

A STUDY OF PERSONAL AND SOCIAL VARIABLES
AFFECTING VOLUNTARY STUDENT ATTRITION
DURING JUNIOR DIVISION AT MEMORIAL
UNIVERSITY OF NEWFOUNDLAND

CENTRE FOR NEWFOUNDLAND STUDIES

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KEITH W. MOORES



A Study of Personal and Social Variables Affecting Voluntary
Student Attrition During Junior Division at
Memorial University of Newfoundland

by

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A Thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Education

Department of Educational Psychology
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ABSTRACT

This study dealt with the personal and social variables affecting voluntary student attrition during Junior Division at Memorial University of Newfoundland. The study was conducted on a random sample of 66 students; one year after they completed Junior Division. Thirty-three of these students persisted beyond Junior Division; the remaining 33 voluntarily dropped out for at least one semester. In addition, descriptive data consisting of the sex, residence before attending Memorial University of Newfoundland, high school graduated from, and high school grade point average were obtained for an additional 216 students. One hundred and eight of these students persisted beyond Junior Division; the remaining 108 voluntarily dropped out for at least one semester.

The Institutional Integration Scale (as developed by Ernest T. Pascarella and Patrick T. Terenzini) was completed by the respondents to assess their Junior Division experiences at Memorial University of Newfoundland. The 33 voluntary dropouts also completed seven open-ended questions (developed by the writer) requesting more descriptive information pertaining to their Junior Division experiences.

The descriptive data list was statistically analyzed using the Chi-square Test of Independence. Data from the Institutional Integration Scales were analyzed using the Chi-square and the one-way-analysis of variance statistical

procedures. Descriptive statistics were used to analyze data obtained from the Additional Questions section of the questionnaire.

Results of the study indicated that the sex of a student was not significantly related to his/her decision to voluntarily drop out or to persist. However, the place of residence prior to attending Junior Division, high school graduated from, and high school grade point average were significantly related. Specifically, more voluntary dropouts: (1) had not been from the local area and were required to relocate in order to attend Junior Division; (2) had attended more urban high schools; and (3) had obtained lower high school grade point averages, compared to the persisters. The voluntary dropouts were also significantly less certain of their institutional and goal commitments, their interpersonal relationships with other students, and their intellectual development.

Recommendations were developed to assist students in making the transition from high school to Junior Division at Memorial University of Newfoundland. In addition, specific recommendations to university officials were made stressing the importance of assisting the Junior Division student to become socially integrated into the university environment.

To my parents, with love
and gratitude for their belief
in me and unselfishness in
encouraging me onward to succeed

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CHAPTER 1

INTRODUCTION.

There has been much study and concern over university attrition in the past two decades (Tinto, 1982). In fact, college presidents ranked maintaining student enrollments second in importance on a list of 20 critical issues for higher education (Duce, 1981). Such concern has stimulated research into how such institutions can more effectively serve their students and hopefully lead more of them to degree completion. Dropout studies and policy oriented workshops concerned with prevention of attrition have become commonplace. Also, the reasons for students leaving an institution of higher learning prior to graduation have been of interest to researchers (Knoell, 1960; Summerskill, 1962; Sexton, 1965; Spady, 1970; Heywood, 1971; Astin, 1975; Cope & Hannah, 1975; Tinto, 1975; Pantages & Creedon, 1978; and Pascarella, 1980). Such research has attempted to identify factors that are related to a student's decision to drop out of an institution of higher education prior to completing a degree program.

The transition from high school to university is a radical change for many students. Students entering a university for the first time are thrust into an environment which is, in many ways, totally different from anything they had previously experienced. Being suddenly exposed to a more

impersonal environment, a totally different social milieu, new teaching and learning approaches, and increased academic demands often results in students experiencing personal, social, and academic difficulties. It is not uncommon for first-year university students to feel isolated, lost, lonely, and desirous of returning to their previous home and academic environment. University student attrition rates tend to be highest during the first year (Curtis & Curtis, 1966; Tinto, 1975; Timmons, 1977; Pantages & Creedon, 1978; and Pascarella, 1980). In addition, first-year students use campus mental health services in greater numbers than their proportion of the student body (Monks & Health, 1954; Whittington, 1963; Baker & Nidorf, 1964; Collier & Nugent, 1965; and Houston, 1971). Bosse, Crogham, Greenstein, Katz, Oliver, Powell, and Smith (1975) and Oliver and Burkham (1979) have shown that the incidence of depression decreases with the number of years in school.

Research has shown that many factors affect student attrition during the first year of university. Such factors as age, sex, marital status, high school grade point average, and living arrangements have all been related in one form or another to progress in university. Spady (1970), Astin (1975), and Pascarella (1980) report that students who do not become socially integrated into the university environment during their first year are more likely to be voluntary dropouts than academic dismissals.

This study will investigate the relationship of selected personal and social variables to voluntary student attrition

during Junior Division at Memorial University of Newfoundland (M.U.N.). Also, the students' level of integration into the university social milieu and its relationship to voluntary attrition will be examined.

Purpose of the Study

An identified sample of Junior Division students who voluntarily dropped out during or immediately following completion of Junior Division at M.U.N. will be examined, with the following purposes in mind:

1. To determine the relationship between the voluntary dropout and selected pre-university characteristics.
2. To determine if students who voluntarily dropped out during Junior Division at M.U.N. differed from persisters in their experiences during their first year.
3. To identify those factors of the Junior Division experience which are most clearly associated with voluntary dropout decisions.
4. To identify what services/resources can be offered at the senior high school level to assist students in making a more effective transition from senior high school to Junior Division.
5. To determine the changes/additions during Junior Division that would assist Junior Division students to better adjust to the university milieu.

Rationale and Significance

Terenzini and Pascarella (1978, 1980) reported that more focused research and a clearer understanding of the attrition

process is needed. Better identification of the areas of institutional life which are most closely associated with student attrition would enable administrators and planners to use both personal and institutional resources more economically and efficiently.

The process of social and academic integration is viewed as critical influences in student persistence. Persistence/withdrawal decisions are considered to be largely the result of a longitudinal process of associations between the student and the academic and social systems of the institution. The student comes to a particular institution with background characteristics which, in turn, partially determine how the student will relate to the institution's social and academic systems. The nature and quality of these associations lead to varying degrees of normative and structural integration of those collegiate systems (Tinto, 1975). Assuming that external influences are held constant, the higher the levels of integration into the social and academic systems of an institution, the less likely it will be that the student will withdraw voluntarily. Therefore, a comprehensive understanding of the components of social and academic integration will enable a more complete understanding of the attrition process and possibly reduce voluntary attrition.

As specified in the theory of cost-benefit analysis, individual decisions with regard to any form of activity can be analyzed in terms of perceived costs and benefits of that activity relative to those perceived in alternative

activities. Given the notion that costs and benefits are of both direct and indirect types and include social as well as economic factors, this theory suggests that individuals will direct their energy toward that activity that is perceived to maximize the ratio of benefits to costs over a given time perspective. With regard to staying in university, this perspective argues that a person will tend to withdraw from university when he/she perceives that an alternative form of investment of time, energies, and resources will yield greater benefits relative to costs, over time, than will remaining. Hence, a more comprehensive understanding of the variables that make university "unattractive" could have a significant impact on the rate of student attrition.

According to Sexton (1965), voluntary withdrawal for men becomes a decreasing proportion of the yearly dropout group as individuals approach graduation. Since voluntary withdrawal implies a decision on the part of the individual that the benefits of the degree and of persistence in the institution do not outweigh the costs of attendance, it can be argued that perceived benefits increase as completion nears. In a real sense, past costs become an investment once these costs have been borne. As a result, the perceived benefits to costs, other things being equal, would tend to increase as one proceeds through university. Therefore, one would expect to find both individual and institutional commitment increasing as a function of nearness to completion of the degree program, with the resulting decrease

in proportion of voluntary withdrawals. However, for students in their first year, university graduation may not be as conceivable because of the time span involved. Therefore, a first-year student who is not well integrated into the social and academic structure of the institution may be more likely to drop out voluntarily, since the costs of attending college outweigh the perceived benefits. A more comprehensive understanding of the factors related to this integration is critical to better planning on the university's part and better coping on the student's part.

