent variables or predictors. The independent variables, or predictors of the LOA, are those personal and environmental factors earlier reviewed, such as grade and socio-economic status level.

## II. METHODOLOGY

The following sections include explanations of the construction and administration of the research instrument, brief examinations of the respondents and the instruments employed in measuring certain variables, and a comment on coding procedures.

### The Research Instrument

Data were collected from the target population by means of a questionnaire. The questionnaire method was employed in earlier studies of a similar kind and appeared to provide the desired information conveniently and expeditiously. This method enabled the researchers to collect the desired information from a class-room of students within forty minutes. While an interview method may have provided information from a greater number of students, the potential inconveniences of the technique and the limited time available for collecting the information precluded its use.

The questionnaire employed is a modification of that used by Siemens (1965) in his study of the educational and occupational aspirations of high school youth in three Manitoba areas. During May, 1969,

members from the Faculty of Education and Department of Sociology at the University of Manitoba cooperated in the re-construction of the questionnaire for use by each. A research team consisting of representatives from the Faculty and the Department of Sociology carried out the field work, data coding and tabulation, and initial analyses.

Year end examinations in the five selected high schools made pretesting the questionnaire prior to its actual administration impossible. Because essentially the same questionnaire had been employed in an earlier study and because the research team was well briefed by experienced researchers, few problems with the questionnaire were anticipated and no problems were evident during administration or coding of the questionnaire.

#### Questionnaire Administration

Prior to the actual administration of the questionnaire during the last week of May and first week of June, communication was established with the superintendents, in school systems employing a superintendent, or the principals of the schools selected for study. In each case the principals cooperated with the research team by preparing a timetable for the administration of the questionnaire to each class in the senior grades. Staff and students, informed that a questionnaire was to be administered, likewise cooperated.

Class periods in each school were over 35 minutes long, the approximate time anticipated for the completion of the questionnaire by each student. A brief time was generally taken to achieve some

rapprochement with the students, outline the purpose of the questionnaire in broad terms, and to give necessary directions. Students were asked to work quickly and independently. Emphasis was placed on the importance of answering every question as accurately or as well as possible. Students were given assurance that their responses would be held in strict confidence.

Three basic assumptions underlie the analysis of the data obtained from the students. It is assumed that:

- 1) students would respond to factual, objective questions with as accurate information as they were capable of giving;
- 2) student responses to questions subjective in nature would be accurate reflections of their beliefs, attitudes, or feelings;
- 3) students would feel sufficiently secure by assurances of anonymity that their responses would be accurate.

After administering the questionnaire in each of the senior grades, the research team was permitted access to school files for the purpose of collecting I.Q. scores on each student in the school.

#### The Respondents

The actual number of respondents to the questionnaire in the five communities represented 81 per cent of the total student enrolment. The percentage of responses, by school, are given in the Appendix, Table C.2. Because the listed total enrolment of 1,309 students was based on class lists which may have needed updating, it is probable that the percentage of responses based on actual school



enrolment in May and June was somewhat higher. Students in Thompson had been permitted the freedom not to attend school because a building expansion had produced some shortage of space and noise problems made study at school difficult.

Table II presents the number and percentage of students, by age, who completed the questionnaire.

TABLE II  
NUMBER AND PERCENTAGE  
OF 1061 RESPONDENTS  
BY AGE

Age	13	14	15	16	17	18	19	20	Over 20	Total
Number	0	6	165	341	290	159	66	27	7	1061
Percent	0.0	0.6	15.6	32.1	27.3	15.0	6.2	2.5	0.7	100.0

Notably, as indicated in Table II, 99.3 per cent of the students were between the ages of fourteen and twenty inclusive. The population, therefore, appears appropriate for the general conceptual framework outlined.

Table III presents the number and percentage of students, by grade, who completed the questionnaire.

Table III indicates that the largest percentage of the respondents (42.3 per cent) were in grade ten. Combined with the 32.4 per cent of the students who were in grade eleven, it is evident that over

seventy-five per cent of the students were in the two lower grade levels. Only 2.0 per cent of the respondents were in grade thirteen.

TABLE III  
NUMBER AND PERCENTAGE  
OF 1061 RESPONDENTS  
BY GRADE

Grade	10	11	12	13 <sup>a</sup>	Total
Number	455	344	241	21	1061
Percent	42.9	32.4	22.7	2.0	100.0

<sup>a</sup>In this study grade 13 applies only for students from Red Lake, Ontario.

#### Instruments and Coding

Level of occupational aspirations (LOA). This concept of aspirations is founded upon the differential prestige evaluation of occupations which result in the arrangement of occupations into a hierarchy. Individuals are assumed to be oriented toward certain levels of the hierarchy. The level of the orientation represents occupational goals and aspirations. The Occupational Aspiration Scale or OAS (Haller and Miller, 1963), based upon the prestige rankings of ninety occupations by a nationwide sample in the United States (Reiss, 1961), was employed as the best available measure of such aspirations with a male population (see Appendix C, Section IV).

The OAS consists of eight questions each having ten different occupational alternatives, one from each of the ten prestige levels of the occupational hierarchy. The scale thus uses eighty different occupations from the hierarchy of ninety prestige-ranked occupations. Two expression levels of realistic and idealistic and two goal dimensions of short-range and long-range are included in the questions. There are, therefore, four logical combinations of questions with each question appearing twice.

The OAS takes approximately twenty minutes to complete and is simple to administer and score. Each of the eight questions includes an occupation representative of each of the ten occupational prestige levels. The ten occupations of each question, each thus representing a hierarchical level, range in score value from zero to nine. Students are requested to check one occupation in each question. Scores are totalled for each question, thus yielding a total score ranging between zero and seventy-two. Since different expression levels and goal-periods are represented in the questions, sub-scores could be obtained. The present study, however, utilized total scores only.

Haller and Miller (1963, p. 104) concluded, as a result of a check on internal validity, that the OAS was "probably the best available single combination of practicability . . . and validity." Its usage with similar United States samples suggests the scale is a valid instrument for measuring male occupational aspirations. Siemens (1965) noted that no evidence exists to indicate whether the scale would be less valid when used with a Manitoba population.

A check of the split-half reliability of the OAS in the original study of older male youth revealed an approximate reliability coefficient of .80. A test-retest coefficient of .77 resulted when equivalent forms were administered ten weeks apart. Haller and Miller thereby concluded that the OAS appeared reliable for research purposes. In the present study a split-half reliability coefficient of .76, reported in the Appendix, Table B.1, was revealed for males.

Although the Haller scale was tested only for males, the authors suggested that the scale may work well with females. Siemens (1965) noted a high degree of frustration amongst the females in his sample who responded to the scale. Peach (1970) indicated that certain occupational alternatives in the OAS, if only because of wording, were closed to females. Other occupations may also be closed to females because many females traditionally reject certain occupations identified with males (e.g., Slocum and Bowles, 1968). Peach, therefore, modified the Haller OAS for a female population. The girls in the population examined in this study were randomly differentiated into two groups, one group receiving the Haller OAS and the second the Peach-modified OAS. The split-half reliability coefficients for each scale are reported in the Appendix, Table B.2. The reliability coefficient on the Haller OAS for females is .64 and on the Peach-modified OAS it is .56. Both are somewhat lower than the reliability coefficient for males.

Appendix Table B.3 reports a revealed validity coefficient of .50 for the Peach-modified OAS, employing the Haller OAS as the

criterion, when a sample of eighty-seven girls completed the alternate scale after seven days.

Table IV presents the descriptive statistics of the modified OAS for girls and boys in the present study.

TABLE IV  
DESCRIPTIVE STATISTICS OF THE MODIFIED OAS  
FOR BOYS AND GIRLS

Population	Scale	N	Mean	SD <sup>a</sup>	Range	SE <sub>M</sub> <sup>b</sup>
Boys	Haller OAS	522	42.50	9.83	53(14-67)	0.43
Girls	Haller OAS	216	41.24	9.64	46(17-63)	0.65
Girls	Peach OAS	241	40.16	7.76	47(14-61)	0.50

<sup>a</sup>Standard deviation

<sup>b</sup>Standard error of the mean

Of the 1,061 students who responded to the questionnaire, 979 completed all eight questions on the OAS. Of the questionnaires received by each group there was a non-response rate of 7.6 per cent by boys, a 12.1 per cent non-response rate for girls receiving the Haller OAS, and a 3.2 per cent non-response rate for girls receiving the Peach-modified OAS. Most of the students classified as non-respondents with respect to the OAS omitted one of the eight questions.

In scoring the scale, the numbered occupational alternative

selected by the student was transformed into a prestige score. The prestige scores for each question were then totalled to yield a raw score on the OAS. Quartile points were found for the boys and occupational levels assigned according to the quartile into which any given score fell. Similarly, quartile points were established for girls, regardless of the scale completed, and each girl was then assigned an occupational level according to the quartile into which her score fell. The quartiles for the OAS scores are presented in Table V.

TABLE V  
QUARTILES, OCCUPATIONAL ASPIRATION LEVELS,  
AND SCORE INTERVALS BY SEX OF STUDENTS  
COMPLETING THE OAS

Quartile	Occupational Aspiration Level	Score Interval	
		Males	Females
1	1	1-34	1-34
2	2	35-42	35-40
3	3	43-49	41-46
4	4	50-72	47-72

Level of father's occupation. The rating of fathers' occupations was based upon Blishen's Occupational Class Scale (Blishen, et al., 1961). Basing the development of his scale on the 1951 Canadian census,

Blishen ranked 343 occupations by combining the standard scores for years of schooling and income. The occupations were then grouped into seven classifications ranging from one with the highest combined score to seven with the lowest. Blishen's ratings of occupational prestige and those of the National Opinion Research Center in the United States had a rank order correlation of .94. It was upon the N.O.R.C. ratings also that occupational ratings were based in the OAS.

In this study occupations were generally assigned scores according to the occupational class into which the occupation fell in the Blishen Scale. In the rare cases of occupations not clearly falling into any occupational classifications, scores were carefully but arbitrarily assigned.

Level of intelligence (I.Q. level). In no school visited were I.Q. scores available for all students. In only one school were all available I.Q. scores measured by the same intelligence test. Each of the other four schools had I.Q. scores available from a number of different tests with their slightly different scoring systems, different means, and different standard deviations. The five communities employed the Dominion Group Test of Learning Capacity, the Otis Quick Score Beta, the Henmon Nelson Test of Mental Ability, the Lorge-Thorndike test, and the General Aptitude Test Battery (GATB). The Dominion Intermediate Test with its lettered I.Q. level was also employed. The particular form of each test used was, when reported, appropriate for the child's age level. Since recent test scores were not available for a number of students, scores on tests administered

as early as 1962 were used in the present analysis.

Objections to the validity and reliability of I.Q. scores as measures of intelligence on the grounds that socialization and learning affects performance on I.Q. tests were partially allayed by placing students into broad intelligence levels based on the I.Q. scores. Attempting to place students into such levels based upon I.Q. scores, however, raised the difficulty of comparing students who have completed I.Q. tests having different scoring procedures, different means, and different standard deviations. Procedures were developed, however, whereby the quartile points were located for each of the tests and each student was assigned to an intelligence, or I.Q., level according to the quartile into which his score fell on the particular test completed. The procedure makes the basic assumption that the grouping of scores into quartiles is sufficiently broad that a given student would be assigned to the same quartile regardless of the test he completed. Table VI, which follows, presents the score intervals and the quartiles to which scores were assigned for each of the I.Q. tests employed.

Scores from the Dominion Group Test and Lorge-Thorndike test were combined for the purpose of establishing quartiles because the known means and standard deviations of the two tests are the same (Buros, 1959) and because the number of scores from the Lorge-Thorndike test were few relative to the Dominion Group Test. The comparability between the letter-scores of the Dominion Intermediate Test and the scores of the Dominion Group Test permitted the assignment of the



letters to quartiles. As is evident in Quartiles 1 and 2 of Table VI, this was partially accomplished by interpolation.

TABLE VI

I.Q. LEVELS BY QUARTILES ON INTELLIGENCE TESTS FOR STUDENTS  
IN THE FIVE SINGLE ENTERPRISE COMMUNITIES

Test	N	Quartiles and I.Q. Level by Scores			
		1	2	3	4
Dominion Group Test and Lorge-Thorndike	545 18	up to 101	102-110	111-118	119-over
Otis Quick Score Beta	278	up to 102	103-109	110-115	116-over
General Aptitude Test Battery	47	up to 114	115-118	119-127	128-over
Henmon-Nelson	19	up to 104	105-109	110-119	120-over
Dominion Intermediate	196	D, E, and 25 C's	45 C's 101-110	B 110-120	A 120-over

Socio-economic status level (SES level). The SES of families was measured by a scale arbitrarily modified from Sewell's "Short Form of the Farm Family Socioeconomic Status Scale" (1943). Sewell's short scale used fourteen of the most readily obtainable and discriminatory items included in an earlier, more comprehensive scale. Use of the scale with Kansas, Oklahoma, and Louisiana samples indicated the items suitably differentiated the socio-economic status of individuals in the three samples. The scale appeared to be valid for varying

populations. A correlation between the original scale ratings and the short form was over .90. The split-half reliability was over .80. Because of the diversity of the different samples used by Sewell, it is not unreasonable to employ a similar scale with a Manitoba population.

Sewell's short scale was originally intended for farm families. Siemens (1965) altered the scale to include items thought appropriate for his combined urban-rural sample and to exclude items rendered non-discriminatory by changing social conditions. On the basis of appropriateness for the population studied and of changing social conditions the present scale is a further modification of Siemens' adaptation. The items included in the assessment of SES and the scoring for each item is presented in Table VII.

For the most part the items included in the present scale would indicate the position of each respondent's family relative to other families according to material consumption and such cultural involvement which appears to be based on material possessions. With the improving Canadian standard of living, many material possessions which earlier may have differentiated between the socio-economic status of families have disappeared. Dependent upon the population or sample studied, the possession of so-called luxury items, the ability to purchase services, and the purchase of cultural possessions or involvement presently may serve to better discriminate between the socio-economic status of families.

The validity and reliability of the present scale is open to

TABLE VII

THE SCORING OF THE MODIFIED VERSION OF SEWELL'S  
"SHORT FORM OF THE FARM FAMILY  
SOCIOECONOMIC STATUS SCALE"<sup>a</sup>

Item	S C O R I N G		
	0 points	1 point	2 points
1. Room-person ratio	below 1.3	1.3-above	--
2. Home construction	shingles	stucco	--
	imitation brick	brick	
	trailer	painted frame	
	unpainted frame		
3. Daily newspaper	no	yes	--
4. Telephone	no	yes	--
5. Car ownership	no car	1 car	2 cars
6. Model year of car	1966 or earlier	1967-69	--
7. Garage or carport	no	yes	--
8. Encyclopedia	no	yes	--
9. Library books borrowed	no	yes	--
10. Frequency of holidays outside the community	no	yes	--
11. Membership fees paid to clubs, organizations	not every year	every year	--
12. Lessons in activities, i.e., dancing, music	no	yes	--

<sup>a</sup>See Section V of the questionnaire, Appendix C

question on two bases. First, the items were selected arbitrarily. The assumption that they would tend to discriminate between social classes was generally supported by the results. Some but not all the items have, however, appeared in similar scales. Secondly, refined weighting procedures as suggested by Sewell for his scale were not employed. There is, however, precedence for the simplified scoring procedures employed in this study (e.g., Siemens, 1965). The positive responses were scored 1 or 2 as indicated in Table VII. The scores could therefore range from zero to fourteen. Table VIII, which follows, indicates the frequency of SES total scores.

