

A SURVEY AND ANALYSIS OF SELECTED BACKGROUND FACTORS  
INFLUENCING STUDENTS' DECISIONS TO ATTEND  
THE MANITOBA INSTITUTE OF TECHNOLOGY

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PETER PRYSTUPA  
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## ABSTRACT

A survey of recent literature revealed that much effort has already been expended trying to understand the selective process by which individuals are recruited into various occupational fields and/or into educational programs and institutions considered preparatory for these positions. However, the survey also revealed a paucity of research on the forces which shape students' decisions to enter a relatively new, but crucially important form of training--technological training at the post secondary level. To help fill this gap the present study was undertaken.

The problem on the study was two-fold: first, to isolate factors which characteristically influence post secondary educational decisions and second, to determine whether the selected factors were significantly related to students' decisions to attend the Manitoba Institute of Technology. Accordingly, a review of pertinent literature was made on the basis of which the following relationships were hypothesized:

1. Students' decisions to attend the Manitoba Institute of Technology were significantly influenced by the following endogenous factors in their backgrounds: sex and scholastic performance.

2. Students' decisions to attend the Manitoba Institute of Technology were significantly influenced by the

following exogenous factors in their backgrounds: home situation, religious affiliation, ethnic origin, citizenship status, social status, educational level of parents, perceived attitudes toward the decision of parents, peers and teachers, and community of residence.

Data secured by means of a questionnaire which was administered to first-year technology students in June, 1966 was organized into frequency distribution tables. Both the chi square test and direct comparison (this was used only when appropriate "comparable" data were not available) were used for determining whether the obtained results were significant. Where a relationship was found to be significant, successive cross-tabulations were undertaken. The purpose of this further analysis was to detect spuriousness and/or to "specify" the obtained relationship.

The results of the study suggested the following principal conclusions: first, that there was a strong possibility that the obtained results were applicable not only to decisions to attend the M.I.T., but also to choices in other forms of post secondary education; second, that subtle and pervasive barriers to entry to high status educational goals still persist; third, that possibly as a consequence of the lack of information about and negative attitudes against technical education, some counsellors and teachers may have thwarted legitimate aspirations of their students.

The conclusions indicated a need for further research in the following areas: replication of the present study to substantiate the validity of the findings; an investigation into the reasons for the under-representation of girls and farm youth at the M.I.T.; a survey to determine the extent to which school personnel consciously or unwittingly dissuade students from taking technology courses; research using designs which focus intensively on the nature and dimensions of specific factors; and the development and validation of attitude scales for accurate measurement of parental, peer, and teacher reactions toward studentss' career decisions.

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## CHAPTER I

### THE PROBLEM

#### I. NEED FOR THE STUDY

A survey of recent reports reveals that substantial effort has already been expended in trying to understand the selective process by which individuals are recruited into the various occupational positions and/or educational programs and institutions considered preparatory for these positions. One important by-product of these efforts is a fairly comprehensive model of vocational selection; another is a vast body of qualitative and quantitative material bearing on the relationships between a variety of vocational correlates and some specific career decisions. On the other hand, the survey indicates that there exists a need not only for further refinement of the choice-making model, but also for replication of certain studies rendering them applicable to local conditions.

Most notably, however, the survey indicates a need to fill a heretofore neglected area in research on vocational selection--studies into the determinants of decisions to pursue technological training at the post secondary level. Indeed, an exhaustive search yielded only a handful of studies



pertinent to this problem.<sup>1</sup> Considered in the light of the relative newness of the technological training at the post secondary level, this neglect is perhaps understandable; viewed in the light of the cruciality of the technological element in assuring continued industrial expansion, this neglect can no longer be countenanced.

Those who are obliged to cope either directly or indirectly with the demands of the technological era in Manitoba need up-to-date quantitative data on, among other things, the factors which influence students to enrol at the Manitoba Institute of Technology. Administrators require this kind of information for planning suitable programs of instruction and facilities; guidance counsellors need it for assisting students to specify and make adequate preparation for entry into careers which are compatible with the needs of the students and those of the larger society; teachers need it for guiding them to choose instructional procedures which best develop the particular talents of their students.