Not every decision to withdraw from an institution clearly represents lost or wasted resources. However, a significant proportion of undesirable student attrition might be prevented through timely and carefully planned institutional interventions. Such interventions might be most effective if those students with a higher probability of dropping out can be accurately identified. Pantages and Creedon (1978) stressed the importance of identifying high probability dropouts so that counselling or other institutionally developed programs can be undertaken before withdrawal decisions are made.

However, the proper question is not simply whether we can or should strive to reduce the voluntary dropout rate; we must also identify the types of students for whom specific policies should be developed. A proper object of concern should be any student who enters the institution with the skills, abilities, interests, and commitments to complete a

given program of study. Since evidence from Eckland (1964), March (1966), and Rootman (1972) suggests that attrition is heaviest at the end of the first year, there is a distinct necessity to assist students in making an effective transition from high school to university. It is during the first year at M.U.N. that many students are required to leave their original place of residence and move to a new city. Many of these students come from communities as small as 200-300 people and enter St. John's which has a population of over 160,000. In addition, many of these same people are leaving schools which have small student populations, strict teaching and learning environments, and which promote personal relationships with the teaching staff. Upon entering M.U.N., which has a total student population of more than 13,000 and a first-year student population of approximately 2,500, these students have to adjust to being away from home for the first time, adapt to living on campus or in local apartments, adapt to encountering many different personalities and teaching styles, and accept more responsibility for wise use of their time.

If the necessary programs and/or information could be provided at the senior high school level and during Junior Division, many of these students could be assisted to make a more effective transition from senior high school to M.U.N. Since students would be more knowledgeable and informed, the social trauma of moving from the relatively secure social environment of a local high school to that of an unknown and

possibly distant college environment might be lessened considerably and the rate of student attrition during Junior Division at M.U.N. might be reduced. However, in order for such programs to be developed and implemented, a more composite and accurate picture of the variables typical of the voluntary dropout and his/her experiences is required.

Programs that are based upon researched needs and characteristics of these students will greatly assist the university in its attempts to reduce voluntary student attrition during Junior Division. Up to now, little actual research has been conducted on this population of students.

The pre-university characteristics selected for this study are sex, residence before attending M.U.N., high school attended, and high school grade point average.

To what degree the sex of a student has a significant influence on the students' experiences during first-year university and their decision to persist or drop out is unclear in the literature. Some research has shown that males tend to differ from females in their experiences during first-year university, but this observation is contradicted by other studies. The sex of a student is considered in this study in order to determine its specific relevance, if any, to attrition at M.U.N.

Residence before attending M.U.N. is considered since M.U.N. attracts many of its students from largely rural areas. It would be of assistance to university officials to determine if students from outside of the St. John's area

tend to voluntarily drop out of Junior Division at a significantly different rate than local students. In addition, do these students have different experiences during Junior Division? If so, what services can be provided to assist them to become better integrated into the university milieu?

High school attended is considered in order to observe any differences in attrition rates between rural and urban high schools and small and large high schools. There are implications for both the university community and the student's home community from such findings.

High school grade point average is considered in order to investigate any significant differences in attrition rates among students with different high school averages. Again, the literature is inconclusive about the significance of this variable, especially as it pertains to voluntary student attrition. Therefore, a local study would assist in determining its importance to attrition rates at this university.

Several studies (Smallwood & Klas, 1973; Sacrey, Klas, & Boak, 1977; and French, Klas, & Boak, 1979) were previously conducted at M.U.N. in an attempt to obtain a more complete understanding of the composition of the student population and the factors associated with student life and performance. However, except for brief internal reports no previous study has been conducted at M.U.N. to determine the variables associated with voluntary student attrition during Junior Division. The need for such research has not gone unnoticed by university officials. Specifically, Dr. Wayne Ludlow

(Dean, Student Affairs and Services), Dr. George Hurley (Assistant Professor and Counsellor at the Counselling Centre), Mr. Glen Collins (Registrar) and Dr. David Kirby (while Acting Director, Junior Studies) have fully supported the need for this study. They agree that an understanding of the factors associated with voluntary student attrition during Junior Division would be beneficial to their individual divisions and a definite asset to the university in its attempt to reduce student attrition. If this study can identify the factors highly correlated with voluntary student attrition during Junior Division, university officials will be able to better identify the "high risk" student and be able to offer assistance to these students, possibly even preventing a significant percentage from dropping out.

The findings obtained in this study will also be beneficial to high school officials. Specifically, these findings may assist in planning career education programs, developing information and orientation brochures and pamphlets, and assisting students with their transition period. This study could help to provide a more composite picture of student needs and experiences during the first year of study at M.U.N.

Defintion of Terms

Academic Integration: The process whereby the student is able to successfully complete the academic course requirements.

Academic Withdrawal: The first-year student who is required to withdraw from M.U.N. after the second semester because: (1) he/she passed less than one-half of the courses he/she was registered for during that period, and/or (2) he/she had less than a 45% overall average during that semester.

Attrition: The process whereby a student withdraws from a university.

Commuter Student: A student living within close proximity to M.U.N.; he/she is not required to relocate in order to attend Junior Division.

Full-time Student: A student registered for three or more courses during the semester in which he/she is enrolled.

Institutional Integration Scales: A series of 30 five-response Likert items used to assess the various dimensions of social and academic integration and goal and institutional commitment.

Junior Division: The academic program taken by the student during the first year at M.U.N.; it is required as a prerequisite for being accepted into a degree program.

Junior Division Student: A student who is attending first-year university and is registered for Junior Division courses.

Persistence: When a student continues his/her university training without an interruption to complete a degree program.

Relocated Student: A student not living within close proximity to M.U.N.; he/she is required to relocate in order

to attend Junior Division.

Social Integration: The process whereby the student is able to adjust to the social environment at the university and is able to obtain informal contacts with peers and faculty.

Voluntary Attrition (Dropout): The process whereby the individual student voluntarily decides to withdraw from the university for reasons other than inadequate academic performance.

Research Questions

1. Are the factors of: (a) sex; (b) place of residence prior to attending M.U.N.; (c) high school attended; and (d) high school grade point average related to a Junior Division student's decision to voluntarily drop out?
2. Do responses on any of the five Institutional Integration Subscales differentiate students who voluntarily dropped out from those who persisted during Junior Division?
3. Do responses on any of the individual questions of the Institutional Integration Scale differentiate students who voluntarily dropped out from those who persisted during Junior Division?
4. Who assisted the voluntary dropouts in making their final decision to attend Junior Division at M.U.N.?

5. What specific assistance do voluntary dropouts feel could be provided, during the senior high school program, to assist a student in becoming socially integrated into the university environment?
6. What specific Junior Division changes/additions do voluntary dropouts recommend to assist students to better adjust to the university environment and social milieu?

Limitations of the Study

1. This study is limited in generalizability to a single-year sample of Junior Division students at M.U.N. The nature of these students and their first-year experiences at this university may or may not be representative of those at other institutions.
2. Information is not available on such potentially important predictors as students' pre-university social and economic attributes or pre-university commitment to obtaining a degree; both of these variables may influence subsequent patterns of social and academic interaction and integration.
3. This study will not adequately distinguish between those factors that lead to institutional transfer or future re-entry after an absence of one semester or more, and those factors that result in permanent withdrawal from higher education.

4. This study will focus only on students who entered M.U.N. immediately after completing their high school education. Therefore, mature students and students who decided to postpone entering M.U.N. immediately after completion of high school will not be represented.
5. The seven Additional Questions requesting more descriptive information and individual input from each respondent was completed only by the voluntary dropouts in this study. Therefore, data for this aspect of the study is valid for descriptive purposes only and cannot be used to differentiate students who voluntarily drop out from those who persist.