TABLE VIII

FREQUENCY OF SES SCORES AND SES LEVELS BASED ON THE MODIFIED VERSION  
OF SEWELL'S "SHORT FORM OF THE FARM FAMILY'S  
SOCIOECONOMIC STATUS SCALE"

T O T A L     S C O R E															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Frequency	0	1	6	6	33	60	84	169	206	205	162	90	24	10	0
SES level				1					2				3		

Observation of the frequencies of scores appeared to indicate that the scale best discriminated SES level at the upper and lower ranges of scores. Assigned scores of 0 to 6 inclusive, for example, accounted for only 18 per cent of the total number of scores assigned

and scores of 10 and over accounted for only 26 per cent of all scores assigned. On the other hand, the three scores of 7, 8, and 9 accounted for nearly 55 per cent of all assigned scores. The scale employed thus appeared to discriminate SES level reasonably well at the upper and lower ranges of scores but less well in the middle range. On the basis that an existing relationship between occupational aspirations and SES level is contributed to most largely by clearly discriminated upper and lower SES levels, scores were grouped into three broad categories or SES levels, as indicated in Table VIII.

Ethnic Background. As noted in Chapter II, examinations of the relationship between the ethnic origin of parents and the occupational aspirations of the child are few. The questionnaire used in the present study requests information regarding the country of birth of the respondent's father, mother and father's father. Rather than categorize ethnicity by the country of birth of each parent and relate ethnicity directly to the child's occupational aspirations on the initial assumption that aspirations varied according to ethnic background, this study attempted to construct a cultural index as a means of grouping individuals of various ethnic backgrounds.

A basic assumption was involved in the construction of the index. It was assumed that there is a Canadian culture which is defined by those values held by the majority of Canadians. The predominant set of values have been assimilated from various historical influences and from the different value systems of the inhabitants. Amongst other

things, for example, strong value is placed in Canada upon education and upon one's occupation and prestige status within the economic system. Different countries and cultures hold values which differ in varying degrees from those values predominant in Canada. Since the Canadian population represents a variety of national and cultural origins, it was assumed that Canadians, depending upon their national origin, would differ in varying degrees in their acceptance of the predominant values. The countries of familial origin expressed by the students were arbitrarily ranked according to the likelihood of value congruence between the given country and Canada. Without the criteria having precedence, the arbitrary assessment of the likelihood of value congruence between the country and Canada was made with the following criteria in mind:

1. language
2. historical ties with Canada
3. past political history and political situation
4. religion and influence of religion
5. economic foundations of the country
6. standard of living
7. geographical and/or political accessibility to western culture and influence

The countries of familial origin expressed were grouped into five categories and assigned scores from 4 to 1 according to the decreasing likelihood of value congruence with Canada, which was assigned a base score of 5.

In the present study the individual scores for father's, mother's, and paternal grandfather's countries of birth were added to yield the cultural index score. Thus, scores could range from 3 to 15. Presumably, the higher the cultural index score the greater the likelihood that the family accepts the values prevalent in Canada. If this assumption is correct, presumably, too, the family and the child will place high value on education and prestigious position in the world of work.

Clearly, the validity and reliability of this unrefined scale is questionable. It is not likely, for example, that even a sample of students whose ethnic background is wholly Canadian would accept uniformly a single educational or occupational value and aspire identically. The broad categorization of countries does, however, appear suitable for the present purpose. A listing of the countries and their assigned scores is given in the Appendix, Table C.1.

Community size and isolation. The analysis treats the size and the isolation of the communities separately. While the communities may be directly ranked by size, ranking community isolation requires the consideration of a number of factors, one of which is size. The rank score assigned each community studied, according to size and increasing isolation, is presented in Table IX.

Rankings by community size follow the actual population size of the community. Rankings of relative isolation from large urban areas have been based on actual geographic remoteness, community growth and

mobility, available transportation services, internal culture and other cultural facilities, and the potential interaction with larger centres. The rankings of relative isolation, then, is an assessment of the isolation of the community based upon a variety of community characteristics.

TABLE IX  
FIVE SELECTED COMMUNITIES RANKED  
BY SIZE AND ISOLATION

Rank-score	By Community Size	Rank-score	By Community Isolation
5	Thompson	5	Pine Falls
4	Flin Flon	4	Flin Flon
3	Red Lake	3	Thompson
2	Lynn Lake	2	Red Lake
1	Pine Falls	1	Lynn Lake

Other coding. For this study certain other coding procedures are noteworthy. "Home situation" refers to the number of parents in the home situation. The students were asked with whom they made their regular home during the school year. Responses were categorized into three groups and assigned scores. A score of three was assigned to students living at home with both parents. Students living with one parent or with one parent and a step-parent were assigned a score of



two and those living with others were assigned a score of one.

In this study the extra-curricular activities in which each student participated represented the score on the variable. Scores ranged from no activities (0) to six activities (6).

For purposes of analysis, the student's rating of his leadership ability was assigned a score on the following basis: three--high leadership ability; two--average leadership ability; one--low leadership ability. Thus, the order of alternatives and scores have been adjusted from those on the questionnaire.

In this study the number of grades failed by a student were added. Consideration was not given to the school level at which grades were failed. Since the analysis required only a rank ordering from high success to low success, students who failed no grades were assigned a score of 4, one failure was assigned 3, two failures were assigned 2, and three failures were assigned a score of 1.

A single question was used in the questionnaire to elicit data for each of the remaining variables used in the analysis. Each question was structured such that each student could be assigned a score identical to the number beside the alternative selected.

#### Processing the Data

After assigning the necessary identifying student numbers to each questionnaire and assigning code numbers for the necessary scales and categories, the responses of each student were transferred to IBM cards. The IBM 360/65 computer in the Computer Centre at the University of Manitoba was then employed in completing the statistical analyses.

## CHAPTER IV

### ANALYSIS OF THE DATA

#### I. INTRODUCTION

It was suggested in earlier chapters that certain variables may be potentially significant correlates of the occupational aspirations of youth. It was suggested that the variables would group, or "cluster," in three variable sets, or dimensions. The selection of the twenty independent variables previously discussed was strongly influenced by the results of earlier studies and Super and his associates' view of occupational structure (1960). All variables were clustered into sets as follows:

##### Variable Set I: Orientation to Family

- 1) Father's occupation
- 2) Child's opinion of father's occupation
- 3) Socio-economic status (SES) level
- 4) Father's education
- 5) Mother's education
- 6) Father's encouragement for the child's education
- 7) Mother's encouragement for the child's education
- 8) Child's level of occupational aspiration (LOA)
- 9) Ethnic background
- 10) Home situation

##### Variable Set II: Variables of Educational Relevance

- 1) Grade

- 2) Teacher encouragement for education
- 3) Intelligence level
- 4) Number of school grades failed
- 5) Self-rating of leadership
- 6) Number of extra-curricular activities

Variable Set III: Community-related Variables

- 1) Number of years spent in the community
- 2) Wish to stay in community after high school
- 3) Wish to stay in community after further education
- 4) Community isolation
- 5) Community size

It was proposed further that the groupings of variables by sex be determined and that the relative utility of certain variables as predictors of the LOA of high school youth in the communities examined also be established.

To accomplish the three purposes of recovering the suggested variable sets, determining the groupings of variables by sex, and establishing predictors of the LOA, two statistical procedures were applied. The factor analysis method extracts factors, or dimensions, from an original matrix of correlation coefficients. The technique indicates how some variables coalesce because of some underlying characteristic. The multiple regression analysis, in contrast, indicates how well a selected set of variables can predict a criterion, in this case a LOA, and indicates the relative predictive ability of each variable in a set of variables.

## II. THE FACTOR ANALYSIS

The principle axis method of factor analysis was employed in the analysis of the data in this study. The axes extracted were rotated according to the varimax criterion to provide the most meaningful explanation of the set of variables. Only those dimensions, or factors, consisting of clustered sets of variables which accounted for more than 7.5 per cent of the variability, arbitrarily chosen, were retained in each of the three factor analyses. All relevant data for the total population of 1,061 students were factor analyzed and labelled "total analysis." By the extraction of dimensions and the primary loadings of variables on dimensions, the total analysis permits a descriptive comparison with the hypothesized sets. The data were also analyzed by sex in order to ascertain if differences in factorial dimensionality between the two sexes existed. In the event of differences in pair-wise correlations and loadings of variables on dimensions, different variables may be selected for the multiple regression analysis.

### The Analyses

For the total analysis, the pair-wise correlations of all variables, requisite for a factor analysis, is presented in the Appendix, Table A.2. Adoption of the arbitrary constant of 7.5 per cent yielded a principle factor matrix consisting of three dimensions accounting for 29.4 per cent of the total variability. The selection of this constant resulted in the optimally interpretable set of dimensions. The gain in explained variance for lesser values of a constant was offset by the

rapid increase in the number of dimensions and the corresponding uninterpretability of the data. Table X presents the rotated factor matrix modified in order that dimensions, or variable sets, can be readily identified by the strength of the loadings of variables on each of the three dimensions extracted.

The pair-wise correlations of all variables for the male analysis and for the female analysis are presented, respectively, in the Appendix, Tables A.3 and A.4. In both analysis the same arbitrary constant of 7.5 per cent was applied. The male factor analysis yielded a principle factor matrix of four dimensions accounting for 37.4 per cent of the variability. Identification of the dimensions according to the high loadings on each is made in Table XI. The female factor analysis extracted three dimensions accounting for 29.8 per cent of the variability. Table XII presents the rotated factor matrix adjusted for ready identification of the highest loadings of variables on each dimension.

### Total Analysis

Dimension I (D.I). In Table X seven of the nine variables, and all the most highly loaded variables, on D.I are family measures. Parental education and SES level are given highest loadings. Father's occupation and the child's opinion of that occupation are given relatively high loadings. Ethnic background and home situation have the lowest relative loadings. The presence of the LOA on D.I serves to support the initial hypothesis that family characteristics and the LOA

TABLE X

ROTATED FACTOR MATRIX OF TWENTY-ONE VARIABLES ON THREE DIMENSIONS\*

Variables Loaded on	Variable No.	Variable Name	D.I	D.II	D.III	Communities
D.I	9	Father's education	-69	06	13	50
	10	Mother's education	-63	-04	-02	40
	21	SES level	-63	-11	-02	41
	2	Father's occupation	56	-21	17	39
	3	Opinion of father's occupation	44	-37	09	34
	16	Ethnic background	-37	-14	-26	23
	20	LOA	-31	-24	-30	25
	14	Community size	-31	27	31	26
	17	Home situation	-19	-14	-02	06
	12	Wish to stay after further education	-04	-61	09	38
D.II	11	Wish to stay after high school	-07	-59	02	35
	4	Number of years in the community	20	-56	01	35
	15	Intelligence level	-18	-42	-31	31
	18	Number of school grades failed	-25	-33	-27	24
	7	Father's encouragement of education	14	-08	59	38
	8	Mother's encouragement of education	18	03	55	33
D.III	13	Community isolation	-29	-24	48	37
	6	Teacher encouragement for education	-03	-06	38	15
	19	Leadership rating	-11	-03	-36	14
	5	Number of extra-curricular activities	-24	-19	-36	22
	1	Grade	12	-10	-31	12
		Percent Variability accounted for by each dimension:	13.011	8.713	7.714	
		Percent Variability accounted for by all three dimensions:		29.4		

\*Decimal points have been omitted

TABLE XI

ROTATED FACTOR MATRIX OF TWENTY-ONE VARIABLES ON FOUR DIMENSIONS:  
MALE POPULATION\*

Variables Loaded on	Variable No.	Variable Name	D.I	D.II	D.III	D.IV	Communities
Dimension I (D.I M)	9	Father's education	-71	-13	01	03	53
	2	Father's occupation	68	-06	13	05	48
	10	Mother's education	-60	-21	15	02	43
	21	SES level	-57	-18	05	03	36
	3	Opinion of father's occupation	56	-18	11	18	39
Dimension II (D.II M)	15	Intelligence level	-01	-71	-13	-05	52
	4	Number of years in the community	44	-60	05	-05	56
	18	Number of school grades failed	-13	-54	-11	17	34
	20	LOA	-26	-38	-15	13	25
	17	Home situation	-18	-25	02	-12	11
	13	Community isolation	-08	-37	59	-07	49
Dimension III (D.III M)	7	Father's encouragement for education	26	13	50	00	33
	5	Number of extra-curricular activities	-12	-23	-46	07	28
	14	Community size	-22	-10	45	-24	32
	8	Mother's encouragement for education	27	18	43	-06	30
	6	Teacher encouragement for education	-05	05	43	18	22
	16	Ethnic background	-29	-19	31	03	22
	19	Leadership rating	-09	-28	-31	-17	22
	1	Grade	14	-14	-28	-02	12
Dimension IV (D.IV M)	11	Wish to stay after high school	01	-03	-01	83	70
	12	Wish to stay after further education	03	-01	02	83	69
Percent Variability accounted for by each dimension:			13.228	8.977	7.690	7.511	
Percent Variability accounted for by all dimensions:				37.4			

\* Decimal points have been omitted

TABLE XII

ROTATED FACTOR MATRIX OF TWENTY-ONE VARIABLES ON THREE DIMENSIONS:  
FEMALE POPULATION\*

Variables Loaded on	Variable No.	Variable Name	D. I	D. II	D. III	Communities
Dimension I (D. I F)	9	Father's education	66	-05	-17	46
	21	SES level	65	16	-03	45
	10	Mother's education	61	07	-08	38
	2	Father's education	-51	19	17	32
	5	Number of extra-curricular activities	40	14	-22	23
	3	Opinion of father's occupation	-40	38	09	31
Dimension II (D. II F)	16	Ethnic background	37	12	28	23
	12	Wish to stay after further education	13	65	06	45
	4	Number of years in the community	-16	61	04	40
	11	Wish to stay after high school	16	59	-09	38
	14	Community size	30	-43	28	36
	15	Intelligence level	18	35	-34	27
	17	Home situation	16	25	07	10
	7	Father's encouragement for education	-12	12	61	40
Dimension III (D. III F)	8	Mother's encouragement for education	-14	-04	59	37
	13	Community isolation	29	21	45	34
	18	Number of school grades failed	23	16	-39	23
	20	LOA	32	18	-34	25
	1	Grade	-09	06	-32	11
	6	Teacher encouragement for education	-06	09	31	11
	19	Leadership rating	11	03	-30	10
	Percent Variability accounted for by each dimension:		13.380	8.842	7.584	
	Percent Variability accounted for by all dimensions:			29.8		

\* Decimal points have been omitted



are associated. Community size has a low loading on this dimension.

Dimension II (D.II). Five variables were grouped such that a second dimension accounting for 8.7 per cent of the variability was extracted. Three variables in the set have loadings over  $-.50$ . The variables are: desire to stay in the community after high school, after further education, and number of years spent in the community. Intelligence level and the number of grades failed are given comparatively low loadings.

Dimension III (D.III). A variability of 7.7 per cent was accounted for by a third set of seven variables. Table IX indicates that each parent's encouragement for the child's education was assigned a loading over  $.50$ . Teacher encouragement was also assigned a relatively high loading. In the communities studied community isolation with a loading of  $.48$  is associated with educational encouragement variables. Leadership rating, participation in extra-curricular activities, and grade are given the lowest loadings on D.III.