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<sup>1</sup>Leila Sussman and Gars Norman Levine, "The Entering Freshman at the Massachusetts Institute of Technology: Class of '61" (mimeographed) No publication date given. Cited in David Gottlieb and Charles E. Ramsey, The American Adolescent (Homewood, Ill.: The Dorsey Press, 1964), p. 150; and Ruth Rice, "The Social and Educational Background and Anticipated Career Prospects of a Group of Students in a College of Advanced Technology," The British Journal of Educational Psychology, (November, 1964), pp. 259-267.

## II. STATEMENT OF THE PROBLEM

In the 1965-66 school term 253 students enrolled in first-year technology courses at the Manitoba Institute of Technology. The problem of this study was to determine whether students' decisions to attend this institution were significantly related to two broad categories of factors in the students' backgrounds.

1. Are the following endogenous factors significantly related to the decision: sex and scholastic performance?
2. Are the following exogenous factors significantly related to the decision: home situation, religious affiliation, ethnic origin, citizenship status, social status, educational level of parents, perceived attitudes toward the decision of parents, peers and teachers, and community of residence?

## III. DEFINITION OF TERMS

Some of the major terms used in this study are defined below. Additional terms are explained in their appropriate contexts.

Citizenship status. This refers to the length of time, as measured by generation, that the student's family has enjoyed Canadian citizenship. A student whose father was the first male ancestor to have acquired Canadian citizenship or to have established permanent residence (i.e., five years or

more) will be regarded as having second generation status.

M.I.T. This abbreviation refers to the Manitoba Institute of Technology, an educational institution providing technological training at the post secondary level.

Socioeconomic level. The socioeconomic level is considered to be the position that a family occupies with reference to the prevailing average standards of material and cultural possessions.

Student. In the context of this study, a student is a high school graduate who had enrolled in one of the first-year technology courses at the Manitoba Institute of Technology in the 1965-66 school term.

#### IV. ASSUMPTIONS

The use of the questionnaire is based on three assumptions: that students will respond to the questions or statements without bias; that students will give accurate biographical information, and that sufficient assurance of anonymity will have been given so that teacher distribution and collection of the questionnaire will not limit student response.

#### V. LIMITATIONS

This study is limited to the investigation of the specified factors only; no claim is made as to the exclusiveness of these factors in influencing students'

decisions to attend the Manitoba Institute of Technology.

Generalizations arising from this study apply only to those students who completed the questionnaire.

## CHAPTER II

### RELATED LITERATURE

Students' decisions to attend the M.I.T. could be conceived as a post secondary career choice. To shed some light on the dynamics involved in such a process and to provide the rationale for the selection of hypotheses that were investigated, the following two-part review is offered.

#### I. THEORETICAL RATIONALE

##### A. VOCATIONAL CHOICE PROCESS: A CONCEPTUAL MODEL

How does an individual arrive at a post secondary educational decision? Is the choice a function of chance, or is it a product of other discrete and predictable factors in the individual's background? If the latter, do these factors inhere in the individual, or do they emanate from sources outside the individual? Do they operate singly, or in combination with other factors? Do they operate in a haphazard, or in a patterned manner?

A close scrutiny of literature relative to the vocational choice process reveals four fairly distinct theoretical approaches to these preliminary questions.

External factors approach. According to this school, vocational selection is a function of chance and/or other factors external to the chooser. Kalana suggested that a lack of information on which to base their decisions was

responsible for many persons' "simply drifting into jobs."<sup>1</sup> Miller and Form asserted that "accident" is a major determinant of vocational placement; however, they also averred that a combination of work experiences, observations and expectations has some bearing on the choice of vocation.<sup>2</sup> Finally, Gottlieb and Ramsey theorized that the vocational choosing is frequently not a rational process, "but rather a multitude of minor decisions which add up to a commitment of a particular level."<sup>3</sup>

Inherent factors approach. In contradistinction to the view that vocational selection is largely a function of exogenous forces, supporters of the "Inherent Factors" school asserted that the selection of occupations is mainly, or entirely, subject to endogenous influences. Hoppock believed that occupational choices are influenced by an individual's desire to be more comfortable, and more satisfied or less frustrated.<sup>4</sup> Vernon asserted that a person's occupation was

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<sup>1</sup>George Kalana, "Rational Behaviour and Economic Behaviour," Psychological Review, XL (1963), pp. 307-318.

<sup>2</sup>D.C. Miller and W.H. Form, Industrial Psychology (New York: Harper, 1964), pp. 576-578.

<sup>3</sup>David Gottlieb and Charles E. Ramsey, The American Adolescent (Homewood, Ill.: The Dorsey Press, Inc., 1964), p. 145.