CHAPTER 2

REVIEW OF THE LITERATURE

This chapter will examine the literature pertaining to the following areas:

1. The Issue of College Student Attrition;
2. Understanding Social Integration;
3. Social Integration with Faculty as it Relates to Persistence in College;
4. Tinto's Model of Student Attrition;
5. Description of Instrument Used;
6. The Sex of a Student and its Relationship to College Attrition Rates;
7. Differences in College Attrition Rates for Students from Rural and Urban Hometowns;
8. The Relationship Between High School Size and College Success;
9. High School Grade Point Average as a Predictor of College Success; and,
10. Research Studies on the Student Population at M.U.N.

The Issue of College Student Attrition

The literature on college student attrition is extensive, and several excellent and comprehensive reviews are available, notably those of Spady (1970), Cope and Hannah (1975), and Tinto (1975). Tinto (1975) reported that "despite the very extensive literature on dropouts from higher education, much remains unknown about the nature of the dropout

process" (p. 89). Theory and research is just beginning to map out the domain of student persistence in, and withdrawal from, institutions of higher education.

Referring to studies conducted in the United States, Tinto (1982) described student attrition as a national phenomenon that has been a surprisingly stable feature of the higher educational enterprise. Referring to a 1980 study comparing the dropout rates during post-secondary schooling in America over the past 100 years, Tinto reported that the rate of dropout from higher education has remained strikingly constant. With the exception of the period during and immediately after World War II, dropout rates have remained at about 45% and have remained stable despite the marked growth and alteration in the character of the higher educational system. Public intervention in education was less significant at the turn of the century, but over the past several decades there have been literally billions of dollars in educational programs invested to enhance the likelihood that individuals would enter and persist within the higher educational system (Tinto, 1982). It seems unlikely that the dropout rate will be reduced without some very massive and far-reaching changes in the higher educational system; such changes would need to go beyond mere surface restructuring and institutional differentiation. However, the stability and permanence of the dropout rate at the national level does not eliminate the possibility that individual institutions can do much to influence the rate of dropout among

their own students. It is obvious that institutions can, and should, within reason, seek to increase the likelihood that capable and motivated persons who enter the institution can, if they so wish, complete their degree program within a reasonable period of time.

According to Tinto (1982), the proper question is not whether we can or should strive to reduce dropout, but for which types of students should specific policies be developed. Besides able persons of disadvantaged backgrounds, an object of concern should be students who enter the institution with the skills, abilities, interests, and commitments to complete a given program of study; such students are more likely to withdraw voluntarily than fail academically.

According to Tinto (1975), students who voluntarily withdraw are often more able and creative than the majority of students who stay behind. For many institutions, voluntary withdrawal represents a form of "brain drain," which is hardly desirable for those institutions seeking to strengthen their reputation. However, according to Baker and Siryk (1983), discontinuers are found to be generally less effective socially than persisters; they have fewer friends (Wright, 1973; Baumgart & Johnstone, 1977; and Simpson, Baker, & Mellinger, 1980), feel lonelier (Simpson et al., 1980), and are less likely to have personal contacts with others on campus or to become integrated into the social system of the institution (Gekoski & Schwartz, 1961; Pascarella & Terenzini, 1976, 1977, 1979, 1980; and

Terenzini & Pascarella, 1977, 1978, 1980).

Understanding Social Integration

According to Tinto (1975), individual decisions as to persistence in college are affected by a person's integration into the social system of the college. Social integration is seen as the interaction between the individual with a given set of characteristics (backgrounds, values, and commitments) and other persons of varying characteristics within the college; social integration, like academic integration, involves both levels and degrees of congruency between the individual and his/her social environment. In this instance, social integration occurs primarily through informal peer group associations, semi-formal extra-curricular activities, and interaction with faculty and administrative personnel within the college. Encounters in these areas result in varying degrees of social communication, friendship support, faculty support and collective affiliation; each encounter affects the person's generalized evaluation of the costs and benefits of college attendance and modify his/her educational and institutional commitments.

According to Spady (1970), Tinto (1975, 1982), and Pascarella and Terenzini (1980), effective social integration should increase the likelihood that the student will remain in college, while ineffective social interaction may contribute to voluntary withdrawal.

Social integration, as it pertains to persistence in college, seems to be related to congruence with the prevailing social climate of the institution and, to the development, through friendship associations, of sufficient congruency with some part of the social system of the college; thus, subcultures serve a role within colleges in providing modes of social integration into the collegiate social system.

Absence of any such supportive groups or subcultures is more often associated with voluntary withdrawal than it is with dismissal (Watley, 1965; Rose & Elton, 1966; Grande & Simmons, 1967; Hanson & Taylor, 1970; and Rootman, 1972).

Hanson and Taylor (1970), using multivariate discriminant analysis, found that academically successful students who withdrew from college scored significantly lower on measures of social relationships than did either persisters or academic dismissals. Part of the difference between withdrawals and dismissals may also result from excessive social interaction (Lavin, 1965; Phillips, 1966; Wallace, 1966; O'Shea, 1969; and Spady, 1971). Specifically, excessive interaction in the social domain (e.g., dating) may detract from time spent on academic studies and therefore lead to lower academic performance and eventual academic dismissal; however, voluntary withdrawal rarely occurs as a result of excessive social interaction (Tinto, 1975).

Tinto (1975) also reported that it is important to distinguish between the varying types of dropout behaviors, especially between academic dismissals and voluntary

withdrawal. This is not only because these behaviors involve different persons but also because they result from different patterns of interaction within the college setting. Thus, although academic dismissal is more closely associated with grade performance, dropout in the form of voluntary withdrawal is not. Such withdrawal, instead, appears to relate to the lack of congruency between the individual and both the intellectual climate of the institution and the social system composed of his/her peers. In this respect, voluntary withdrawals are more frequently found to be both "social isolates" and/or "deviants" regarding the intellectual and social norms of the institution.

Social Interaction with Faculty as it Relates to Persistence in College

The social system of the college consists not only of other students, but also of faculty and administrative personnel. Given the faculty's more intimate and direct association with the academic system of the institution, it is not surprising that a number of studies have found that social interaction with the college's faculty is related to persistence in college (Gekoski & Schwartz, 1961; Gamson, 1966; Vreeland & Bidwell, 1966; Centra & Rock, 1971; and Spady, 1971). Spady (1971) suggested that interaction with the faculty not only improves social integration and therefore institutional commitment, but also increases the individual's academic integration. A legitimate basis for

the potential educational value of student-faculty informal contact, however, does not proceed exclusively from a philosophical perspective on the desirable goals and processes of higher learning (Pascarella, 1980). Rather, it also seems to be justified by a body of theory and evidence from sociology and social psychology, particularly because these disciplines have developed useful concepts such as socializing organizations, the interpersonal environment, and informal reference groups. The concept of colleges as socializing organizations is a particularly useful perspective from which to view the potential impact of student-faculty informal contact. Within such organizations, student behaviors, attitudes, and educational outcomes are influenced, not only by the institution's structural factors (e.g., organizational size, living arrangements, administrative policies), but also through interactions with the important agents of socialization (peers, faculty, administration). The earliest systematic research on the impact of college on students provides at least indirect support for a systematic relationship between students' informal contact with faculty and educational outcomes. Jacob (1957) studied a national sample of 22 institutions to estimate their impact on student values. Those institutions having what Jacob termed a "peculiar potency" with regard to their impact on student values tended to be characterized by such factors as a high degree of value homogeneity between the faculty and the students admitted, high expectations of student intellectual

interests and related academic performance, and frequent student-faculty contact outside of class. Jacob concluded that "faculty influence appears more pronounced at institutions where associations between faculty and students are normal and frequent and students find teachers receptive to unhurried and relaxed conversations out of the class" (Pascarella, 1980, p. 547). Similar conclusions were drawn by Eddy (1959) in a 20-institution study focusing on the nature of college impact on student character.

Considerable evidence exists to suggest that students' general satisfaction with college and their attitudes toward a number of specific aspects of the college experience are positively associated with the frequency of their informal, non-classroom contact with faculty members. Newcomb, Brown, Kulik, Reimer, and Revelle (1970) conducted a quasi-experiment in which 607 students self-selected themselves into an experimental residential college (designed to foster close peer-group and student-faculty interaction) and three different residence arrangement control groups. When surveyed during the second semester of their freshman year, the residential college students had spent significantly more non-classroom time with faculty and were significantly more satisfied with faculty, students, and administration than were students in the three control groups (Pascarella, 1980).