### Interpretation

In general, the initial proposal of dimensions and their constituents is supported. D.I consists essentially of measures of orientation to family. The LOA is associated with such family measures. The explanation for such association comes, perhaps, through family socialization processes. Since it is given reasonably similar loadings on each dimension, the LOA does not belong uniquely to any particular dimension. The implication is that an overly strong interpretation is

not appropriate. Community size is assigned a low loading on D.I. Living in a community of given size seems to be a measure of some family quality. Notably, community size is only weighted on this dimension when the fourth decimal point is considered. The amount of encouragement for education given the child by each parent does not appear on this dimension as proposed. Since father's and mother's encouragement for education does not appear associated with the variable set of family orientation, presumably the source of encouragement is somewhat less important than the encouragement itself.

D.II does not support the existence of the proposed dimension. The three most highly loaded variables on extracted D.II were originally proposed as constituents of a third dimension of community import. The two remaining variables, intelligence level and number of school grades failed, were not anticipated in the cluster. The two variables concerned with community size and isolation have unexpectedly shifted out of the anticipated cluster with the three most highly loaded variables. The extracted variable set suggests a personal assessment relevant for mobility. Mobility alone or a set of community variables alone is apparently not independent of a self-assessment.

D.III, as presented in Table X, consists essentially of variables relevant for educational motivation. Most of the constituents of the dimension were proposed for a second dimension. The variables may be categorized as external and internal motivators of educational relevance. Parental and teacher encouragement for education have high loadings. The encouragement rather than the source alone seems to be

of importance. As measured, community isolation may externally motivate the individual in educational endeavours. Variables which may contribute to the self concept, namely grade, participation in extra-curricular activities, leadership, and even community isolation, are associated with external encouragement variables on D.III. Such variables may be viewed as internal motivators of potential educational relevance.

#### Male-Female Analyses

Dimension I (D.I). In the total factor analysis and in the analyses by sex D.I appears to be much the same. Table XI indicates that each variable in the variable set of D.I M, the male analysis, has a loading over  $\pm .50$ . The two highest loadings appear for father's education and occupation.

The female analysis of D.I, or D.I F, Table XII, includes the same variables present in D.I M. The relative order of loadings, however, has changed. As with the boys' analysis, parental education, SES level, and father's occupation are quite highly loaded. Comparison with the male analysis reveals that father's occupation and SES level have switched positions with SES level assuming relatively greater importance on D.I F. Two new variables of relatively low loadings are added in the female analysis. Ethnic background at .37 is associated with other family measures. Participation in extra-curricular activities is also loaded on D.I F.

Dimension II (D.II). D.II M and D.II F are less amenable to

interpretation than D.I M and D.I F. In the presentation of the male analysis in Table XI intelligence level is clearly of greatest relative importance on the dimension. Like intelligence, the number of school grades failed with a loading of  $-.54$  is relatively important. The number of years spent in the community is the second most highly loaded variable on D.II M. The LOA and home situation are given the lowest loadings of the five variables in the set.

D.II F is markedly different than the corresponding male dimension. The first three highly loaded variables, desire to stay in the community after high school, after further education, and number of years spent in the community, have an average loading over  $.60$ . Community size is somewhat less important on D.II F. Intelligence level and home situation, both with loadings below  $.40$ , are associated on D.II F with the other measures.

Dimension III (D.III). D.III M and D.III F are essentially similar to D.III in the total analysis. Community isolation is assigned the high loading of  $.59$  on D.III M. Each parent's encouragement, teacher encouragement for education, and community size are given loadings over  $.40$ . Participation in extra-curricular activities with a loading of  $-.46$  and leadership rating and grade, both with low loadings, are associated on D.III M. Ethnic background is also assigned a low  $.31$  loading on this dimension.

The variable set of D.III F, in Table XII, is not markedly different from D.III M. The two highest loadings of  $.61$  and  $.59$  represent the father's and mother's encouragement for education. Teacher

encouragement, however, is assigned a low loading of .31 on D.III F. Community isolation, as in the male analysis, appears to be relatively important in its association with other variables. The number of school grades failed, grade, leadership rating, and even the LOA, all given relatively low loadings, are associated on D.III F with each other and with encouragement and community isolation.

Dimension IV (D.IV). This dimension, extracted only in the male analysis, consists of two highly weighted variables over .80. Both variables are concerned with the desire to stay in the community after planned education. The dimension appears to measure mobility planning in virtually pure form.

### Interpretation

The immediately most obvious difference between the male and female analyses is the different number of dimensions extracted with the same constant of 7.5 per cent. The four dimensions extracted for males account for 37.4 per cent of the variability and the three female dimensions for 29.8 per cent.

D.I M has appeared in Table XI as a reasonably clear measure of family social status. D.I F in Table XII includes the same variables as the male analysis, with some reordering of loadings, and two additional variables. For girls, SES level has relatively greater importance as a measure of family orientation than has the level of the father's occupation. Since girls are less work-oriented than boys, the relative positions may not be surprising. Ethnic background, as

measured in this study, is a measure of familial background. The appearance of extra-curricular activities with family measures is less clear unless one conceives that the nature of some activities in which girls participate may be related to home-life or that the source of encouragement for participation may in fact be the family. In general, the dimension reflects a family orientation.

D.II M consists of variables relevant for ability reinforcement. Intelligence level, as a capacity the individual can assess relative to others, and the number of school grades failed both reflect ability. The LOA, as measured, may indicate the child's assessment of his occupational achievement potential. The number of years spent in the community appears related to ability assessment and reinforcement. Studies have suggested that some mobility enhances the socialization process and may reinforce an assessment of ability. The nature of the home situation, though relatively unimportant on D.II M, may reinforce or retard any assessment of ability.

D.II F consists of variables associated with mobility plans. Community size is associated with the three most highly loaded variables of D.II F in Table XII. Since movement trends are toward larger urban centres, the association between size and mobility is not unreasonable. Intelligence level may be involved in the child's selection of her destination and her assessment of success after moving to the new environment. Home situation also appears to be associated with plans for moving.

D.III M in Table XI consists primarily of external and internal

motivators of educational relevance. The isolation of the community, like size, may provide such motivation particularly since formal education cannot generally be pursued in small, isolated communities beyond high school. The quality of life itself in such communities may be viewed by some as reason for improving their state through education. Participation in extra-curricular activities, leadership rating, and even grade may contribute to a self concept. That self concept may function as an internal motivator of educational relevance. If ethnic background is related to aspirations, ethnicity as measured by the 'cultural index' may also function as a motivator in education.

Table XII indicates a D.III F which is similar to D.III M. Community isolation again appears to provide environmental impetus of educational relevance. Parental encouragement is again relatively important. The number of school grades failed, grade, leadership rating, and even the LOA may contribute to the self concept, which in turn may function as an internal motivator for education. The self concept, of course, may also enhance the LOA. The presence of the LOA on D.III F is noteworthy. In the total analysis it appeared associated with measures of family orientation, in the analysis of male respondents it was related to measures of ability assessment, and now in the analysis of female respondents it is a variable of relevance for education. In the total analysis particularly the LOA loaded fairly heavily on every dimension. As the dependent variable, it is not unexpected that the LOA does not belong uniquely to any particular factor extracted.

### Summary of the Analyses

The factor analysis of the twenty-one variables for the total population in this study partially confirmed the original hypothesis of variables on three dimensions. While Dimension I, consisting of variables related to the family was essentially the same as that proposed, Dimensions II and III were reversed. The proposed Dimension I and the extracted Dimension III both consisted of variable sets of educational relevance. A third dimension of community variables was proposed; a number of variables proposed actually appeared weighted on Dimension II along with variables relevant for a self-assessment of ability.

The separate analyses by sex resulted in a different number of dimensions being extracted for the same constant of 7.5 per cent. With some minor changes in the variables present and the relative importance of variables on the dimensions, Dimensions I and III are essentially the same for both analyses. In general, Dimension I suggests an orientation toward family characteristics and Dimension III appears relevant for educational motivation. Dimension II is somewhat different for each sex group, being a measure of mobility planning in the female analysis and a measure of ability reinforcement in the male analysis. Dimension IV was extracted only for males and appears as a clear measure of mobility planning.

### III. THE MULTIPLE REGRESSION ANALYSIS

The major purpose of the multiple regression analysis is to indicate how well a selected set of variables can predict a criterion.



Each independent variable in the set acts as a predictor; the criterion in this study, or dependent variable predicted, was the LOA. Since the predictor variables may be of differing importance or significance to the criterion, equal consideration should not be given each in the derivation of a criterion estimate. The problem then is to calculate a weight, or regression coefficient, for each predictor which will indicate its importance relative to other predictors in the criterion estimation. The basis for establishing these weights is the pair-wise correlations of the variables in the analysis. The differentially-weighted predictors, as a set, can then produce maximum predictive efficiency. Once the actual scores of an individual for each of the predictor variables are known and the regression coefficients for each predictor is calculated, a multiple correlation coefficient can be determined. This coefficient indicates the correlation between the criterion and the set of predictors. The concern of this study was with the regression coefficients which make prediction possible.

The prediction formula, simplified through matrix algebra, may be expressed as

$$X_1' = \beta_2 x_2 + \beta_3 x_3 + \dots + \beta_k x_k$$

where  $X_1'$  is the criterion,  $\beta_2, \beta_3 \dots \beta_k$  are the multiple regression weights or beta coefficients for each variable, and  $x_2, x_3 \dots x_k$  represent the score for each variable. It was with the selection of potentially useful predictor variables and the calculation of the beta coefficients that this analysis was particularly concerned. Once the

weights for each variable are known, the criterion can be estimated from the raw scores of the variables (Ferguson, 1966).

Ferguson (1966) notes that multiple correlation techniques are quite applicable in the realm of education and occupations since many variables may be required to best predict a criterion. The present analysis was concerned with a) the selection of the best set of predictor variables and b) the calculation of regression coefficients indicating the relative importance of the selected variables in predicting an occupational aspiration level.

#### Selection of the Variables

Male and female data were separately analyzed for three reasons. First, when factor analysis procedures were applied to each sex group, a different number of dimensions were extracted. Secondly, there was some shifting of variables from one dimension to another in the comparison of dimensions by sex. Thirdly, even when each analysis revealed variables loading on the same dimension for males and for females, there was some change in the loadings and the relative importance of variables as indicated by their loadings.

The basis for selecting variables of potential utility as predictors was twofold. Of the variables employed in defining the nature of each dimension, those variables having the four highest loadings on each dimension, where possible, were included in the multiple regression analysis. The variables having the highest loadings on a dimension are generally the most representative measures of the dimension. Secondly,

those variables having significant correlations with the LOA, as indicated in the Appendix, Tables A.3 and A.4 were included. For the most part variables with high loadings were also significantly correlated with the LOA. The inclusion of significantly correlated variables which did not have high loadings applied only to girls. Three such variables were included; a fourth variable, teacher encouragement for education, was arbitrarily included in the analysis.

The LOA represents the criterion. Consequently, the LOA was excluded as a potential predictor. The selection basis automatically excluded the LOA in the girls' analysis since that variable had a rank loading of five on D.III F. The LOA had the third highest loading on D.II M. As the criterion it was excluded and not replaced with any other variable from that dimension.

The selection basis resulted in a different number of potential predictor variables for each sex group. Thirteen variables were selected for the first male multiple regression analysis and sixteen variables were selected for the first female analysis. Seven and four independent variables respectively were therefore excluded from the male and the female multiple regression analyses. The first four of the following independent variables were dropped from the multiple regression analysis of female data; all seven were dropped from the multiple regression analysis of male data.

The correlation matrices (Appendix Tables A.3 and A.4) indicate that opinion of father's occupation is not significantly related to the LOA of either sex. The variable was not highly loaded on any

dimension. Kristjanson (1967) noted that the variable was not significantly related to the LOA of his Manitoba sample of boys and girls. In the same way that aspirations may be relative to social class position (Empey, 1956), so too is it probable that the opinion of father's occupation is relative to social class and to aspirations themselves.

Siemens (1965) and Kristjanson (1967) both rejected the presence of a significant relationship between ethnic background and the LOA. Other studies have noted a relationship between ethnic background and educationally-related variables (e.g., Marshall, et al., 1953; Sewell, et al., 1953). In view of the inconclusive nature of past results, this study employed a cultural index to assess ethnic background according to similarity with Canadian culture and values. Ethnic background was, nevertheless, neither significantly related to the LOA nor important as a measure of family orientation.

Home situation, as measured, was neither significantly related to the LOA nor important as a measure of family orientation. This result, in part, bears out the findings of Siemens (1965) and Kristjanson (1967) in their studies of a different group of Manitoba youth.

With the population studied, grade was not of relatively high importance as an educational variable. It was not significantly related to the LOA at the .005 level (Appendix A.3 and A.4). Studies have generally indicated that occupational aspirations are lowered with an increase in grade (e.g., Holden, 1961; Gribbons and Lohnes, 1966). Results in this study, however, like those of Peach (1970),

indicate that higher grade levels aspire higher occupationally.

For males in this study leadership rating was neither significantly related to the LOA nor important as a measure in the school-related dimension. In examinations of both sexes Slocum (1958), Forcese and Siemens (1965), and Kristjanson (1967) concluded that leadership rating was significantly related to occupational aspirations. The same conclusion is warranted in this study only if the total analysis of data is concerned.

The twofold selection basis adopted for choosing variables for multiple regression analysis resulted in teacher encouragement for the child's education being dropped in subsequent analysis of male data. Past research has provided varying results. Lipsett (1962) concluded that teachers influenced attitudes and goals; Forcese and Siemens (1965) reported a significant relationship between teacher encouragement and the aspirations of individuals in low and medium SES groups; with controls applied, Kristjanson (1967) found no significant relationship; and Day (1966) saw that the influence of teachers was not uniform for both sexes. While Day reported that boys were more influenced by teachers than were girls, the results of this study indicated that teacher encouragement was not significantly related to the LOA for either sex nor was it a strong measure, as indicated by its loading, of educational relevance in the analysis of male data.

Both Siemens (1965) and Kristjanson (1967) reported a significant relationship between parental encouragement for the child's education and the LOA. Both also noted, however, that father's encouragement

was more strongly related to the LOA. Kristjanson reported that mother's encouragement was related except when SES and sex controls were applied. In this study mother's encouragement for education was not significantly related to the LOA of either sex, and not of high importance as a measure of males' family orientation.

### Analysis I

The variables employed in multiple regression analysis I are listed in Table XIII. Examination of that table reveals that sixteen of the original twenty-one variables were utilized in analysis I of female data (FA I) and thirteen variables were utilized in analysis I of male data (MA I). The selection basis, then, excluded five of the original twenty-one variables in FA I: LOA, since LOA was to represent the criterion, opinion of father's occupation, ethnic background, home situation, and grade. MA I, the male analysis, excluded the same five of the original twenty-one variables and leadership rating, teacher encouragement for education, and mother's encouragement for education.