<sup>4</sup>R. Hoppock and D.E. Super, "Vocational and Educational Satisfaction," cited in D.H. Friar and E.R. Henry, (eds.), Handbook of Applied Psychology (New York: Holt, Rinehart and Winston Inc., Vol. 1, 1950), pp. 126-134.

determined by basic drives.<sup>5</sup> Bell, meanwhile, perceived vocational selection in terms of "ego involvement."<sup>6</sup> Ginzberg observed that occupational selection can be understood by taking into account "early interests of a subconscious nature."<sup>7</sup>

Compromise approach. Another group of researchers have perceived vocational selection as a compromise process--a process entailing intricate inter-relationships between a variety of both exogenous and endogenous factors. To illustrate, Caplow suggested that occupational choosing can be understood in terms of two theoretical limits: individual characteristics, as determined by tests and observations, and father's occupation.<sup>8</sup> Carter also asserted that personal dynamics as well as environmental realities enter into career decisions--he hypothesized that vocational attitudes develop when an individual attempts to adjust to environmental conditions.<sup>9</sup>

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<sup>5</sup>Magdalen D. Vernon, "The Relationship of Occupation to Personality" British Journal of Psychology, XXXI (April, 1941), pp. 294-326.

<sup>6</sup>Hugh M. Bell, "Ego-Involvement in Vocational Decisions," Personnel and Guidance Journal, XXXVIII (May, 1960), pp. 732-736.

<sup>7</sup>Eli Ginzberg, Occupational Choice: An Approach to General Theory (New York: Columbia University Press, 1956), p. 21.

<sup>8</sup>Theodore Caplow, The Sociology of Work (Minneapolis, Minn.: The University of Minnesota Press, 1954), p. 235.

<sup>9</sup>Harold D. Carter, "The Development of Vocational Attitudes," Journal of Consulting Psychology, IV (January-February, 1940), pp. 185-191.

Haller identified several main categories influencing occupational choice: the chooser's personality (which includes one's conception of his ability and of the behaviour appropriate to his sex), immediate situation (which includes the accessibility of appropriate schools), the adequacy of financial support, and the expectations of parents, teachers and dominant culture.<sup>10</sup>

Developmental approach. Still another school of researchers have, likewise, explained vocational choice in terms of the interaction of exogenous and endogenous forces. However, the members of this group have been more explicit in the acknowledgement of the dynamic and complex nature of this interaction. For example, Blau and his associates hypothesized that occupational choosing is a "developmental process that extends over many years," during which span of time, the possible courses of action of the individual are continually being affected by two inter-related sets of factors--his valuations of the rewards offered by the different alternatives, and his appraisals of his chances of being able to realize each of the alternatives.<sup>11</sup>

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<sup>10</sup>Archibald O. Haller and Irwin W. Miller, "The Occupational Choice Process: A Sociological Review," cited in David Gottlieb and Jon Reeves, Adolescent Behaviour in Urban Areas: A Bibliographic Review and Discussion of Literature (East Lansing, Michigan: Michigan State University, 1962), p. 153.

<sup>11</sup>Peter M. Blau, et al, "Occupational Choice: A Conceptual Framework," cited in Neil J. Smelser and William T. Smelser (eds.), Personality and Social Systems (New York: John Wiley and Sons, Inc. 1964), p. 560.



Ginzberg espoused the "developmental" approach in still more explicit terms. He said that the vocational choice process is divisible into three fairly distinct stages, each subject to a characteristic set of endogenous and/or exogenous correlates. More specifically, in the "fantasy" stage (from infancy to approximately age eleven) and in the "tentative" stage (from age twelve to approximately age seventeen) interests, aptitudes and value orientations form the bases for the individual's vocational decision. On the other hand, in the "realistic" stage (from approximately age seventeen onward until a definite commitment to a particular kind of training or actual entry into a particular occupation had been made) externally localized factors such as the family's socioeconomic, occupational and educational levels, the accessibility of appropriate educational institutions and peer and other reference groups are more frequently the bases for vocational choice.<sup>12</sup>

Finally, Super and his associates perceived vocational selection as a continuous, patterned and generally irreversible process involving the interaction and integration of numerous psychological, socioeconomic and cultural forces. In each of the major stages, the chooser performs a characteristic "developmental task." In early adolescence he translates the

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<sup>12</sup>Ginzberg, op. cit., pp. 161-164.