Similar results have been reported in a comprehensive eight-institution study by Wilson and his associates (Wood & Wilson, 1972; Wilson, Wood, and Gaff, 1974; and Wilson, Gaff, Dienst, Wood, and Bavry, 1975) and in a study

of freshmen arts and science students in a single institution (Pascarella & Terenzini, 1976). Both studies found that a composite measure of the frequency of informal non-class contacts with faculty for six different purposes (advising, career counselling, personal counselling, intellectual discussion, campus issues, and informal socializing) was significantly and positively associated with various indicators of students' satisfaction with their academic and non-academic experience of college.

Pascarella and Terenzini (1976) found that freshmen in the top one-third of the distribution of total amount of informal contacts with faculty (high interactors) ranked faculty members significantly higher than the lower one-third of the distribution (low interactors) as a source of positive influence on their intellectual and personal development during the freshman year. Using the same measure of student-faculty informal interaction, and the same operational definition of high interactors, Wilson et al. (1974, 1975) reported that high interactors significantly more often named a faculty member as having contributed importantly to their educational and/or personal development than did low interactors.

Existing evidence suggests a modest, but statistically significant, positive association between the amount of informal, non-class student-faculty contact and such educational outcomes as satisfaction with college, achievement of educational aspirations, intellectual and personal

development, academic achievement, and freshman to sophomore year persistence in college. Further evidence indicates that such associations remain statistically significant within a wide range of student entering characteristics (Pascarella, 1980). These findings suggest that the significant associations reported between student-faculty informal contact and educational outcomes are not merely the result of covariation with individual differences in student entering characteristics or with college experiences in other areas, such as the student peer culture. Rather, student informal contact with faculty may make a unique contribution to satisfaction and/or performance in college.

Tinto's Model of Student Attrition

The theoretical model chosen for this study is based upon the research findings of Tinto (1975). Of all the theoretical models of student attrition, Tinto's (1975) schema has precipitated perhaps the most extensive body of research (Pascarella, Duby, & Iverson, 1983). Tinto (1975) built on Spady's (1970, 1971) work to develop an explanatory, predictive model of the dropout process which has, as its core, the concepts of academic and social integration into the institution.

In brief, the Tinto model views attrition as a longitudinal process involving a complex series of sociopsychological interactions between the student and the institutional environment. According to the model, the student brings to

college such characteristics as family background (e.g., socioeconomic status, parental values), personal attributes (e.g., race, sex, academic ability, and personality traits), and experiences (e.g., precollege social and academic achievements). Each of these traits is presumed to influence not only college performance, but also initial levels of goal and institutional commitment. These characteristics and commitments, in turn, interact with various features of the particular college or university environment and lead to certain levels of integration into the academic and social systems of the institution. According to Tinto, "other things being equal, the higher the degree of integration of the individual into the college systems, the greater will be his/her commitment to the specific institution and to the goal of college completion" (1975, p. 96). Given that the core of Tinto's explanation of dropout behavior is the degree of student-environment fit, such findings are clearly consistent with expectations; they even suggest that what happens to a student after arrival on campus may have greater impact on persistence than either the background characteristics or personal commitments to the institution and the goal of graduation brought to college (Pascarella & Terenzini, 1983).

Terenzini and Pascarella (1978) conducted a longitudinal, ex post facto study at Syracuse University in central New York State to test, at least partially, Tinto's (1975) theory of college student attrition. The authors reported

that the frequency of students' interactions with faculty outside of the classroom made the largest single contribution to the prediction of attrition status for freshmen students. Also, helping freshmen find a rewarding niche in the academic systems of an institution is related to the frequency and nature of their informal contact with faculty members (Terenzini & Pascarella, 1978). The evidence of this study, suggesting the importance of student-faculty interaction in persistence, is consistent with that of other studies (Spady, 1971; Pascarella & Terenzini, 1977; and Terenzini & Pascarella, 1977).

In a study to test the validity of Tinto's model of student persistence/withdrawal behavior on a sample of 763 residential university freshmen, Pascarella and Terenzini (1983) concluded that "although pre-enrollment characteristics and commitments generally influenced the student's interaction with the social and academic systems of the institution, it was social and academic integration that directly affected persistence/withdrawal behavior" (p. 225). This would seem to suggest that the quality of the students' interactions with the college subsequent to enrollment is a more important factor in persistence than the characteristics the student brings to college.

Pascarella and Chapman (1983) investigated the validity of Tinto's model of college withdrawal in different types of institutions. Their analysis was conducted on a sample of 2,326 freshmen from 11 post-secondary institutions.

The results of this study generally supported the predictive validity of the model, with interesting differences in the patterns of influence existing when the data were analyzed by institutional type.

In summary, it appears evident that Tinto's (1975) theory of college student attrition is widely accepted and researched in the literature. The importance of social integration is stressed in this theory and has to be considered as paramount in any study of student attrition.

Description of Instrument Used

The Institutional Integration Scale (see Appendix A) was used in this study to assess the various dimensions of social and academic integration and goal and institutional commitment. Developed by Ernest T. Pascarella and Patrick T. Terenzini, this scale was constructed to tap the various aspects of each dimension of the dropout process identified by Tinto. The Institutional Integration Scale consists of five subscales, which are labeled as follows: (1) Peer Group Interactions, (2) Interactions with Faculty, (3) Faculty Concern for Student Development and Teaching, (4) Academic and Intellectual Development, and (5) Institutional and Goal Commitments. The 30 items on which these subscales are based are scored on a five-point, Likert-type scale where 5 = Strongly Agree and 1 = Strongly Disagree.

The Institutional Integration Scale can be administered on either an individual or group basis; the respondent is

able to complete the instrument independently in 15 minutes or less. Although this scale is not commercially produced or patented, measures of reliability and validity have been established by the developers. Pascarella and Terenzini initially included 55 items in their scale. The scale was subsequently shortened to the 34 items which were judged to most adequately tap the various dimensions of the Tinto model. After conducting additional tests to determine the validity and reliability of this scale, Pascarella and Terenzini reduced the scale to the 30 items used in this study.

Validity of Instrument

With a random sample of 763 freshmen students, Pascarella and Terenzini (1980) conducted a longitudinal study to: (1) develop a multidimensional instrument that assesses the major dimensions of the Tinto model, and (2) determine the validity of the instrument, and thereby the model, in accurately identifying freshmen who subsequently persist or drop out voluntarily. In their study, data analysis began with a principal components factor analysis of the 34 institutional integration items to determine if the underlying factors were reasonably consistent with the dimensions identified by the Tinto model. Multivariate analysis of covariance and discriminant analysis were then used to determine the predictive validity of the Institutional Integration Scale. Since 4 of the 34 items did not have

Alpha Reliabilities above .35 of any factor, they were not included in subsequent use of this scale.

The Alpha Reliabilities of the five subscales ranged from .71 to .84, while their intercorrelations ranged from .01 to .33, with a median correlation of .23. Thus, the five subscales would appear to be assessing dimensions of institutional integration that are substantially independent of one another.

The results of the setwise discriminate analysis indicated that each of the five subscales significantly differentiated freshmen persisters from voluntary dropouts at the univariate level, with persisters tending to have higher scores on all factor scales than the voluntary dropout group.

Terenzini, Loxang, and Pascarella (1981) conducted a study to replicate the study conducted by Pascarella and Terenzini (1980). The purpose of this study was to determine whether the five-factor structure of the instrument was invariant across institutions, whether the substantive results of the 1980 study could be replicated and, therefore, whether the construct validity of Tinto's model was supported at another institution. Conducted at a similar institution, the study employed an overall design, variables, and analytical procedures virtually identical to those of the earlier research. Results of a principal components analysis based on the responses of students in this study produced a structure almost indistinguishable from that obtained in the 1980 study. Each solution explained 44% of the total variance in

the items; each solution contained five components, and, with only four exceptions, the same items loaded on the same dimensions. The scales based on these dimensions yielded generally similar internal consistency (coefficient alpha) reliabilities. On the basis of such results, Terenzini, Lorang, and Pascarella (1981) reported that the factor structure of the scale items was indeed invariate across the two institutions. In addition, the entry of the institutional integration scales in both studies made statistically reliable and substantial improvements in the percentage of cross-validation cases correctly classified, and in both studies only limited slippage in the correct classification percentages occurred when the scale alone was used in the cross-validation classification of cases. The percentages of correctly classified cases were also quite similar across the two institutions. Thus, despite some differences in the pattern and magnitude of the contribution of individual scales, the substantial classification efficiency in both studies suggests that the five subscales are useful in developing specific prediction equations for individual institutions (Terenzini, Lorang, & Pascarella, 1981).