In Table XIII intelligence level is clearly the most highly weighted for both sexes, with  $\beta$  coefficients over .160. Similarly, SES level and the number of extra-curricular activities have relatively high coefficients. MA I, Table XIII, includes the number of school grades failed and father's education with relatively high weights. Both variables are weighted comparatively lower in FA I, Table XIII. Unlike the male analysis, the female analysis indicates high  $\beta$  coefficients for the number of years spent in the community and leadership

TABLE XIII

MULTIPLE REGRESSION ANALYSIS I BY SEX WITH  $\beta$  COEFFICIENTS  
IN ORDER OF MAGNITUDE

M A L E A N A L Y S I S I			F E M A L E A N A L Y S I S I		
(M A I)			(F A I)		
Variable No.	Variable Name	$\beta$ Coefficient	Variable No.	Variable Name	$\beta$ Coefficient
15	Intelligence level	.164	15	Intelligence level	.206
18	No. of school grades failed	.135	4	No. of years in the community	-.111
21	SES level	.130	19	Leadership rating	.110
9	Father's education	.114	21	SES level	.109
5	Extra-curricular activities	.102	5	Extra-curricular activities	.103
11	Wish to stay after high school	.049	11	Wish to stay after high school	.099
13	Community isolation	-.047	9	Father's education	.088
14	Community size	.037	13	Community isolation	.083
4	No. of years in community	-.037	7	Father's encouragement-education	-.063
2	Father's occupation	-.008	18	No. of school grades failed	.053
10	Mother's education	-.004	6	Teacher encouragement-education	-.052
12	Wish to stay after further education	-.003	14	Community size	-.046
7	Father's encouragement-education	.000	2	Father's occupation	.046
			10	Mother's education	-.024
			8	Mother's encouragement-education	-.013
			12	Wish to stay after further education	-.007
Multiple correlation coefficient = .372			Multiple correlation coefficient = .407		
Standard error of estimate = 1.184			Standard error of estimate = 1.184		

rating, the latter not being included in the male analysis. Reasonably high weights are also given the wish to stay after high school, father's education, and community isolation in FA I.

Table XIII indicates the multiple correlation coefficient for both MA I and FA I. As suggested, this coefficient indicates the correlation that can be expected between the set of variables, as measured in this study, and the actual level achieved by an individual who completes the OAS.

Examination of Table XIII indicates that many variables are not contributing substantially to the prediction of the criterion, the LOA. A second analysis was thus carried out utilizing only those variables with  $\beta$  coefficients over  $\pm .100$ . Five variables for males and five for females were thus arbitrarily selected for further analyses. Of the eleven variables arbitrarily eliminated from further analysis of female data, five were significantly correlated with the LOA and were also assigned high loadings on one dimension. Five variables were not significantly related to the LOA but did have relatively high loadings on a dimension in the factor analysis. One variable arbitrarily included as a check, teacher encouragement for education, was also eliminated after analysis I. Analysis I of male data (MA I) consisted of eight variables with weights below  $\pm .100$ . All were eliminated from further analysis. Two of the variables were both significantly correlated with the LOA and had relatively high loadings on a dimension. The remaining six variables, while not significantly related to the LOA, were assigned relatively high loadings on a dimension.



## Analysis II

The results of analysis II are reported in Table XIV. Intelligence level, with a  $\beta$  coefficient of .149, is of relatively greatest utility in predicting the LOA of males. Similarly, the number of grades failed ranks high as a predictor. The father's education and family SES level are not only highly correlated with each other, but each is apparently of reasonably high importance as a predictor. The number of extra-curricular activities in which males participate is also of some predictive ability. The multiple correlation coefficient is .372 for the five weighted independent variables, which is exactly the same coefficient derived by employing thirteen variables. The eight deleted variables thus appear to have added nothing to the prediction of the criterion. Similarly, the standard error of estimate has not changed.

FA II includes two variables which were not used in the male analysis, namely, leadership rating and number of years spent in the community. Intelligence level, with a  $\beta$  coefficient of .210, is clearly the most useful predictor of the LOA in the set of variables for girls. The family SES level has a weight of .147 for girls and is of relatively greater utility as a predictor than it is for boys. Girls' participation in extra-curricular activities (.128) and their self-assessed leadership rating (.119) may be viewed as contributors to the self concept. Both are significant as predictors of the LOA. The number of years spent in the community is assigned a negative weight of -.082. The other four variables are, apparently, predictors not only of the LOA but also of years spent in the community. The

TABLE XIV

MULTIPLE REGRESSION ANALYSIS II BY SEX WITH  $\beta$  COEFFICIENTS  
IN ORDER OF MAGNITUDE

Variable No.	M A L E A N A L Y S I S (M A I I)		F E M A L E A N A L Y S I S (F A I I)		$\beta$ Coefficient
	Variable Name	Coefficient	Variable No.	Variable Name	
15	Intelligence level	.149	15	Intelligence level	.210
18	No. of school grades failed	.138	21	SES level	.147
9	Father's education	.126	5	Extra-curricular activities	.128
21	SES level	.125	19	Leadership rating	.119
5	Extra-curricular activities	.109	4	No. of years in community	-.082
Multiple correlation coefficient =		.372	Multiple correlation coefficient =		.360
Standard error of estimate =		1.184	Standard error of estimate =		1.196

multiple correlation coefficient has decreased from .407 in analysis I to .360 in analysis II. While the change seems large, the number of variables has changed markedly. Analysis II has utilized five variables to derive a coefficient of .360; the utilization of twelve more variables added only .047 to the coefficient. The variables of analysis II thus appear to predict the criterion somewhat more efficiently. The standard error of estimate has risen slightly as the multiple correlation coefficient was lowered in analysis II.

### The Predictors

The reanalysis of the two sets of independent variables by sex revealed that, in general, the variables may be useful as predictors of a LOA. In each set the weights assigned variables were different, indicating each variable's relative predictive utility in the set. The variables, as predictors, may be viewed in the light of past research. In the following discussion, the sex for which the variable is of predictive utility is noted in parentheses, with the M referring to males and F to females.

Intelligence level (M,F). Earlier studies have agreed that intelligence is strongly related to aspirations (e.g., Youmans, 1958; Holden, 1961; Davis, et al., 1962; Riccio, 1965; Gribbons and Lohnes, 1966). Rezler (1967) noted that intelligence was one distinguishing feature between girls who aspired to pioneer rather than traditional female occupations. Intelligence level, of the variables employed in this study, is the best relative predictor of the LOA of both boys and

girls. For girls, intelligence is of relatively greater utility as a predictor than it is for boys. A number of variables are weighted high for boys, who are generally oriented toward a life of work. Girls are generally more oriented toward marriage and family life rather than a formal career. Girls who are superior in intelligence may be encouraged strongly in educational endeavours. Rezler suggests that if she is average in intelligence a girl will not generally aspire high occupationally. Nor is it likely that she will be as strongly encouraged educationally as are boys. Boys, on the other hand, become oriented at relatively earlier ages than girls toward occupations and the serious business of providing for oneself and future family. They are likely encouraged somewhat more than girls to think in educational-occupational terms and their future careers regardless of intellectual capacity.

SES level (M,F). As in the case of intelligence, past studies have been in general agreement that SES level is strongly related to occupational aspirations (e.g., Sewell, et al., 1957; Youmans, 1958; Weiner and Murray, 1963; Siemens, 1965; Miner, 1968). In this study, SES level was also significantly related to the LOA. For both sexes it also appears as a useful predictor of the LOA.

Number of extra-curricular activities (M,F). This variable was significantly related to the LOA of both sexes in this study but was not highly loaded on its dimension for girls. Nonetheless, while it is useful as a predictor for the LOA of each sex, it is of greater relative utility as a predictor of girls' LOA than of boys. The results

in this study are generally in keeping with those of Slocum (1958) and Kristjanson (1967) who found significant relationships between the LOA and participation in extra-curricular activities.

Number of school grades failed (M). The number of school grades failed was significantly correlated with the LOA of both sexes in this study as well as being highly loaded on its dimension in each analysis by sex. However, while it is assigned a high weight in the multiple regression analysis of male data, and is therefore a relatively useful predictor of the LOA, it does not appear to be a good predictor of the LOA of females. Crowley (1959) noted that school failure was viewed by youth as a handicap to later success. Slocum (1958) and Herriott (1963) suggested that one's assessment of his ability and achievement was related to his aspirations. Boys, through socialization processes and the expectations of others, orient themselves toward education, occupations, and success. Achieving occupational goals and success may be hampered, in the male view, by school failures insofar as education is perceived as a prerequisite for fulfillment of an occupational aspiration. For girls, failure in school may result in some ego deflation or loss of confidence but it may not markedly affect their attainment of occupational aspirations since they tend to aspire lower than males.

Father's education (M). In this study father's education was significantly related with the LOA of each sex and highly loaded on its dimension in both factor analyses by sex. Slocum (1958) and Siemens (1965) both found that educational aspirations and father's education

were significantly associated with the LOA but Kristjanson (1967), when applying a control on sex, I.Q., and SES, found no significant relationship with the LOA. While this study did reveal high loadings for father's education and a significant relationship with the LOA, the variable is relatively useful only in predicting the male LOA. In view of the usual association between father's education, father's occupation, and SES level and in view of males' greater orientation toward occupations, the greater predictive value of this variable for males rather than females may not be surprising.

Leadership rating (F). As previously noted, some studies concluded that leadership rating was significantly related to aspirations (e.g., Slocum, 1958; Force and Siemens, 1965; Kristjanson, 1967). In this study such a relationship was present only for females. It also appeared as a highly loaded variable on a dimension in the factor analysis of girls' data. Evidently, this measure of the self concept is of greater relative utility as a predictor of girls' aspirations than it is of boys'.

Number of years spent in the community (F). This variable, as a potential measure of scope of social contact and experience, has generally not been found to be significantly related to the LOA of students in earlier studies (e.g., Siemens, 1965; Kristjanson, 1967). This study also did not report a significant relationship between years spent in the community and the LOA of either sex although the variable was assigned a high loading on dimensions in both analyses by sex. For girls, it is assigned a relatively high negative weight in the regression

analysis. The negative weight assigned suggests that the other four variables in the predictor set are actually predictors of this variable as well as of the LOA of females.

#### A Summary

The findings of earlier studies suggesting that different variables are occupationally relevant for each sex appear to be supported in the analyses. The basis for selecting variables for analysis I resulted in a different number of variables being selected for each sex. Analysis I by sex revealed that variables differed in relative predictive strength. The selection basis for the reanalysis of fewer variables led to internally different variable sets for each sex. Analysis II illustrated that variables were not only different in kind but different also in relative predictive importance. Analysis II further indicated that the addition of a number of other variables added little or nothing to the prediction of a criterion, the LOA.

## CHAPTER V

### THE STUDY IN PERSPECTIVE

#### I. PROBLEM, INSTRUMENTATION, POPULATION

##### The Problem

The purpose of this study was threefold. One purpose was to determine the groupings of variables of potential occupational relevance which were employed in an examination of high school youth in five selected single enterprise communities. To give direction to the analysis the twenty-one variables were grouped into three variable sets. The first variable set was nominated "orientation to family" since the constituents of the set were related to the family. The second variable set was given the name "school-related variables" and the third set "community variables." A statistical analysis was applied and the groupings thereby revealed were compared with the variable sets suggested.

A second purpose of the study was to determine whether the selected twenty-one variables grouped differently according to sex. Thus data collected from males and females were examined separately by employing the same statistical technique employed in the analysis of all data together. The results of the analyses by sex provided the basis for the next and final aspect of the problem in this study.

The third purpose of the study was to assess the relative utility of certain of the independent variables employed in the study as predictors of a criterion, the level of occupational aspirations. The



selection of variables for this analysis was dependent upon a) the results of the analyses by sex; b) the presence of a significant relationship between a given variable and the level of occupational aspirations; and c) the relative importance of the variable when compared with other variables in its variable set.

### Instrumentation

A questionnaire was utilized for collecting the data from high school youth in the selected communities. Students responded to biographical and attitudinal questions in questionnaire sections on the family, home life, school life and education, occupational aspirations, present employment, and future mobility plans. Included in the questionnaire were four scales for assessing certain variables. The father's occupation was assigned a level according to Bernard Blishen's Occupational Class Scale (1961). Family socio-economic status was assessed from responses to a series of questions concerned with the home which were adapted from a similar scale used by Siemens (1965) and based on the rationale of Sewell's "Short Form of the Farm Family Socioeconomic Status Scale" (1943). Two versions of one scale were employed in measuring the occupational aspirations of students. Haller and Miller's Occupational Aspiration Scale (1963), modified for a Canadian population, was completed by the male students and approximately one-half of the females. Another form of the Occupational Aspiration Scale, adapted by Peach (1970) for females, was given to the remaining half of the female population studied. Ethnic background

was assessed in this study by employing a 'cultural index.' Countries of parental origin were assigned to broad groups according to a country's similarity to or differences from Canada based on certain criteria.

An intelligence measure of every student was not available. Those which were available were obtained from the school records. The raw data for all other variables employed in this study were available from responses to single questions in the questionnaire.

#### Population and Data Collected

The high schools in five relatively isolated, single enterprise communities in Manitoba and northern Ontario were visited by the research team for the purpose of collecting data during May and June. The communities visited were Lynn Lake, Flin Flon, Thompson, and Pine Falls in Manitoba and Red Lake in Ontario. Members of the research team personally distributed and administered the questionnaire, during a normal school class period, to those students in grades ten, eleven, twelve, and thirteen where grade thirteen applied, who were in attendance at school on the day of the research team's visit. One thousand and sixty-one questionnaires were completed and supplied data for analysis. During the visit, the school administration made school records available to the researchers for obtaining student intelligence scores.

Two different statistical techniques were employed in treating the data for this study. A factor analysis approach was applied to the

twenty-one relevant variables to recover the actual variable sets and thereby permit a comparison with the variable sets proposed. The factor analysis approach was similarly applied to the relevant variables for each sex separately. A comparison of the recovered variable sets for each sex was then possible. A multiple regression analysis technique was applied to the independent variables, selected on the basis of factor analysis results, for the purpose of assessing the relative utility of certain independent variables as predictors of a criterion or dependent variable, the level of occupational aspirations.

## II. FINDINGS AND CONCLUDING COMMENTS

### Findings of the Analyses

Factor analyses. The application of the factor analytic procedure utilizing all collected data for the twenty-one variables resulted in the extraction of three dimensions, or variable sets. Three such variable sets had been suggested. The first extracted variable set, nominated Dimension I, was essentially the same as that suggested and represented an orientation to family characteristics. The analysis extracted a second set of variables which appeared to measure one's self-assessment relevant for mobility plans. The third dimension extracted consisted essentially of those school-related variables that had been originally proposed as a second variable set. The third suggested set of variables of community relevance did not appear as proposed. Three of the suggested community-related variables appeared

on Dimension II of the analysis. The variables of community size and community isolation were associated with variables on extracted Dimension I and III respectively.

Plans for leaving the community after high school, and not returning after further education, and the number of years spent in the community were associated with one another on Dimension II in the total analysis. These measures of mobility are more closely associated with the abilities of the students than with the community's size and isolation.

It was proposed that parental encouragement for education would be associated with other variables of family relevance such as father's occupation, parental education, and socio-economic status. Mother's and father's encouragement for the child's education were associated, however, with variables of apparent educational relevance such as grade, extra-curricular activities, leadership rating, and teacher encouragement for education which appeared as Dimension III.

The level of occupational aspiration was associated with family variables on Dimension I. The variable, however, was assigned similar loadings on each dimension extracted.

When the raw data collected from males and from females for this study were factor analyzed separately, the variables were grouped differently for each sex. Although the variables employed were associated somewhat differently for each sex, the first factor of family variables and the third factor of school variables were essentially the same for each sex. Since there were differences in the number of

factors extracted for each sex and in the relative importance of the variables on each dimension, male and female data were analyzed separately employing the multiple regression technique to determine the predictors of a level of occupational aspiration for each sex.

Multiple regression analyses. The separate multiple regression analyses, applied to certain independent variables for each sex, provided an assessment of the relative utility of certain variables as predictors of a criterion, the LOA, by establishing weights for each variable. Those variables having the highest loadings on each factor were used. Also employed in the initial regression analyses were all independent variables which were significantly related to the LOA according to the intercorrelation matrices of Appendix Tables A.3 and A.4. This twofold basis resulted in the selection of sixteen variables for utilization in the initial analysis of female data and of thirteen in the initial analysis of male data.

The weights assigned in the multiple regression analyses indicated that a number of variables did not contribute substantially to the prediction of the criterion, or LOA. Considering the basis upon which variables were selected for analysis, therefore, it was found that a variable which is significantly related to a dependent variable or which is assigned a high factor loading is not necessarily a good predictor of the dependent variable. The decision to utilize only those variables, from the first analyses, having weights over  $\pm .10$  in a second regression analysis resulted in the retention of five independent variables for reanalysis for each sex.

The five independent variables thus selected for each sex were reanalysed to determine their relative utility, as indicated by the weights assigned each variable, in predicting a criterion, the LOA. A comparison of the multiple regression coefficients of the first and second analyses for each sex indicated that little predictive strength was lost by using a fewer number of independent variables. In descending order as indicated by their weights, the variables in the male multiple regression analysis were intelligence level, number of school grades failed, father's education, socio-economic status level, and the number of extra-curricular activities. Also in descending order, the variables in the female multiple regression analysis were intelligence level, socio-economic status level, the number of extra-curricular activities, and leadership rating. The fifth independent variable, number of years spent in the community, was assigned a negative weight. The multiple regression analyses revealed that variables differed in the weights assigned in each analysis and that certain variables differed in their relative predictive utility in each analysis by sex.

### Conclusions

The findings of the investigation of the occupational aspirations of senior high school students in five selected single enterprise communities warrant certain conclusions regarding variable sets, sex differences in aspirations, the predictors of occupational aspirations, and the scale employed in measuring the LOA.

The three suggested variable sets of family, school, and

community relevance were partially supported by the factor analysis of the twenty-one variables for all students. The factor analysis recovered factors consisting of family and school variables, but, as an entity, the variables of community relevance were absorbed into the other factors. The finding that student intentions to leave the community was associated on one factor with intelligence and school grades failed rather than with community size or isolation suggests that such intentions depend more upon student ability, and probably education plans, than upon some dissatisfaction with the community's size or relative isolation.

The high factor loadings assigned to parental encouragement for education on that factor consisting of variables of educational relevance suggests that parental encouragement is of some importance educationally.

As the dependent variable in this study, it is not surprising that the level of occupational aspirations was assigned similar loadings on each factor extracted. This finding indicates that the variable does not belong uniquely to any one factor.

When the data for the twenty-one variables were factor analyzed separately for males and for females in this study, there were apparent differences. The differences between the sexes in the number and constituents of recovered factors indicates some basic differences in the vocational development of each sex.

The multiple regression analyses indicate that five independent variables can predict a level of occupational aspiration more efficiently

than can a much larger number of independent variables. The independent variables analyzed for their predictive utility differed for each sex in the communities studied. Essentially, the best predictors of male aspirations in this study are related to family social status and the student's intellectual ability. Female aspirations are best predicted in this study by certain measures of socio-economic status, intellectual ability, and social experience.

A large number of variables of potential occupational relevance were not employed in this study. Until other such variables are considered for their relative utility in predicting the LOA, it cannot be concluded that the multiple regression coefficient of .36 to .40 found in this study is either high or low. The addition of new variables may add substantially to the prediction possible or may add nothing.

The Occupational Aspiration Scale was of particular interest in this study. With United States' samples the reliability and validity have been tested for males. The same has not been done in Manitoba. The evidence in this study indicated a reasonably high reliability of the Haller OAS for the male population. When the same scale was given to females the split-half reliability was considerably lower. The OAS as modified by Peach for females had still lower split-half reliability than had the Haller OAS when each was completed by girls. On the basis of some preliminary examination of the Haller and the Peach forms of the OAS, the two scales do not appear to be equivalent. Moreover, questions must be raised with respect to internal equivalency of halves in each scale when each scale is completed by females. Thus, while the



Haller Occupational Aspiration Scale does appear to measure the occupational aspirations of males in this study reliably, doubt must exist concerning the reliability of the Haller and Peach forms of the OAS in measuring the occupational aspirations of females until further study is undertaken.

### Implications

The findings and conclusions of this study may have certain implications for counsellors, school administrators, and researchers.

For counsellors. Counsellors utilize a number of tools in their attempts to understand students. Thus, counsellors use intelligence tests, achievement tests, and interest inventories; they may secure information on the child's home background to determine the psychological support given the child; and they may interview the child himself to determine his values, his motivations, and his aspirations.

One aspect of the student's development with which counsellors are legitimately concerned is the student's vocational development. The counsellor may determine a student's occupational aspirations through a personal interview or by using an objective occupational scale, such as the OAS. If there is doubt regarding the appropriateness of the student's aspirations in the light of what is known about the student, it is possible to employ a prediction formula to help determine the appropriateness of the aspirations. For males, in the communities studied, the prediction formula is

$$\text{LOA} = .149 \text{ I.Q.} + .130 \text{ grades failed} + .126 \text{ father's occupation} + .125 \text{ SES level} + .109 \text{ extra-curricular activities.}$$

Similarly, for females the prediction formula is

$$\text{LOA} = .21 \text{ I.Q.} + .147 \text{ SES level} + .128 \text{ extra-curricular activities} + .119 \text{ leadership rating} + .082 \text{ years in community.}$$

If a student appears to aspire lower than the level predicted for him, according to his ability and environment, the counsellor could thus attempt to improve the student's vocational orientation, develop his planning ability and readiness for occupational choice, and aid him in understanding the persons and social forces which may have a bearing on his occupational decisions. The counsellor can improve occupational orientation by making available books, films, experiences, and other possible resources of occupational relevance.

Of further importance to the counsellor concerned with vocations, in the communities studied, should be the apparent differences between the sexes in vocational development and specifically between the predictors and the LOA. The differences suggest that for each sex the counselling should be slightly different. For example, in the light of the apparent importance of leadership rating and extra-curricular activities as predictors of a LOA for females, encouragement should be given to girls to participate in various activities which may provide the opportunity for the expression of potential leadership abilities.

For administrators. It is an administrative obligation to insure the greater availability of more occupational information in the schools as an aid to the vocational development of students. Further, estimates of the levels of occupational aspirations of youth in various communities may have curriculum implications which necessarily concern

administrators. If, for example, the predicted LOA of students is quite low and students therefore aspire to low or middle prestige status occupations, curriculum emphasis on highly theoretical, immediately non-practical courses may well be unwarranted and practical technological and business courses may require greater curriculum emphasis.

For research. The present study did not examine the levels of occupational aspirations for each individual community for comparative purposes nor did it assess the predictive utility of the independent variables for each community separately. For the benefit of the communities involved, such an undertaking may be fruitful.

Various informal sources indicate that the turnover of population in some isolated single enterprise communities is excessive. Indications in the present study were that a large proportion of youth intended to leave their present community for larger centres. For comparative purposes a detailed examination of the mobility plans of youth in the five communities and of youth in other communities should be undertaken. Furthermore, a knowledge of the reasons for mobility planning is particularly important if the communities are to plan strategies for decreasing the loss of the potentially valuable human resources they require for growth.

The reliability of many of the measures of certain variables in this study has not been tested. It is obligatory that some concerted effort be made to assess the reliability of measures used in studies concerned with aspects of vocational development. Only when the

reliability of each measure is known can the results of the studies rest on a firm foundation.

Haller and Miller's Occupational Aspiration Scale, slightly altered for a Canadian population, appears to be a reliable instrument for measuring males' occupational aspirations in this study. Neither the Haller form nor the Peach form of the OAS, however, appear particularly reliable for measuring female occupational aspirations. They should not be considered equivalent forms. Although the mean scores of the groups completing each form of the OAS are comparable, a number of occupational alternatives on both scales are not real, or practical, alternatives for women. Some occupational alternatives, by their very wording, are restricted to men; some others may be viewed as restricted to men on social grounds since few women work in such jobs. Thus, in questions designed to assess occupational expectations, a number of occupational alternatives may be real alternatives for men but ideal alternatives for women. The range of real alternatives may therefore be narrowed for women. On logical grounds the two forms of the OAS should not be considered equivalent since the prestige rank of a number of female occupational alternatives is not known. To develop a suitable occupational aspiration scale for women all occupational alternatives appropriate for women should be prestige ranked by women along with traditionally male occupational alternatives. A comparative examination of the occupational prestige hierarchy for women and for men can then be made. As proportionately more women today pursue their education and as increasing numbers of women enter the labor market

with a view to establishing careers, a more thorough understanding of the occupational prestige hierarchy of women and a more suitable scale for measuring the occupational aspirations of women become important.

### Speculations

Various approaches have been adopted in viewing occupational choice. Ginzberg laid a foundation for an approach to a theory of occupational choice by noting the developmental quality of arriving at a choice and by suggesting that vocational choice is fostered by a variety of family, school, and cultural influences. Super and his associates expressed a vocational development theory from an interdisciplinary basis and suggested that a host of factors, including the self concept, influence the child's vocational development. Roe approaches the problem of vocational choice more specifically from the viewpoint of interests and Holland from the basis of personality development and personality-environment interaction. Notwithstanding their varying terminology and differing definitions and emphases, all the approaches note the variety of role, personal, and environmental factors which may have a bearing on the individual's vocationally-relevant decisions.

Notwithstanding the existence of these approaches for organizing our knowledge about vocational development, Holland (1966) has expressed the view that our knowledge of vocational life is generally disorganized and isolated from other knowledge. Holland noted that without clear definitions of terms and adequate foundation in theory the considerable

data available regarding vocations have really become clutter. Further, attempts to separate vocational life from the individual's total life is unrealistic since for many individuals the two are inextricably bound. Holland summarizes his view of vocational decision-making by stating:

. . . the research literature clearly suggests that vocational choice is the outcome of a person's developmental history, although the small, often negligible, statistical relationships between specific variables and vocational choice indicate that the forces that determine choice are complex and intricately interwoven. Apparently, a young person, by virtue of his heredity, family background, and school experience, learns to cope with some environmental tasks better than others. With or without professional guidance, consciously or unconsciously, he perceives more or less accurately what he can do, what he cannot do, what he likes to do, and what he dislikes doing. Moreover, the young person acquires knowledge, more or less valid, about various occupations. On this basis he tentatively selects vocations that will, first, permit him to engage in activities and roles that are attractive to him and, second, enable him to avoid activities and roles that are distasteful or difficult (Holland, 1966, p. 95).

The value of a tenable theory of vocational choice and a knowledge of the determinants of such choice is clear. As Ginzberg noted, human resources are too often wasted. Thousands of men and women regularly work at jobs in which their real talents are wasted. Thousands of jobs could better be done by individuals whose talents are more suited for them. A large portion of a man's life is spent in his occupational role. It is reasonable to hope that pursuing one's occupation be as fulfilling for the man as he is for the job. Yet many men and women, failures in their own estimation, are dissatisfied with their work and their lives. With an adequate vocational theory and thorough knowledge of vocational decision-making, greater aid may be given men and women as they make their occupational choices. Given

adequate theory and knowledge of vocational processes, the vocational counsellor's function is similar to the function of the medical practitioner. In medicine, external and internal factors may produce symptoms in the individual requiring diagnosis by the doctor who prescribes a treatment which is suitable for the general physical condition of the patient. The treatment, however, can only be prescribed logically if the symptomatic causes are known. Similarly, in the vocational sense, certain external and internal factors may "cause" the individual to have certain vocational aspirations or make certain vocational choices. The counsellor must ascertain what the aspirations or choices are, decide whether they are appropriate, and if necessary prescribe a treatment or programme for the individual which is appropriate for him. Again, however, the programme can only be logically implemented if the underlying "causes" of the aspirations or choices are known. If youth are to be guided to those occupations for which they are best suited, and the wastage of human resources thereby avoided, a rational and cooperative approach to the problem of vocational decision-making is obligatory.

## BIBLIOGRAPHY



## BIBLIOGRAPHY

- Asbury, Frank A. "Vocational Development of Rural Disadvantaged Eighth-Grade Boys," The Vocational Guidance Quarterly, 17 (December, 1968), 109-113.
- Bell, Allen P. "Role Modeling of Fathers in Adolescence and Young Adulthood," Journal of Counseling Psychology, 16 (January, 1969), 30-35.
- Blishen, Bernard R. "The Construction and Use of an Occupational Class Scale," Canadian Society: Sociological Perspectives, Bernard R. Blishen, et al., editors. Toronto: The MacMillan Company of Canada Limited, 1961, pp. 477-485.
- Boyle, Richard P. "Community Influence on College Aspirations: An Empirical Evaluation of Explanatory Factors," Rural Sociology, 31 (September, 1966), 277-292.
- Brunkan, Richard L. "Perceived Parental Attitudes and Parental Identification in Relation to Problems in Vocational Choice," Journal of Counseling Psychology, 13 (Winter, 1966), 394-402.
- Burchinal, Lee G. "Differences in Educational and Occupational Aspirations of Farm, Small-Town, and City Boys," Rural Sociology, 26 (June, 1961), 107-121.
- Buros, Oscar Krisen (editor). The Fifth Mental Measurements Yearbook. Highland Park, New Jersey: The Gryphon Press, 1959.
- Caplow, Theodore. The Sociology of Work. New York: McGraw-Hill Book Company, 1964.
- Case, Herman M. "College as a Factor in Occupational Choice: A Study of Different Perceptions by Farm and Nonfarm Youth," Journal of Educational Sociology, 30 (December, 1956), 191-199.
- Community Reports 1968. Department of Industry and Commerce, Province of Manitoba, Canada.
- Connor, D. M. and D. W. McGill. The Role of Education in Rural Development. ARDA Research Report No. RE-1 published under the authority of the Department of Forestry and Rural Development, Government of Canada, December, 1965.
- Cowhig, James D. "Early Occupational Status as Related to Education and Residence," Rural Sociology, 27 (March, 1962), 18-27.

- Crowley, Francis J. "The Goals of Male High School Students," Personnel and Guidance Journal, 37 (March, 1959), 488-492.
- Davis, Donald, Nellie Hagan, and Judie Strouff. "Occupational Choice of Twelve-Year-Olds," Personnel and Guidance Journal, 40 (March, 1962), 628-629.
- Day, Sherman R. "Teacher Influence on the Occupational Preferences of High School Students," The Vocational Guidance Quarterly, 14 (Spring, 1966), 215-219.
- Dipboye, W. J. and W. F. Anderson. "The Ordering of Occupational Values by High School Freshmen and Seniors," Personnel and Guidance Journal, 38 (October, 1959), 121-124.
- Downie, N. M. and R. W. Heath. Basic Statistical Methods. New York: Harper and Brothers, Publishers, 1959.
- Edlefson, John B. and Martin Jay Crowe. Teenagers' Occupational Aspirations. Pullman, Washington: Washington Agricultural Experimental Station, Bulletin 618, 1960.
- Elder, Glen H. "Achievement Orientation and Career Patterns of Rural Youth," Sociology of Education, 37 (Fall, 1963), 30-58.
- Empey, LaMar T. "Social Class and Occupational Aspirations: A Comparison of Absolute and Relative Measurement," American Sociological Review, 21 (1956), 703-719.
- Ferguson, George A. Statistical Analysis in Psychology and Education. New York: McGraw-Hill Book Company, 1966.
- Forcese, Dennis B. and Leonard B. Siemens. School-Related Factors and the Aspiration Levels of Manitoba Senior High School Students. Winnipeg: The University of Manitoba, Faculty of Agriculture and Home Economics, Number 3, 1965.
- Ginzberg, Eli, et al. Occupational Choice: An Approach to a General Theory. New York: Columbia University Press, 1951.
- Glick Jr., Peter. "Anticipated Occupational Frustration: A Follow-up Report," The Vocational Guidance Quarterly, 14 (Autumn, 1965), 62-67.
- Gribbons, Warren D. and Paul R. Lohnes. "Occupational Preferences and Measured Intelligence," The Vocational Guidance Quarterly, 14 (Spring, 1966), 211-215.