Additional Questions

The students in the experimental group of this study completed seven additional questions (see Appendix B) constructed by the researcher. These questions requested additional information from each respondent that could not

be provided by the Institutional Integration Scale. This information was requested to obtain more descriptive information and individual input from each respondent.

Sex of a Student and its Relationship
to College Attrition Rates

Numerous precollege traits have been identified in the literature as having varying degrees of influence on the students' adjustment to college and resulting persistence/attrition rates. According to Spady (1970), "there is a growing body of data that suggests that the nature and strength of college goals and orientations are differentially linked to certain outcomes, depending on the sex of the student" (p. 72). It is fairly clear, for example, that men face the necessity of establishing a position in the occupational structure on which their future income and status will depend, while for women the decision to pursue a career is less often dictated by social or economic necessity. As a result, women are freer to deal with college as an intrinsically rewarding experience and face less social and family pressure to finish.

Out of pure "necessity," then, it might be expected that a higher proportion of men would finish their degrees and a higher proportion of women would drop out, even though women may feel less constrained to attend college in the first place. The corollary to this hypothesis is that men are

less likely to be voluntary dropouts than are women.. According to Spady (1970), the available evidence suggests that these hypotheses are generally correct.. The major anomaly is that women who do graduate are more likely to finish "on time." Data from Bayer's (1968) national sample show that after five years 65% of the women have graduated, 25% are no longer in school, and 10% are still registered and working on a degree. The men have somewhat fewer graduates and dropouts (58% and 19%, respectively) but considerably more who are still registered (23%). The Trent and Medsker (1968) data reflect similar patterns. After four years, 31% of the men were still working toward a degree compared to only 16% of the women (significant at the .001 level), but 51% of the women were classified as dropouts compared to 46% of the men. After seven years the Sewell and Shah (1967) graduation rates were nearly identical; 50% of the men were finished compared with 47% of the women. This study also reported that aspirations were more closely tied to actual attainments for women than for men. Specifically, women who want to finish are more likely to do so than are men with similar aspirations.

Lembesis (1965), as cited in Spady (1970), showed that among the second, third, and fourth year dropouts at a midwestern state university, a greater proportion of women left voluntarily. Robinson (1967), as reported in Spady (1970) showed that 68% of the male dropouts from a large midwestern university were dismissed, compared with only 44% of the women. In addition, Gurin, Newcomb, and Cope (1968) showed that female dropouts had lower educational aspirations than their

counterparts who remain in school, while the aspiration levels among the men were virtually the same.

According to Spady (1970),

the major inference to be drawn from this entire set of findings would appear to be that survival in college is dependent largely on a clear and realistic set of goals and having interests that are compatible with the influences and expectations of departmental faculty and curriculum. (p. 72)

Men in particular, however, appear to maintain high expectations despite the academic realities of college life. According to Jellison (1965) and Sarnoff and Raphael (1955), dropouts are typically unable to translate their goals into effective patterns of study. Although Malloy (1954) found that female underachievers applied themselves only in curricular areas of particular interest, Trent and Medsker (1968) showed that time spent studying is more highly associated with persistence for men than for women.

The social environment of rural communities also influences the attitudes of high school students toward college. The impact is felt most by female students. Rural high school seniors tended to restrict their occupational preferences to traditional female pursuits (Cosby & Stevens, 1979). Dunne (1978) reported that rural women usually married early, and looked forward to working before and after marriage. Flora and Johnson (1978) concluded that "the majority of rural women still conform to the traditional norms concerning woman's proper place: in the home, with the children and supportive of the spouse's endeavors"

(p. 179). Chu (1980) reported similar findings. Rural families usually provide sons the opportunity for higher education first, even though daughters probably were academically superior (Psathas, 1968; Schwarzweller, 1976).

As reported above, rural women seem to have unique educational needs and hardships. Due to their rural roots and rural ways, a great deal of cultural conflict exists, especially with respect to sex role, progress, technological advances and social structures (Brown, 1985). Chu (1980) exhorts rural educators and policy makers to "address the issue of potential cultural conflict thoughtfully in order to create positive change without destroying the essence of the rural way of life" (p. 12). One way to effect such change is through educational guidance and counselling programs. The National Advisory Council on Women's Educational Programs (NACWEP) stated that:

Rural girls and women need far greater exposure than they now receive to non-sexist, non-traditional occupational/career guidance information. They also need increased opportunities to become acquainted with women actively engaged in occupations/professions, both traditional and non-traditional. . . . Teachers and school counselors should be provided preservice and in-service training to make them aware of their own attitudes about both rural girls and women and the expectations which rural women and girls have" (Clarenbach, 1977, p. 15).

This recommendation was supported by Fagg, Brown, Farris, and Rhodes (1982), when they reported that rural women need extra family support and guidance. This guidance could be provided by career education personnel in public schools. On the college level, "support personnel services should be directed

toward career planning seminars for women" (Carney & Morgan, 1981, p. 423).

In summary, there does appear to be a sex-linked influence in terms of educational goals and commitment. Consistent with the Tinto model, while initial student characteristics may be important in their interactions with students' freshman year experiences, there would appear to be little future in trying to predict student attrition rates solely on the basis of precollege characteristics (including the sex of the student), since the research findings consistently suggest that efforts to reduce current attrition rates are more likely to succeed if they are focused on what happens to students after their arrival on campus.

Differences in College Attrition Rates for Students from Rural and Urban Hometowns

Since M.U.N. attracts the majority of its student population from a large rural geographical area, most of its students are required to relocate in order to attend university. The influence this new living and learning environment has upon attrition rates needs to be examined in order to obtain a more composite understanding of the students' experiences.

Research on rural and urban students in higher education revealed that rural students were more likely to drop out (Aylesworth & Bloom, 1976). However, given the higher likelihood of rural students dropping out, little progress

has been made in identifying causes and remedies. According to the results of a study conducted in the United States by Aylesworth and Bloom (1976), the educational handicap of rural Americans and the uncertainty about the fate of rural students in college has not led to a great deal of research on the characteristics of rural and urban students; neither has it led to the identification of special problems faced by the rural student.

According to Aylesworth and Bloom (1976), the transition from a rural community to a college community presents a special set of stresses for students from rural backgrounds; a disproportionate number of rural college students suffer from depression. Also, rural students are demographically and attitudinally distinguishable from urban students, and possess many of the traits commonly associated with failure in an academic setting. Further, rural freshmen are frequently lonely, feel misunderstood, deal badly with new found freedoms, have difficulty negotiating the complex university administrative structure, and are dissatisfied with their academic experience (p. 240).

The intellectual, social and cultural background of rural youth show greater discontinuity with the college environment than the background of urban youth (Kysar, 1966). One reported outlet for reducing such stress and alienation was through the excessive use of alcohol and drugs. According to Aylesworth and Bloom (1976), "Rural students who left school reported excessive use of

alcohol and other drugs with significantly greater frequency than had urban students who left school" (p. 239).

Other factors have been reported as contributing to the high rural student dropout rate. The level of education attained by the rural student's parents has been shown to correlate directly with the student's persistence in college (Downey, 1980). Feedback from rural students who dropped out of college indicated a general dissatisfaction with academic opportunities. Aylesworth and Bloom (1976) suggested that one reason for this dissatisfaction may be due to "the fact that rural students came to the university with sets of academic goals different from those of urban students and found many of the courses in the freshman year unrelated to their goals" (p. 239).

The results of a study by Aylesworth and Bloom (1976) reported that rural freshmen are intellectually comparable to urban freshmen. King (1963) found that despite the fact that rural students entered college with lower potential, they achieved academic success at a level comparable to urban students.