- Grigg, Charles M. and Russell Middleton. "Community of Orientation and Occupational Aspirations of Ninth Grade Students," Social Forces, 38 (May, 1960), 303-308.
- Haller, Archibald. "On the Concept of Aspiration," Rural Sociology, 33 (December, 1968), 484-487.
- \_\_\_\_\_, and Irwin W. Miller. The Occupational Aspiration Scale: Theory, Structure, and Correlates. East Lansing, Michigan: Michigan State University, Agricultural Experimental Station, Tech. Bulletin 288, 1963.
- \_\_\_\_\_, and Carole Ellis Wolff. "Personality Orientations of Farm, Village, and Urban Boys," Rural Sociology, 27 (September, 1962), 275-293.
- Helmstadter, G. C. Principles of Psychological Measurement. New York: Appleton-Century-Crofts, 1964.
- Henderson, George. "Occupational Aspirations of Poverty-Stricken Negro Students," The Vocational Guidance Quarterly, 15 (September, 1966), 41-45.
- Herriott, Robert E. "Some Social Determinants of Educational Aspirations," Harvard Educational Review, 33 (1963), 157-177.
- Holden, George S. "Scholastic Aptitude and the Relative Persistence of Vocational Choice," Personnel and Guidance Journal, 40 (September, 1961), 36-41.
- Holland, John L. The Psychology of Vocational Choice. Waltham, Massachusetts: Blaisdell Publishing Co., 1966.
- Industrial Directory of Municipal Data 1968. Trade and Industry Division, Department of Trade and Development, Government of Ontario, Vol. 2, 1968.
- Joiner, Lee M., Edsel L. Erickson, and Wilbur B. Brookover. "Socio-economic Status and Perceived Expectations as Measures of Family Influence," Personnel and Guidance Journal, 47 (March, 1969), 655-659.
- Jordaan, Jean Pierre. "Exploratory Behavior: The Formation of Self and Occupational Concepts," Career Development; Self Concept Theory, Donald Super, et al., New York: Columbia University, 1963.
- Kahl, Joseph A. "Educational and Occupational Aspirations of 'Common Man' Boys," Harvard Educational Review, 23 (Summer, 1953), 186-201.

- Krippner, Stanley. "Junior High School Students' Vocational Preferences and Their Parents' Occupational Levels," Personnel and Guidance Journal, 41 (March, 1963), 590-595.
- Kristjanson, G. Albert. "An Analysis of Relationships Between Selected Factors and Level of Occupational Aspirations of Some Manitoba High School Youth." Unpublished Doctoral Dissertation, University of Wisconsin, Madison, 1967.
- Lipsett, Laurence. "Social Factors in Vocational Development," Personnel and Guidance Journal, 40 (January, 1962), 432-437.
- Lipsett, Seymour Martin. "Social Mobility and Urbanization," Rural Sociology, 20 (September, 1955), 220-228.
- \_\_\_\_\_, and Reinhard Bendix. "Social Mobility and Occupational Career Patterns," The American Journal of Sociology, LVII, January, 1952, 366-371; March, 1952, 494-504.
- Lipsman, Claire K. "Maslow's Theory of Needs in Relation to Vocational Choice by Students from Lower Social Economic Levels," The Vocational Guidance Quarterly, 15 (June, 1967), 283-288.
- Marshall, D. G., W. H. Sewell, and A. O. Haller. "Factors Associated with High School Attendance of Wisconsin Farm Youth," Rural Sociology, 18 (September, 1953), 257-260.
- McCarthy, Philip J. Introduction to Statistical Reasoning. New York: McGraw-Hill Book Company, Inc., 1957.
- McClelland, David C. "Some Social Consequences of Achievement Motivation," Nebraska Symposium on Motivation, M. R. Jones, editor. Lincoln, Nebraska: University of Nebraska Press, 1955.
- Meyers, H. J. (editor). Canadian Mines Handbook. Toronto: Northern Miner Press Ltd., 1968.
- Middleton, R. and Charles H. Grigg. "Rural-Urban Differences in Aspirations," Rural Sociology, 24 (December, 1959), 347-354.
- Miner, Betty. "Sociological Background Variables Affecting School Achievement," The Journal of Educational Research, 61 (April, 1968), 372-381.
- Mood, A. M. and F. A. Graybill. Introduction to the Theory of Statistics. New York: McGraw-Hill Book Company, Inc., 1963.

- Mowseian, R., Brian R. G. Heath, and John N. M. Rothney. "Superior Students' Occupational Preferences and Their Fathers' Occupations," Personnel and Guidance Journal, 45 (November, 1966), 238-242.
- Oppenheimer, Ernest A. "The Relationship Between Certain Self Constructs and Occupational Preferences," Journal of Counselling Psychology, 13 (Summer, 1966), 191-197.
- Peach, John Whitmore. "Achievement Expectations and Student Attitudes in Ten Selected Manitoba Senior High Schools." Unpublished Doctoral Thesis, University of Alberta, Edmonton, 1970.
- Reiss Jr., Albert J. Occupations and Social Status. New York: The Free Press of Glencoe, Inc., 1961.
- Rezler, Agnes G. "Characteristics of High School Girls Choosing Traditional or Pioneer Occupations," Personnel and Guidance Journal, 45 (March, 1967), 659-665.
- Riccio, Anthony C. "Occupational Aspirations of Migrant Adolescents from the Appalachian South," The Vocational Guidance Quarterly, 14 (Autumn, 1965), 26-31.
- Roe, Anne. The Psychology of Occupations. New York: John Wiley and Sons, Inc., 1956.
- Schwarzweiler, Harry K. "Value Orientation in Educational and Occupational Choices," Rural Sociology, 24 (September, 1959), 246-256.
- Sewell, William H. "A Short Form of the Farm Family Socioeconomic Status Scale," Rural Sociology, 8 (June, 1943), 161-170.
- \_\_\_\_\_, et al. "Factors Associated with Attitude Toward High School Education in Rural Wisconsin," Rural Sociology, 18 (December, 1953), 359-365.
- \_\_\_\_\_, Archie O. Haller, and Murray A. Strauss. "Social Status and Educational and Occupational Aspirations," American Sociological Review, 22 (February, 1957), 67-72.
- Siemens, Leonard B. The Influence of Selected Family Factors on the Educational and Occupational Aspiration Levels of High School Boys and Girls. Winnipeg: The University of Manitoba, Faculty of Agriculture and Home Economics, Number 1, 1965.
- Slocum, W. L. "Educational Planning By High School Seniors," Journal of Educational Research, 51 (April, 1958), 583-590.

- Slocum, W. L. and Roy T. Bowles. "Attractiveness of Occupations to High School Students," Personnel and Guidance Journal, 46 (April, 1968), 754-761.
- Stephenson, Richard M. "Occupational Aspirations and Plans of 443 Ninth Graders," Journal of Educational Research, 49 (September, 1955), 27-35.
- Super, Donald E. The Psychology of Careers. New York: Harper and Row, Publishers, 1957.
- \_\_\_\_\_, et al. Vocational Development: A Framework for Research. New York: Columbia University, Teachers College Press, 1957.
- \_\_\_\_\_, and Phoebe Overstreet. The Vocational Maturity of Ninth-Grade Boys. New York: Bureau of Publications, Teachers College, Columbia University, 1960.
- \_\_\_\_\_, et al. Career Development: Self-Concept Theory. New York: College Entrance Examination Board, Teachers College, Columbia University, 1963.
- Tiedeman, David V. and Robert P. O'Hara. Career Development: Choice and Adjustment. New York: College Entrance Examination Board, 1963.
- Uzzell, Odell. "Influencers of Occupational Choice," Personnel and Guidance Journal, 39 (April, 1961), 666-669.
- Weiner, Max and Walter Murray. "Another Look at the Culturally Deprived and Their Levels of Aspiration," Journal of Educational Sociology, 36 (March, 1963), 319-321.
- Werts, Charles E. "Paternal Influence on Career Choice," Journal of Counselling Psychology, 15 (June, 1968), 48-52.
- Youmans, E. Grant. "Occupational Expectations of Twelfth Grade Michigan Boys," Journal of Experimental Education, XXIV (June, 1956), 259-271.
- \_\_\_\_\_. "Backgrounds of Rural Youth Planning to Enter College," The Journal of Educational Psychology, 32 (December, 1958), 152-156.

## APPENDIX A

Variables Identified

Intercorrelation Matrices

TABLE A.1

VARIABLE NAMES AND IDENTIFYING NUMBERS  
AS EMPLOYED IN THE FACTOR ANALYSES

Variable No.	Variable Name
1	Grade
2	Father's occupation
3	Opinion of father's occupation
4	Number of years in the community
5	Number of extra-curricular activities
6	Teacher encouragement for education
7	Father's encouragement for education
8	Mother's encouragement for education
9	Father's education
10	Mother's education
11	Wish to stay after high school
12	Wish to stay after further education
13	Community isolation
14	Community size
15	Intelligence level
16	Ethnic background
17	Home situation
18	Number of school grades failed
19	Leadership rating
20	Level of occupational aspiration (LOA)
21	Socio-economic status level (SES)



TABLE A.2  
THE TOTAL POPULATION INTERCORRELATION MATRIX  
OF TWENTY-ONE VARIABLES<sup>a</sup>

Variable		No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	--																						
2	00	--																					
3	08	31*	--																				
4	07	18*	18*	--																			
5	08	-10*	-08	-02	--																		
6	-10*	06	02	-02	-13*	--																	
7	-07	12*	14*	04	-06	12*	--																
8	00	07	04	02	-08	10*	44*	--															
9	-02	-41*	-22*	-14*	12*	-02	-14*	-14*	--														
10	-02	-20*	-13*	-08	12*	02	-06	-17*	44*	--													
11	-02	-03	05	05	10*	04	04	-03	04	05	02	--											
12	-04	00	08	06	04	04	02	-01	01	00	52*	--											
13	-07	04	02	24*	00	01	09*	05	06	09*	02	04	--										
14	-08	-08	-06	-21*	-02	02	04	04	05	06	-14*	-14*	28*	--									
15	11*	-07	03	30*	15*	-05	-07	-10*	12*	13*	01	02	-04	04	--								
16	-01	-03	-07	-01	00	01	04	01	12*	19*	03	04	17*	06	09*	--							
17	-01	-04	-01	08	03	02	-04	-09*	10*	06	-02	00	05	00	08	07	--						
18	01	-08	01	03	14*	02	-08*	-17*	13*	12*	07	07	01	00	30*	01	09*	--					
19	01	-08	-07	05	23*	-13*	-09*	-09*	07	05	00	-02	-03	00	08	02	03	04	--				
20	08	-11*	-04	-02	19*	-05	-11*	-08	19*	13	09*	05	01	02	23*	03	00	19*	12*	--			
21	01	-26*	-22*	00	16*	-01	-10*	-12*	27*	30*	05	05	16*	07	08	16*	13*	13*	19*	--			

<sup>a</sup>Decimal points have been omitted

\*A correlation coefficient of  $\pm .0862$  is significant at the .005 level

TABLE A.3

MALE POPULATION INTERCORRELATION MATRIX  
OF TWENTY-ONE VARIABLES<sup>a</sup>

Variable No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	--																				
2	-02	--																			
3	08	33*	--																		
4	10	22*	19*	--																	
5	13*	-10	-09	-02	--																
6	-11	04	01	-06	-14*	--															
7	02	13*	13*	02	-08	11	--														
8	04	07	06	04	-07	09	50*	--													
9	-04	-45*	-28*	-16*	08	00	-10	-11	--												
10	-03	-26*	-16*	-09	04	07	-06	-14*	45*	--											
11	00	03	11	02	08	04	-03	-03	03	-02	--										
12	-01	04	09	00	04	05	03	-03	-02	-02	51*	--									
13	-12*	03	02	23*	-04	04	08	06	06	10	01	00	--								
14	-10	-07	-03	-19*	-08	06	06	01	06	10	-12*	-11	32*	--							
15	10	-06	01	34*	13*	-03	-11	-09	14*	12*	-03	-01	-01	05	--						
16	02	-05	-12*	-01	-04	07	00	-01	16*	21*	04	-01	16*	05	08	--					
17	-04	-06	-05	02	-02	05	-14*	-13*	08	07	-08	-04	07	02	07	07	--				
18	-02	-07	03	05	13*	04	-12*	-18*	10	11*	06	09	04	02	31*	01	15*	--			
19	02	-06	-07	08	30*	-14*	-04	-09	12*	07	-04	-06	00	00	10	01	04	07	--		
20	08	-14*	-03	-02	17*	-01	-07	-05	20*	13*	06	03	-02	04	23*	01	05	22*	08	--	
21	00	-30*	-23*	-05	10	-03	-12*	-14*	26*	28*	00	01	16*	07	03	16*	14*	08	03	18*	--

<sup>a</sup>Decimal points have been omitted\*A correlation coefficient of  $\pm .116$  is significant at the .005 level

TABLE A.4

FEMALE POPULATION INTERCORRELATION MATRIX  
OF TWENTY-ONE VARIABLES

Variable No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	--																				
2	03	--																			
3	05	29*	--																		
4	05	13*	18*	--																	
5	03	-10	-06	-02	--																
6	-09	07	03	03	-12	--															
7	-13*	11	18*	03	-06	13*	--														
8	-05	08	03	-02	-09	11	39*	--													
9	-01	-37*	-17*	-12	17*	-03	-18*	-17*	--												
10	-01	-14*	-10	-05	22*	-04	-05	-20*	42*	--											
11	-02	-10	01	08	12	03	-06	-06	08	08	--										
12	-07	-05	07	13*	06	05	00	01	05	02	53*	--									
13	02	06	03	25*	03	-01	08	04	05	08	01	09	--								
14	-04	-10	-10	-24*	05	-01	02	03	03	00	-20*	-18*	23*	--							
15	13*	-09	07	25*	17*	-08	-05	-12	10	14*	05	07	-08	03	--						
16	-03	-01	-02	-02	02	-04	04	03	08	17*	02	08	18*	08	09	--					
17	01	-02	02	16*	08	-01	05	-05	12	05	04	04	03	-02	09	07	--				
18	10	-10	02	-02	14*	01	-09	-18*	16*	14*	06	04	-06	-03	28*	-01	03	--			
19	-02	-11	-10	02	17*	-13*	-12	-09	01	01	07	02	-05	00	06	05	02	02	--		
20	07	-08	-05	-02	22*	-10	-14*	-12	18*	13*	14*	08	04	-01	24*	06	-05	17*	16*	--	
21	02	-22*	-20*	05	24*	02	-11	-09	28*	33*	10	11	16*	05	14*	14*	12*	20*	03*	20*	--

<sup>a</sup>Decimal points have been omitted\*A correlation coefficient of  $\pm .125$  is significant at the .005 level

APPENDIX B

✱

Occupational Aspiration Scale Statistics

TABLE B.1

THE SPLIT-HALF RELIABILITY COEFFICIENTS OF THE OAS  
FOR HALLER'S MALE SAMPLE AND FOR MALES IN FIVE  
SELECTED SINGLE ENTERPRISE COMMUNITIES

Data Source	N	SD	Reliability Method	r	Corrected r <sup>a</sup>
Haller sample-Lenawee	365	12.92	Split-halves	.69	.82
Single enterprise	522	9.83	Split-halves	.62	.76

<sup>a</sup>The Spearman-Brown Prophecy Formula was applied to correct for the reliability of the whole test (Helmstadter, 1964). The formula is

$$r_{ab} = \frac{2r_{ab}}{1+r_{ab}}$$

TABLE B.2

A COMPARISON OF THE SPLIT-HALF RELIABILITY COEFFICIENTS  
OF FEMALES COMPLETING THE HALLER OAS AND FEMALES  
COMPLETING THE PEACH-MODIFIED OAS

Scale	N	SD	Reliability method	r	Corrected r
Haller OAS	216	9.64	Split-halves	.47	.64
Peach OAS	241	7.75	Split-halves	.39	.56

TABLE B.3

THE VALIDITY OF THE PEACH-MODIFIED OAS WHEN TESTED  
 AGAINST THE HALLER OAS USING 87 GIRLS AND  
 A SEVEN-DAY INTERVAL<sup>ab</sup>

Scale	N	Mean	SD	Validity coefficient
Haller OAS	87	41.43	9.45	.50
Peach OAS	87	41.68	7.08	

<sup>a</sup>The girls, sampled from the original population of girls, completed one of the two scales initially and the second scale after the time interval of seven or more days.

<sup>b</sup>When tested, the means and variances of the two scales were significantly different at the .01 level. Equality of means and variances are necessary for the two scales to be considered equivalent forms.

## APPENDIX C

Coding for Ethnic Background, Data on the  
Completion of the Questionnaire, and  
the Questionnaire

## ETHNIC BACKGROUND AND THE CULTURAL INDEX

Countries are grouped into four categories based on their similarity with Canadian culture. Giving Canada a score of 5, the countries are assessed according to their decreasing similarities with Canada on the following criteria:

- 1) language
- 2) historical ties with Canada
- 3) past political situation and political environment
- 4) religion and influence of religion
- 5) economic foundations
- 6) standard of living
- 7) geographical and/or political accessibility to western culture and influence

Each country is assigned a score from 1 to 4. A score of 1 indicates few similarities with Canada and a score of 4 a high degree of similarity.

The scores for father, mother, and paternal grandfather are added to yield the total score. The range of scores is 3 to 15. Table C.1 reports the scores assigned to countries in this study.



TABLE C.1  
 SCORES ASSIGNED TO COUNTRIES IN THE ASSESSMENT OF  
 ETHNIC BACKGROUND

5	4	3	2	1
Canada	United States	Iceland	Spain	China
	Great Britain	Norway	Portugal	India
	Ireland	Sweden	Russia	Pakistan
	Australia	Denmark	The Ukraine	Guyana
	New Zealand	Finland	Czechoslovakia	Mauritius
		France	Hungary	
		Germany	Latvia	
		Austria	Poland	
		Holland	Prussia	
		Italy	Romania	
		Malta	Yugoslavia	
		Switzerland	Turkey	
		Greece		
		Israel		

TABLE C.2

SCHOOL ENROLMENT AND QUESTIONNAIRES COMPLETED  
BY EACH SEX IN EACH SCHOOL\*

Community	School	Class List Enrolment	Questionnaires Completed	Percent Coverage
Flin Flon	Hapnot Collegiate	Boys 353	267	75.63
		Girls 312	272	87.17
		Total 665	539	81.05
Lynn Lake	Lynn Lake Collegiate	Boys 27	27	100.00
		Girls 19	18	94.74
		Total 46	45	97.82
Pine Falls	Pine Falls Collegiate	Boys 42	40	95.24
		Girls 44	40	90.90
		Total 86	80	93.00
Red Lake	Red Lake District High School	Boys 155	135	87.09
		Girls 110	90	81.81
		Total 265	225	84.90
Thompson	R.D. Parker Collegiate	Boys 135	96	71.11
		Girls 112	76	67.85
		Total 247	172	69.60
TOTAL		Boys 712	565	79.35
		Girls 597	496	83.08
		Total 1309	1061	81.05

\* School enrolment was determined from class lists which may not have been recently updated. The figures must be considered approximations.

CENTER FOR SETTLEMENT STUDIES  
THE UNIVERSITY OF MANITOBA

---

# STUDENT QUESTIONNAIRE

---

Name.....  
(Last Name) (Given Names)

School .....

Sex (check one) Male..... Female .....

This questionnaire deals with your family background, your education, and your hopes and plans for the future. ANSWER EACH QUESTION AS BEST YOU CAN.

The answers you give will be held in strict confidence. Do not show your answers to others as you work. Work QUICKLY but CAREFULLY in giving your answers.

After the replies of all the students have been gathered, they will be studied by using an electronic computer. Your answers will be changed into a code for use in this machine. Once this code is used, your answers cannot be identified by name.

---

## I. YOU AND YOUR FAMILY

Please attempt to answer each of the factual questions in this section as accurately as possible.

1. What is your present age? Check one.

- |                 |                      |
|-----------------|----------------------|
| 1_____ 13 years | 6_____ 18 years      |
| 2_____ 14 years | 7_____ 19 years      |
| 3_____ 15 years | 8_____ 20 years      |
| 4_____ 16 years | 9_____ over 20 years |
| 5_____ 17 years |                      |

2. What grade are you presently in? Check one.

- 1\_\_\_\_\_ Grade X  
2\_\_\_\_\_ Grade XI  
3\_\_\_\_\_ Grade XII

3. What is your father's occupation? Be as specific as possible. For example: sales clerk in \_\_\_\_\_ Hardware Store; owns bakery and has four employees; self-employed welder. (If your father is not living, indicate what his occupation was.)

\_\_\_\_\_  
\_\_\_\_\_

4. I believe that my father's job is: Check one.

- 1\_\_\_\_\_ a very good job
- 2\_\_\_\_\_ a fairly good job
- 3\_\_\_\_\_ not a good job

5. In what country was your father born? Check one.

- |                      |                             |
|----------------------|-----------------------------|
| 1_____ Canada        | 6_____ Iceland              |
| 2_____ Great Britain | 7_____ Russia               |
| 3_____ Ireland       | 8_____ The Ukraine          |
| 4_____ France        | 9_____ Other. Specify _____ |
| 5_____ Germany       |                             |

6. In what country was your mother born? Check one.

- |                      |                             |
|----------------------|-----------------------------|
| 1_____ Canada        | 6_____ Iceland              |
| 2_____ Great Britain | 7_____ Russia               |
| 3_____ Ireland       | 8_____ The Ukraine          |
| 4_____ France        | 9_____ Other. Specify _____ |
| 5_____ Germany       |                             |

7. In what country was your grandfather (on your father's side) born? Check one.

- |                      |                             |
|----------------------|-----------------------------|
| 1_____ Canada        | 6_____ Iceland              |
| 2_____ Great Britain | 7_____ Russia               |
| 3_____ Ireland       | 8_____ The Ukraine          |
| 4_____ France        | 9_____ Other. Specify _____ |
| 5_____ Germany       |                             |

8. Of what ethnic background do you consider yourself? Check one.

- |                |                             |
|----------------|-----------------------------|
| 1_____ English | 5_____ Icelandic            |
| 2_____ Irish   | 6_____ Russian              |
| 3_____ French  | 7_____ Ukrainian            |
| 4_____ German  | 8_____ Other. Specify _____ |

9. What is your religion? Check one.

- |                       |                                |
|-----------------------|--------------------------------|
| 1_____ Anglican       | 7_____ Ukrainian Catholic      |
| 2_____ Greek Orthodox | 8_____ Unitarian               |
| 3_____ Jewish         | 9_____ United Church           |
| 4_____ Lutheran       | 10_____ Other. (Specify) _____ |
| 5_____ Mennonite      |                                |
| 6_____ Roman Catholic | 11_____ None                   |

10. As to actively practising religion, (Check one).

- 1\_\_\_\_\_ I do.
- 2\_\_\_\_\_ I do not.

11. How long have you lived in this community? Check one.

- |                          |                           |
|--------------------------|---------------------------|
| 1_____ less than 2 years | 6_____ 10-11 years        |
| 2_____ 2-3 years         | 7_____ 12-13 years        |
| 3_____ 4-5 years         | 8_____ 14-15 years        |
| 4_____ 6-7 years         | 9_____ more than 15 years |
| 5_____ 8-9 years         |                           |

12. With whom do you live while attending school? Check one.

- |                        |                              |
|------------------------|------------------------------|
| 1_____ my own parents  | 5_____ other relatives       |
| 2_____ one parent only | 6_____ independently         |
| 3_____ step-parents    | 7_____ Other. (specify)_____ |
| 4_____ grand-parents   |                              |

13. How many older brothers and sisters do you have? Circle one.

0    1    2    3    4    5    6    over 6

14. How many younger brothers and sisters do you have? Circle one.

0    1    2    3    4    5    6    over 6

15. How many of your brothers and sisters are living at home?  
Circle one.

0    1    2    3    4    5    6    over 6

## II. SCHOOL LIFE AND EDUCATION

Some of the following questions ask for factual answers and some for your opinion. Please answer the questions as accurately and as thoughtfully as you can.

1. How many schools did you attend during grades 1 to 8? Circle the appropriate number.

1    2    3    4    5    over 5

2. How many schools have you attended during grades 9 to 12? Circle the appropriate number.

1    2    3    4    5    over 5

3. How many years have you attended this school? Circle the appropriate number.

less than 1    1    2    3    4    5    6    over 6

4. How far do you live from school? Check one.

- |                       |                      |
|-----------------------|----------------------|
| 1_____ under one mile | 4_____ 11-20 miles   |
| 2_____ 1-3 miles      | 5_____ over 20 miles |
| 3_____ 4-10 miles     |                      |

5. What program are you taking in school? Check one.

- |                            |                            |
|----------------------------|----------------------------|
| 1_____ Commercial Course   | 5_____ University Entrance |
| 2_____ General Course      | 6_____ Vocational Course   |
| 3_____ High School Leaving | 7_____ Not yet decided     |
| 4_____ Terminal            |                            |

6. Have you ever repeated a complete grade? (Check more than one if applicable.)

- 1\_\_\_\_\_ never
- 2\_\_\_\_\_ in primary grades (grades 1 to 3)
- 3\_\_\_\_\_ in intermediate grades (grades 4 to 6)
- 4\_\_\_\_\_ in junior high grades (grades 7 to 9)
- 5\_\_\_\_\_ in senior high grades (grades 10 to 12)

7. If school were not compulsory and you were free to make the decision yourself, which of the following would you do? Check one.

- 1\_\_\_\_\_ stay in school until graduation
- 2\_\_\_\_\_ leave school before graduation
- 3\_\_\_\_\_ don't know

8. If you had an extra hour in school each day and you were free to spend that hour regularly in a way of your own choice, which of the following would you choose? Check one.

- 1\_\_\_\_\_ take another school subject
- 2\_\_\_\_\_ spend time on games or athletics
- 3\_\_\_\_\_ join a club
- 4\_\_\_\_\_ use the time to study
- 5\_\_\_\_\_ do something other than the above

9. From the following list what one reason best explains why you are staying in school. Check one.

- 1\_\_\_\_\_ like school very much
- 2\_\_\_\_\_ want a general education
- 3\_\_\_\_\_ am training for a job
- 4\_\_\_\_\_ need high school in order to enter university
- 5\_\_\_\_\_ parents insist I go to school
- 6\_\_\_\_\_ friends are going to school
- 7\_\_\_\_\_ enjoy the sports activities
- 8\_\_\_\_\_ enjoy the social life
- 9\_\_\_\_\_ am too young to quit and start working
- 10\_\_\_\_\_ other reasons (specify) \_\_\_\_\_

10. In what extra-curricular activities do you regularly take part?  
Check one, or more if applicable.

1\_\_\_\_\_ student government  
2\_\_\_\_\_ school paper  
3\_\_\_\_\_ school sports  
4\_\_\_\_\_ 4-H Club  
5\_\_\_\_\_ other (specify) \_\_\_\_\_  
6\_\_\_\_\_ none

11. Compared with most others in your class, how would you rate your leadership ability? Check one.

1\_\_\_\_\_ average ability  
2\_\_\_\_\_ above average ability  
3\_\_\_\_\_ below average ability

12. When you are finished high school, what are your plans for further education? Check one.

1\_\_\_\_\_ No further education  
2\_\_\_\_\_ Business College  
3\_\_\_\_\_ Nurses Education  
4\_\_\_\_\_ Teachers Education  
5\_\_\_\_\_ Technical-Vocational School (specify course \_\_\_\_\_)  
6\_\_\_\_\_ University (specify course \_\_\_\_\_)  
7\_\_\_\_\_ Other (specify \_\_\_\_\_)

13. If you were completely free to choose, what would your plans for future education be? Check one.

1\_\_\_\_\_ No further education  
2\_\_\_\_\_ Business College  
3\_\_\_\_\_ Nurses Training  
4\_\_\_\_\_ Teachers Education  
5\_\_\_\_\_ Technical-Vocational School (specify course \_\_\_\_\_)  
6\_\_\_\_\_ University (specify course \_\_\_\_\_)  
7\_\_\_\_\_ Other (specify \_\_\_\_\_)

14. Concerning your education, which of the following best applies to your teachers at school? Check one.

1\_\_\_\_\_ teachers have strongly encouraged me to continue  
2\_\_\_\_\_ teachers have given me some encouragement to continue  
3\_\_\_\_\_ teachers have encouraged me to graduate from high school  
and then go to work  
4\_\_\_\_\_ teachers have encouraged me to quit school now and work  
5\_\_\_\_\_ teachers have never said much about it

15. Concerning your education, which of the following best applies to your father? Check one.

1\_\_\_\_\_ my father has strongly encouraged me to continue  
 2\_\_\_\_\_ my father has given me some encouragement to continue  
 3\_\_\_\_\_ my father has encouraged me to graduate from high school and then go to work  
 4\_\_\_\_\_ my father has encouraged me to quit school now and work  
 5\_\_\_\_\_ my father has never said much about it

16. Concerning your education, which of the following best applies to your mother? Check one.

1\_\_\_\_\_ my mother has strongly encouraged me to continue  
 2\_\_\_\_\_ my mother has given me some encouragement to continue  
 3\_\_\_\_\_ my mother has encouraged me to graduate from high school and then go to work  
 4\_\_\_\_\_ my mother has encouraged me to quit high school and work  
 5\_\_\_\_\_ my mother has never said much about it.

17. What was your father's education? Check one.

1_____ less than grade 5	5_____ some university
2_____ grades 5 to 8	6_____ university graduate
3_____ some high school	7_____ postgraduate university
4_____ high school graduate	studies

18. What was your mother's education? Check one.

1_____ less than grade 5	5_____ some university
2_____ grades 5 to 8	6_____ university graduate
3_____ some high school	7_____ postgraduate university
4_____ high school graduate	studies

19. How many of your brothers and sisters are high school graduates? Circle the appropriate number.

0      1      2      3      4      5      over 5

20. How many of your brothers and sisters quit high school before graduating? Circle the appropriate number.

0      1      2      3      4      5      over 5

21. How many of your brothers and sisters have attended or are presently attending university? Circle the appropriate number.

0      1      2      3      4      5      over 5



22. How many of your brothers and sisters have attended or are presently attending a technical-vocational school? Circle the appropriate number.