According to Shaw and Brown (1957), studies of rural-urban background reported that students from urban areas have higher levels of academic performance than students from less populated areas; however, the relationship of urbanism to higher academic performance does not hold for students who come from major metropolitan areas (500,000 or more). One explanation put forward for the latter

observation is that there is a greater heterogeneity of students from such areas. Meanwhile, Sanders, Osborne, and Greene (1955) reported that urban students were typically higher on aptitude than rural students, but that there were no real differences in academic performance.

Davis (1964) conducted an extensive study with university students completing their initial degree program and preparing for entrance into a graduate program. This study reported that there was a relationship between the size of the high school hometown and the graduates' plans for advanced study; however, the author had no explanation for that relationship. When a detailed distribution of the hometowns was examined, there was a general increase in the number of students proceeding immediately to graduate studies as hometown size increased. Specifically, 21% of those from rural surroundings were going on to graduate studies immediately, compared to 45% of the students from cities of two million or more. Within any given size group, however, there was no consistent difference between those from the central cities and those from the suburbs. Therefore, it appears that the students' immediate neighborhood did not produce the difference, but rather the degree of metropolitanism of the general setting.

Bayer (1968) and Spady (1970) examined the influence of rural and urban differences in their studies of college attrition. These authors concluded that this variable does indirectly influence the students' overall chances of

graduating, but the independent influences of this factor on leaving a particular institution is less well documented. Specifically, the amount of variance attributable to this variable alone was insignificant.

A study of rural and urban students in Australian universities revealed that students from rural high schools were more vulnerable to failure (Miller, 1970). In Welsh schools, Dale and Miller (1972) reported that students from city schools make the best progress their first year at university, those from schools in towns of about 16,000 to 60,000 perform least well, and those from schools in smaller towns and villages fall somewhere in between.

The social systems in small rural communities greatly impact upon the social behavior and performance of rural youth in higher education (Downey, 1980). Based upon the results of a study conducted in the United States, Ackerson (1967) reported that the incentive to go to remain in college is not as great in rural America. Also, in a study by Aylesworth and Bloom (1976), approximately one-fourth of urban Americans 25 years of age or older continued their education beyond high school, compared with only one-sixth of small town Americans. Among the factors contributing to this lack of incentive were: low economic status, low family expectations and geographic isolation (Aylesworth & Bloom, 1976; Downey, 1980; Edington, 1971).

Edington (1971) noted that rural young people do not see education as an answer to their problems. They have low

self-esteem and feel helpless in conquering environmental handicaps. Rural youth perceive that they have few and limited options, and that those options that do exist are consistent with their socioeconomic background.

Aylesworth and Bloom (1976) reported that "though rural students have more personal problems than do urban students both prior to and after entering college, they typically do not seek counselling" (p. 241). An outreach program that actively seeks out troubled rural students might be beneficial. These authors suggest that such an outreach program might include: monitoring career objectives; promoting special course offerings; creating sub-environments; sensitizing student personnel staff to special needs of rural students; initiating special orientation programs; forming peer groups; and implementing ombudsman programs.

The Relationship Between High School Size and College Success

There is little relevant literature pertaining specifically to high school size and university success. When considering the influence of this variable, much of the present literature examines the indirect influences of this variable, or its impact solely on the academic performance in college. Little (1959), for example, reported that high school size may be indirectly related to student attrition during university, but it is insignificantly related to the dropping out process.

According to Lavin (1965), two studies examine the relationship between the size of high school and academic performance in college. One of these concludes that graduates of smaller high schools tend to receive lower grades, even though they are not lower in intelligence (Hoyt, 1959). The second study (Altman, 1959) found size of high school graduated from to be unrelated to college performance.

While the two studies cited above permit no generalizations, it is suggested that if school size were found to have a consistent relationship to college performance, it would probably be a result of differences in facilities, teacher salaries, and the like (Lavin, 1965). Should this factor be systematically assessed, one would expect a curvilinear relationship between size and performance. Small high schools are probably found more frequently in rural areas, and their facilities are more likely to be inferior. At the other extreme, very large high schools are most likely to be found in congested urban areas where the schools experience overcrowding, inadequate or overused facilities, and the presence of large proportions of economically and socially underprivileged youth. Medium-sized schools would typically be representative of communities able to provide facilities at a pace more or less in keeping with population increases.

According to Dyer (1968), it is clear that the characteristics of the high school, such as its facilities and academic staff, are important factors in the individual's achievement. It follows that such characteristics would

also affect the individual's performance, and therefore persistence in college.

According to Nelson (1972), characteristics of the high school are important because they directly and indirectly affect the individual's aspirations, expectations, and motivations for college education. As suggested first by Davis (1966) and later by St. John (1971) and Nelson (1972), the ability level of students in the school and the social status composition of the school affect not only the individual's perception for future college education, but also his/her commitments to the goal of college completion.

Rural students' preparation in high school influences their performance in higher education (Downey, 1980), partly due to the limited access rural students have to course offerings. The problem associated with this lack of exposure to a broad-based curriculum is compounded by a lack of stimulation among peers (Anderson, 1974). Kleinfeld's (1978) study of Native Americans also found a relationship between academic skills acquired in high school and college success.

Non-academic factors may also impact upon the rural student dropout rate. A lack of social and interpersonal interactions, as experienced in high school, could be one contributing factor (Downey, 1980). Anderson (1974) reported that "the student who faces difficulty in adjusting to college life, and who does not perceive the campus as a desirable setting, may withdraw from college rather than face a situation which to him is emotionally untenable" (p. 192).

Although some research challenges the relationship between persistence in college and rural/urban background, corroborated findings indicated that students from small high schools were more likely to drop out than students from large high schools. Some social factors affecting the rural dropout rate are low economic status, low family expectations, and geographic isolation. Cope (1972) reported that a positive relationship existed between persistence in college and high school size. The study, conducted in the United States, found that students from small high schools were more likely to drop out of college than students from large high schools. Cope's findings were corroborated by Anderson (1974) and Aylesworth and Bloom (1976). Anderson's (1974) study revealed that students from high schools with less than 20 graduates a year were less likely to remain in college than students from larger high schools. Aylesworth and Bloom (1976) reported that rural students have a lower survival rate than did urban students.

Despite the limited number of research studies examining the direct relationship between high school size and university success, there may well be some significance on a local level. Specifically, a high correlation of university student attrition associated with a specific high school may warrant an examination of the services and guidance offered to the high school students prior to graduation. Such a comprehensive understanding could facilitate local improvements to facilitate the transition of these students into university.

High School Grade Point Average as a
Predictor of College Success

Concern with the prediction of academic performance has increased during recent years. One reason for this concern is the much publicized growth in the student population. On the college level, the increase has outstripped the expansion of facilities, consequently heightening the competition for admission, especially at the better universities and colleges. For college admissions officers, the selection of students is more difficult than ever before because of the increase in the number of highly qualified candidates. Thus, the responsibility of colleges to be as certain as possible that the students they select will do better than those they exclude is becoming increasingly difficult to meet.

Although past educational success has not been explicitly referred to as being directly related to dropping out of college, it is clear that performance in high school, as measured either by grade point average or rank in class, has been shown to be an important predictor of future college performance (Astin, 1971). Although the academic background of college students is known to influence their overall chances of graduating from college, the independent influences of this factor on leaving a particular institution is less well documented.

Iffert (1958), using a national sample of students who attended college during the Fifties, found that 61% left their first college. However, if only students who had

finished in the top fifth of their high school class had been admitted to college, the dropout rate would have decreased to only 44%.

Blanchfield (1971) conducted a research study to evaluate the selection process of high school students for admission into college. This research study reported that the entire area of useful indicators of student success in college should be re-evaluated. Specifically, there was some question as to whether high school grades and achievement tests deserve the attention they get from admissions counsellors.

Terenzini and Pascarella (1978) included high school achievement (rank in high school/class size) and a host of additional precollege traits in a study to investigate the relative influence of students' precollege characteristics on attrition. This study concluded that the precollege traits explained less than 4% of the total variation in attrition status--a statistically insignificant amount. The authors reported that while initial student characteristics may be important in their interactions with students' freshman year experiences, there would appear to be little future in trying to predict attrition on the basis of students' precollege characteristics.

Terenzini, Lorang, and Pascarella (1981) conducted a research study to test the predictive validity of the Institutional Integration Scales and the fundamental constructs of Tinto's model. Results of this study suggested that the

precollege student characteristics (including high school grade point average) contributed little to the variance in attendance patterns. Similar results were obtained by Pascarella, Smart, and Ethington (1986). According to these authors, "only four student background characteristics and initial commitments had significant direct effects on the two persistence measures, when all other variables in the model were controlled for" (p. 65). For men, secondary-school achievement had a positive direct affect on degree completion, whereas male degree completion was negatively influenced by commitment to the initial institution of enrollment. For women, socioeconomic status had a positive direct effect on degree persistence, and secondary school social involvement positively influenced degree completion. None of the background characteristics or initial commitments, however, had significant direct effects across both persistence measures and for each sex.

In summary, it appears evident that high school grades and scholastic aptitude alone do not significantly differentiate between college dropouts and persisters. Since the amount of variance attributed to this factor is not consistently documented in the research, high school grade point average should be considered as only having an influence on college persistence and attrition rates.

Research Studies on the Student Population
at Memorial University

Memorial University has constantly endeavored to obtain a more composite understanding of its student population and their experiences while attending this educational facility. Consequently, university officials have encouraged and supported local research studies pertaining to the academic, personal, and social experiences of its student population while attending M.U.N.

In addition to being concerned with providing adequate and appropriate student accommodation, M.U.N. has focused on the varying effects that different types of student housing has on the students' academic, personal, and social lives. Smallwood and Klas (1973) compared male M.U.N. students living in three on-campus residence halls and those living in off-campus lodgings on five factors: (1) academic success, (2) personality factors, (3) participation in extra-curricular activities, (4) study habits and attitudes, and (5) involvement in community affairs. The results of this study indicate that students living in on-campus residences had: greater academic success, better study habits and attitudes, were significantly more involved in voluntary extra-curricular activities, showed significantly more community and social involvement, and had some personality traits that appeared to be significantly affected by living in on-campus residence (Smallwood & Klas, 1973). The conclusions of this study support the view that living in student residence halls

tends to assist students develop in their academic and social lives.

Sacrey, Klas, and Boak (1977) conducted a research study with 250 M.U.N. undergraduate students. The authors worked from the premise that research on student housing has generally confirmed that a university student's choice of residence has more broad-reaching effects on his/her overall education and personal development than the student may at first realize; they used as their sample the total population of residence hall prefects (50) and a random sample of residence hall students (200). According to the authors, it is the residence hall prefect who plays a vital role in setting the academic and social environment of the residence hall since he/she carries out a variety of roles, including those of administrator, counsellor, rule enforcer, and possibly buffer between instructors or administrators. This research study compared the prefect and student perception of the ideal and actual role of the prefect in the residence halls. The results of this study pointed to a discrepancy in the prefects' and students' perceptions of both the ideal and actual roles of the prefect. Specifically, the authors concluded that: (1) prefects placed more emphasis on their role and saw themselves as performing more in both the ideal and the actual roles; (2) the perceived actual performance of prefects was significantly lower than what the prefects and students perceived it should be ideally; (3) in actual performance of the role, females

placed significantly more emphasis on the administration and maintenance role and the disciplinary and rule-enforcing role than did males; (4) in ideal role performance, female prefects scored significantly higher than male prefects on the advisory and counselling role, and female students scored significantly higher than male students on the advisory and counselling role and the disciplinary and rule-enforcing role; and (5) the year of the student had no significant effect on the way the student perceived the ideal and actual role of the prefect (Sacrey, Klas, & Boak, 1977, pp. 19-20). Since such discrepancies decreased the effectiveness of the prefect, it is important that personnel involved in student housing be aware of existing discrepancies and make attempts to reduce them. The authors made recommendations which could act as a guide to improve the prefect system in the local residence halls.

French, Klas, and Boak (1979) conducted a research study with 102 students enrolled in their third year or later in the Faculty of Education at M.U.N. The purpose of this study was to determine the effects of living accommodation, distance commuted, age, sex, marital status, religious affiliation, high school graduating average, and measured intelligence on the semester grade point average of M.U.N. students. This study concluded that students who lived with their parents scored significantly higher mean semester grade point averages than did students living in university residences, apartments, and boarding houses. Distance commuted,

age, sex, marital status, and religious affiliation did not significantly affect semester grade point average. High school graduating average and measured intelligence were significant, with measured intelligence being the best long-range predictor of success in university. The results of this study provided a better understanding of the need for better counselling for students, the relationship of specific variables to each other, and the factors affecting university grade point average. Specific recommendations were made to make such information available to school and university officials.

Although the previous three studies did not focus specifically on the same variables or purposes as the present study, they were conducted at the same university and sought a better understanding of its student population. In addition, these studies made specific recommendations (where appropriate) to school and university officials. These recommendations were intended to assist students and enhance the learning and social environment of the university.

CHAPTER 3

METHODOLOGY

This study dealt with the personal and social variables affecting voluntary student attrition during Junior Division at Memorial University of Newfoundland.

Within this chapter there will be descriptions of:

1. Background to the Data Collection;
2. Sample and Sampling Procedures;
3. The Nature of the Instrumentation;
4. Preparing the Data for Statistical Analysis; and
5. The Treatment of the Data.

Background to the Data Collection

During Winter Semester, 1984, the Dean of Student Affairs and Services was contacted and informed of the purpose of this study. The Office of Student Affairs and Services gave approval of this study and offered to co-operate and assist with its development.

In order to obtain access to student files, the Office of Student Affairs and Services contacted the Registrar's Office and requested permission to access the applicable student files. When approval was received from the Registrar's Office, officials were provided with a description of the sample population requested, and the department

generated a computer printout containing the applicable information needed. For the sample of 100 Junior Division persisters and 100 students who voluntarily withdrew (thus meeting the initial eligibility criteria), a computer printout was obtained, containing the student's name, sex, high school graduated from, high school grade point average, permanent home address, and home telephone number.

The Registrar's Office also generated a second computer printout providing descriptive data for a sample of 108 students who persisted and 108 students who voluntarily withdrew, during or immediately following Junior Division. This descriptive file contained a list of the following precollege characteristics: sex, residence before attending M.U.N., senior high school graduated from, and high school grade point average.

Description of Sample and Sampling Procedures

Initially, the survey population for this study consisted of all the full-time Junior Division students registered at M.U.N. (St. John's campus) during Fall Semester, 1982. However, in order to exclude mature students and students who had previously attended M.U.N. or another college or university, this study controlled for the following two variables: (1) only those students entering M.U.N. for the first time were included, and (2) only those students who completed the senior high school program in 1982 were

included. Therefore, the final sample consisted of a population of full-time Junior Division students registered at M.U.N. for their first time during the year they completed high school.

Experimental Group

The experimental group in this study consisted of those students from the final sampling population who voluntarily withdrew from M.U.N. in good standing prior to Fall Semester, 1983.

In order to identify and contact a random sample of this student population, the Registrar's Office provided a computer printout containing the name, sex, high school graduated from, high school grade point average, permanent home address, and the permanent home telephone number for a random sample of 200 students meeting this criterion. Since the data collection for this study took place during the Fall of 1984, these students would have been absent from M.U.N. for over one year. In addition, many of these students might have moved from their permanent home addresses. Considering these conditions, a random sample of 70 students was selected from the list of 200 provided by the Registrar's Office; an attempt was made to telephone these students and request their participation in this study. Once participants agreed to participate, a copy of the Institutional Integration Scales and the Additional Questions were forwarded to them.



A total of 30 useable questionnaires were returned within one month of being sent. A reminder (see Appendix C) was sent after one month, resulting in an additional three questionnaires being returned. Thus, there was a final total of 33 in the experimental group.

Control Group.