0      1      2      3      4      5      over 5

23. How many of your older brothers and sisters have attended or are now attending some other educational institutions? Circle the appropriate number.

0      1      2      3      4      5      over 5

24. In your opinion what are the three most common reasons for students quitting high school before graduating? List.

1 \_\_\_\_\_  
2 \_\_\_\_\_  
3 \_\_\_\_\_

=====

### III. YOU AND YOUR FUTURE

1. After completing your high school education, would you like to work in your present community? Check one.

1\_\_\_\_\_ yes  
2\_\_\_\_\_ no

2. After completing any planned education beyond high school, would you like to work in your present community? Check one.

1\_\_\_\_\_ yes  
2\_\_\_\_\_ no

3. If you wanted to work or could work in a Manitoba community other than your present community, where would you go?

Specify: \_\_\_\_\_

## IV. YOU AND YOUR OCCUPATION

The following 8 questions concern jobs. Read each question very carefully; the questions are not always the same. Please check one job in each question. Make sure it is the best answer you can give to the question. Answer every question; do not omit any. If you do not know what one of the jobs is, just ignore it.

1. Of the jobs listed in this question, which is the best one you are really sure you can get when your schooling is over? Check one.

- 1\_\_\_\_\_ lawyer
- 2\_\_\_\_\_ welfare worker for a city government
- 3\_\_\_\_\_ a member of the House of Commons
- 4\_\_\_\_\_ corporal in the army
- 5\_\_\_\_\_ Supreme Court Justice
- 6\_\_\_\_\_ night watchman
- 7\_\_\_\_\_ sociologist
- 8\_\_\_\_\_ policeman
- 9\_\_\_\_\_ district agricultural representative
- 10\_\_\_\_\_ filling station attendant

2. Of the jobs listed in this question, which one would you choose if you were free to choose any one of them you wished when your schooling is over? Check one.

- 1\_\_\_\_\_ director of a large corporation
- 2\_\_\_\_\_ undertaker
- 3\_\_\_\_\_ banker
- 4\_\_\_\_\_ machine operator in a factory
- 5\_\_\_\_\_ physician (doctor)
- 6\_\_\_\_\_ clothes presser in a laundry
- 7\_\_\_\_\_ accountant for a large business
- 8\_\_\_\_\_ railroad conductor
- 9\_\_\_\_\_ railroad engineer
- 10\_\_\_\_\_ singer in a night club

3. Of the jobs listed in this question, which is the best one you are really sure you can get when your schooling is over. Check one.

- 1\_\_\_\_\_ nuclear physicist
- 2\_\_\_\_\_ reporter for a daily newspaper
- 3\_\_\_\_\_ district judge
- 4\_\_\_\_\_ barber
- 5\_\_\_\_\_ provincial premier
- 6\_\_\_\_\_ soda fountain clerk
- 7\_\_\_\_\_ biologist
- 8\_\_\_\_\_ mail carrier
- 9\_\_\_\_\_ official of an international labor union
- 10\_\_\_\_\_ farm hand

## IV. YOU AND YOUR OCCUPATION

The following 8 questions concern jobs. Read each question very carefully; the questions are not always the same. Please check one job in each question. Make sure it is the best answer you can give to the question. Answer every question; do not omit any. If you do not know what one of the jobs is, just ignore it.

1. Of the jobs listed in this question, which is the best one you are really sure you can get when your schooling is over? Check one.

1\_\_\_\_\_ lawyer  
2\_\_\_\_\_ commercial artist  
3\_\_\_\_\_ Member of Parliament  
4\_\_\_\_\_ telephone operator  
5\_\_\_\_\_ Supreme Court Justice  
6\_\_\_\_\_ household maid  
7\_\_\_\_\_ dietitian  
8\_\_\_\_\_ photographer  
9\_\_\_\_\_ stenographer  
10\_\_\_\_\_ dressmaker

2. Of the jobs listed in this question, which one would you choose if you were free to choose any one of them you wished when your schooling is over? Check one.

1\_\_\_\_\_ chemist  
2\_\_\_\_\_ office clerk  
3\_\_\_\_\_ journalist  
4\_\_\_\_\_ milliner (hat-maker)  
5\_\_\_\_\_ doctor  
6\_\_\_\_\_ clothes presser in a laundry  
7\_\_\_\_\_ librarian  
8\_\_\_\_\_ cashier in a retail store  
9\_\_\_\_\_ typist  
10\_\_\_\_\_ bake shop worker

3. Of the jobs listed in this question, which is the best one you are really sure you can get when your schooling is over. Check one.

1\_\_\_\_\_ statistician  
2\_\_\_\_\_ school teacher  
3\_\_\_\_\_ juvenile court judge  
4\_\_\_\_\_ practical nurse  
5\_\_\_\_\_ provincial premier  
6\_\_\_\_\_ janitor  
7\_\_\_\_\_ biologist  
8\_\_\_\_\_ postmistress  
9\_\_\_\_\_ dental assistant  
10\_\_\_\_\_ hotel maid

4. Of the jobs listed in this question, which one would you choose if you were free to choose any one of them you wished when your schooling is over? Check one.

1\_\_\_\_\_ psychologist  
2\_\_\_\_\_ manager of a small store in a city  
3\_\_\_\_\_ head of a department in a provincial government  
4\_\_\_\_\_ clerk in a store  
5\_\_\_\_\_ cabinet member in the federal government  
6\_\_\_\_\_ janitor  
7\_\_\_\_\_ musician in a symphony orchestra  
8\_\_\_\_\_ carpenter  
9\_\_\_\_\_ radio announcer  
10\_\_\_\_\_ coal miner

5. Of the jobs listed in this question, which is the best one you are really sure you can get by the time you are 30 years old? Check one.

1\_\_\_\_\_ civil engineer  
2\_\_\_\_\_ bookkeeper  
3\_\_\_\_\_ minister, priest or rabbi  
4\_\_\_\_\_ city bus driver  
5\_\_\_\_\_ diplomat in the Canadian Foreign Service  
6\_\_\_\_\_ farm renter  
7\_\_\_\_\_ author of novels  
8\_\_\_\_\_ plumber  
9\_\_\_\_\_ newspaper columnist  
10\_\_\_\_\_ taxi driver

6. Of the jobs listed in this question, which one would you choose to have when you are 30 years old, if you were free to have any one of them you wished? Check one.

1\_\_\_\_\_ airline pilot  
2\_\_\_\_\_ insurance agent  
3\_\_\_\_\_ architect  
4\_\_\_\_\_ milk route man  
5\_\_\_\_\_ mayor of a large city  
6\_\_\_\_\_ garbage collector  
7\_\_\_\_\_ captain in the army  
8\_\_\_\_\_ garage mechanic  
9\_\_\_\_\_ owner-operator of a machine shop  
10\_\_\_\_\_ railroad section hand

4. Of the jobs listed in this question, which one would you choose if you were free to choose any one of them you wished when your schooling is over? Check one.

1\_\_\_\_\_ psychologist  
2\_\_\_\_\_ comptometer operator  
3\_\_\_\_\_ director of adult education for the province  
4\_\_\_\_\_ optician  
5\_\_\_\_\_ university professor  
6\_\_\_\_\_ cleaning woman  
7\_\_\_\_\_ musician in a symphony orchestra  
8\_\_\_\_\_ packer in a factory  
9\_\_\_\_\_ laboratory technician  
10\_\_\_\_\_ seamstress

5. Of the jobs listed in this question, which one is the best you are really sure you can have by the time you are 30 years old? Check one.

1\_\_\_\_\_ social welfare worker  
2\_\_\_\_\_ bookkeeper  
3\_\_\_\_\_ inspector in a textile factory  
4\_\_\_\_\_ photography shop employee  
5\_\_\_\_\_ Canadian representative at the United Nations  
6\_\_\_\_\_ nurse in training  
7\_\_\_\_\_ author of novels  
8\_\_\_\_\_ worker in an electrical factory  
9\_\_\_\_\_ newspaper columnist  
10\_\_\_\_\_ taxi driver

6. Of the jobs listed in this question, which one would you choose to have when you are 30 years old, if you were free to have any one of them you wished? Check one.

1\_\_\_\_\_ airline stewardess  
2\_\_\_\_\_ tailoress  
3\_\_\_\_\_ interior decorator  
4\_\_\_\_\_ textile finisher  
5\_\_\_\_\_ mayor of a large city  
6\_\_\_\_\_ baby-sitter  
7\_\_\_\_\_ music teacher  
8\_\_\_\_\_ worker in a hat and cap factory  
9\_\_\_\_\_ owner-publisher of a weekly newspaper  
10\_\_\_\_\_ cook

7. Of the jobs listed in this question, which is the best one you are really sure you can get by the time you are 30 years old? Check one.

- 1\_\_\_\_\_ artist who paints pictures that are exhibited in galleries
- 2\_\_\_\_\_ travelling salesman for a wholesale concern
- 3\_\_\_\_\_ chemist
- 4\_\_\_\_\_ truck driver
- 5\_\_\_\_\_ college professor
- 6\_\_\_\_\_ street sweeper
- 7\_\_\_\_\_ building contractor
- 8\_\_\_\_\_ local official of a labor union
- 9\_\_\_\_\_ electrician
- 10\_\_\_\_\_ restaurant waiter

8. Of the jobs listed in this question, which one would you choose to have when you are 30 years old, if you were free to have any of them you wished? Check one.

- 1\_\_\_\_\_ owner of a factory that employs about 100 people
- 2\_\_\_\_\_ playground director
- 3\_\_\_\_\_ dentist
- 4\_\_\_\_\_ lumberjack
- 5\_\_\_\_\_ scientist
- 6\_\_\_\_\_ shoeshiner
- 7\_\_\_\_\_ public school teacher
- 8\_\_\_\_\_ owner-operator of a lunch stand
- 9\_\_\_\_\_ trained machinist
- 10\_\_\_\_\_ dockworker

7. Of the jobs listed in this question, which is the best one you are really sure you can have by the time you are 30 years old? Check one.

- 1\_\_\_\_\_ artist
- 2\_\_\_\_\_ window decorator
- 3\_\_\_\_\_ physicist
- 4\_\_\_\_\_ canvasser
- 5\_\_\_\_\_ metallurgist
- 6\_\_\_\_\_ glove-maker
- 7\_\_\_\_\_ graduate nurse
- 8\_\_\_\_\_ elevator operator
- 9\_\_\_\_\_ forewoman in a factory
- 10\_\_\_\_\_ restaurant waitress

8. Of the jobs listed in this question, which one would you choose to have when you are 30 years old, if you were free to have any of them you wished? Check one.

- 1\_\_\_\_\_ actress
- 2\_\_\_\_\_ playground director
- 3\_\_\_\_\_ chiropractor
- 4\_\_\_\_\_ bookbinder
- 5\_\_\_\_\_ scientist
- 6\_\_\_\_\_ fish canner
- 7\_\_\_\_\_ newspaper editor
- 8\_\_\_\_\_ jeweller
- 9\_\_\_\_\_ kindergarten teacher
- 10\_\_\_\_\_ basket-maker

V. YOU AND YOUR HOME

1. How many persons live at your parents' home, including your parents? Circle one.

1    2    3    4    5    6    7    8    9    10 or over

2. Not including unfinished basements, bathrooms, halls, closets, and porches, how many rooms are in your parents' house or suite? Circle the appropriate number.

1    2    3    4    5    6    over 6

3. Do you have your own room at home? Check one.

1\_\_\_\_\_ yes  
2\_\_\_\_\_ no

4. From what material is your parents' house constructed? Check one.

1_____ brick	4_____ unpainted frame
2_____ stucco	5_____ other (specify) _____
3_____ painted frame	6_____ trailer

5. Do your parents take a daily newspaper? Check one.

1\_\_\_\_\_ yes  
2\_\_\_\_\_ no

6. Do your parents have a telephone? Check one.

1\_\_\_\_\_ yes  
2\_\_\_\_\_ no

7. Do your parents have a car? Check one.

1\_\_\_\_\_ no car  
2\_\_\_\_\_ one car  
3\_\_\_\_\_ two cars

8. If your parents own one or more cars, what model year is the car? Check one, or more if applicable.

1\_\_\_\_\_ 1967-1969  
2\_\_\_\_\_ 1964-1966  
3\_\_\_\_\_ 1961-1963  
4\_\_\_\_\_ 1958-1960  
5\_\_\_\_\_ before 1958



9. Do you have a driver's license? Check one.

- 1\_\_\_\_\_ no
- 2\_\_\_\_\_ yes, since grade 9
- 3\_\_\_\_\_ yes, since grade 10
- 4\_\_\_\_\_ yes, since grade 11
- 5\_\_\_\_\_ yes, since grade 12

10. Which of the following best describes your use of a car? Check one.

- 1\_\_\_\_\_ I own my own car
- 2\_\_\_\_\_ I regularly use my parents' car
- 3\_\_\_\_\_ I sometimes use my parents' car
- 4\_\_\_\_\_ I have no access to a car
- 5\_\_\_\_\_ Other (specify) \_\_\_\_\_

11. Does your family have a garage or carport? Check one.

- 1\_\_\_\_\_ yes
- 2\_\_\_\_\_ no

12. Is there an encyclopedia in your home? Check one.

- 1\_\_\_\_\_ yes
- 2\_\_\_\_\_ no

13. Did your parents borrow books from a library in the past year?  
Check one.

- 1\_\_\_\_\_ yes
- 2\_\_\_\_\_ no

14. How often does your family leave the community for a holiday?  
Check one.

- 1\_\_\_\_\_ every year
- 2\_\_\_\_\_ every second year
- 3\_\_\_\_\_ occasionally
- 4\_\_\_\_\_ never

15. Does your mother belong to any clubs or organizations, such as church groups, art clubs, or social clubs? Check one.

- 1\_\_\_\_\_ yes
- 2\_\_\_\_\_ no

16. Does your family belong to any clubs or organizations to which fees must be paid? Check one.

- 1\_\_\_\_\_ yes
- 2\_\_\_\_\_ no

17. Have you ever had lessons in music, dancing, art, etc. outside of school? Check one.

1\_\_\_\_\_ yes  
2\_\_\_\_\_ no

=====

#### VI. YOU AND YOUR PART-TIME EMPLOYMENT

1. What two persons have had the greatest influence in keeping you in school? Insert the numerals 1 and 2 in front of your selections.

1_____ father	6_____ minister, priest, or rabbi
2_____ mother	7_____ boyfriend or girlfriend
3_____ sister	8_____ aunt or uncle
4_____ brother	9_____ other
5_____ teacher or principal	

2. Which of the following best describes your employment outside of school? Check one, or more if applicable.

1\_\_\_\_\_ I sometimes work at home  
2\_\_\_\_\_ I have regular work duties at home  
3\_\_\_\_\_ I sometimes work away from home  
4\_\_\_\_\_ I regularly work away from home  
5\_\_\_\_\_ I have no work duties outside school

3. Which of the following best describes your summer employment for which you are paid? Check one.

1\_\_\_\_\_ I work full-time every summer  
2\_\_\_\_\_ I work part-time every summer  
3\_\_\_\_\_ I work some summers  
4\_\_\_\_\_ I have never had summer employment

4. Do you receive money from your parents? Check one.

1\_\_\_\_\_ no  
2\_\_\_\_\_ yes, when I need some  
3\_\_\_\_\_ yes, a regular allowance  
4\_\_\_\_\_ yes, for work done at home

If you have time, please check to make certain that you have answered all the questions.

Thank you very much for your assistance.