The control group in this study consisted of those students from the same sampling population who continued their educational program at M.U.N. immediately after completing Junior Division. These students would have registered at M.U.N. again during Fall semester, 1983.

In order to avoid the difficulties encountered in contacting the experimental group, the control group was selected differently. Most of the students who persisted at M.U.N. would have been attending third-year courses during the time this sample was obtained. Therefore, if a random sample of third-year students meeting identical eligibility criteria could be surveyed, a valid control group could be established. To obtain the control group, permission was obtained from the instructors of three Schedule A (e.g., students from all faculties are permitted to register for these courses) third-year education courses to enter their classes and request the participation of those eligible students. The purpose of the study and the eligibility requirements for participants were explained to the students in

these classes. A total of 36 eligible students agreed to participate, and each was provided with a copy of the Institutional Integration Scale. These students completed the scale at their convenience and returned it to their class instructor.

The Nature of the Instrumentation

Preparing the Instrument for Use in this Study

In order to use the Institutional Integration Scale in this study minor adjustments to the wording of each question were necessary. Since the original scale was designed to assess the students' experiences while he/she was attending university, each question was stated in the present tense (e.g., "It has been difficult for me to meet and make friends with other students"). Since this study focused upon these same experiences after the student had withdrawn from university, all questions were restated in the past tense (e.g., "It was difficult for me to meet and make friends with other students").

Introduction to the Instrument

The questionnaire statements from each subscale were presented in sequential order and the responses solicited on the questionnaire (see Appendix A for a sample questionnaire) were on the same scale, as follows:

1	2	3	4	5
Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree

The same introduction was given to both the experimental and control groups. In order to ensure that their responses indicated their experiences during Junior Division at M.U.N. during the academic year of Fall, 1982/Winter, 1983, all respondents were asked to begin each statement with the phrase: "During Junior Division at Memorial University. . . ."

Preparing Data for Statistical Analysis

In order to prepare the data for statistical analysis, by computer, four adjustments had to be made.

First, several responses to the Likert questions on the Institutional Integration Scale had to be recoded to ensure that all positive and negative responses to individual questions were consistently placed along the Likert scale. Specifically, all questions were recoded to ensure that a strong positive response to a question consistently indicated a low (e.g., 1) response while a strong negative response consistently indicated a high (e.g., 5) response. The following questions were recoded, following this format: 5, 6, 7, 13, 14, 15, 21, 28, 29, and 30. This recoding ensured a consistent and accurate interpretation of the data.

Secondly, data from the Institutional Integration Scale had to be divided into the separate subscales in order to permit the generation of subscale totals. As explained by

the developers of the Institutional Integration Scale, the 30 Likert questions can be placed into five subscales, each consisting of an uneven number of Likert questions. Each subscale consists of the following Likert questions: subscale 1 (Peer-Group Interactions), Likert questions 1-7; subscale 2 (Interactions with Faculty), Likert questions 8-12; subscale 3 (Faculty Concerns for Student Development and Teaching), Likert questions 13-17; subscale 4 (Academic and Intellectual Development), Likert questions 18-24; and, subscale 5 (Institutional and Goal Commitments), Likert questions 25-30. When the responses to each of the Likert questions in these subscales were added together, subscale totals were obtained.

Thirdly, when the descriptive data list was prepared for statistical analysis, all high school grade point averages between two multiples of 10 (e.g., 67.0) were recoded into multiples of 10 representing the first number in the sequence (e.g., 60.0). This procedure eliminated the possibility of decimals appearing in the data (e.g., 67.5), and permitted fewer and more meaningful groupings of the data. Therefore, when interpreting the results pertaining to high school grade point averages, all grade point averages within the range of that multiple of 10 (e.g., 60.0-69.9) need to be considered.

Fourthly, to ensure an equal number of respondents in both the control and experimental groups, three questionnaires from the control group were randomly selected and

withdrawn prior to any statistical analysis of the data. Therefore, a statistical analysis was performed on a total of 66 questionnaires, consisting of 33 questionnaires from each of the control and experimental groups.

Treatment of the Data

Since different statistical procedures and different data lists were used to analyze the data for each research question, a discussion of the analysis for each research question is necessary.

Research Question #1: Are the factors of: (a) sex; (b) place of residence prior to attending M.U.N.; (c) high school attended; and (d) high school grade point average related to a Junior Division student's decision to voluntarily drop out?

Research Question #1 was statistically analyzed using the descriptive data list; the sex, place of residence prior to attending M.U.N., high school graduated from, and high school grade point average were examined for a random sample of 108 students who persisted and 108 students who voluntarily dropped out during/after Junior Division.

Cross-tabulations of the students' decision to voluntarily drop out or persist, with each of the four variables, were independently performed. Although examination of the various row and column percentages in a cross-tabulation is the first step in studying the relationship between two variables, row and column percentages do not permit quantification or testing of that relationship. To determine if

differences between the students who voluntarily dropped out and those who persisted were statistically significant (e.g., $P < .05$), the Chi-square Test of Independence was calculated for each of the four variables. The Chi-square determined the degree to which the two groups are statistically different, when controlling for each of the four variables.

Research Question #2: Do responses on any of the five Institutional Integration Subscales differentiate students who voluntarily drop out from those who persist during Junior Division?

Research Question #2 was statistically analyzed using data obtained from the Institutional Integration Scale. The individual responses on the 33 questionnaires from each group were independently tabulated. Subscale totals were obtained by adding the numeric value of all the responses in each of the five subscales that comprised each questionnaire. Therefore, five subscale totals were tabulated for each respondent.

Cross-tabulations of the student's decision to voluntarily drop out or persist were tabulated with each of the subscale totals. These cross-tabulations permit a visual representation of the association between the student's decision and each of their five subscale totals.

The Chi-square Test of Independence was tabulated to determine if the two groups were significantly different, when their subscale totals were compared. In tabulating each Chi-square, the numeric value of each subscale total was statistically analyzed in order to determine the relationship between the two groups.

To determine if the observed differences between the two groups can be reasonably attributed to chance, or whether there is a reason to suspect true differences between the groups, a one-way analysis of variance procedure was tabulated. This statistical procedure permits a comparison of the means of both groups, when examining the subscale totals of each respondent within each group. Significant differences (e.g., $P < .05$) between the means of these two groups indicates a true difference between the mean subscale score totals of the two groups.

Research Question #3: Do responses on any of the individual questions of the Institutional Integration Scale differentiate students who voluntarily drop out from those who persist during Junior Division?

Research Question #3 was statistically analyzed using data obtained from the Institutional Integration Scale. All responses on the 33 questionnaires from each group were independently tabulated.

The Chi-square Test of Independence was performed on the responses to each individual question. This statistical procedure permits the responses for each individual question of one group to be compared to the same response from the second group.

When examining subscale totals only, there is always the inherent possibility of responses to individual questions within that subscale cancelling each other out, and significant scores being masked by the analysis. Therefore, significant differences between the two groups may not be observed.

Calculating a Chi-square on each individual response, however, permits an examination of any true differences that may exist between the two groups.

Research Question #4: Who assisted the voluntary dropouts in making their final decision to attend Junior Division at M.U.N.?

Data used to answer this research question were obtained from the additional questions provided to the 33 voluntary dropout students. Student responses identifying the person(s) who assisted them the most in making their final decision to attend Junior Division at M.U.N. were categorized, and frequencies for each tabulated. Summary statistics stating the mode of the distribution were also tabulated. A further statistical analysis of this data was not necessary, since this research question was for descriptive purposes only.

Research Question #5: What specific assistance do respondents feel could be provided, during the senior high school program, to assist a student in becoming socially integrated into the university environment?

Data for this research question were obtained directly from the Additional Questions completed by the voluntary dropout students. Since respondents were requested to answer an open-ended question soliciting their individual input and suggestions, all responses were subjective and descriptive rather than objective and statistical.

When these data were interpreted, individual responses were grouped into categories that identified similar suggestions. This process permitted the author to summarize the data obtained and highlight any unique ideas that could

benefit high school and university officials. Data obtained from this research question will be used for descriptive purposes only; therefore, only descriptive statistics will be necessary to quantify the results.

Research Question #6: What specific Junior Division changes/additions do respondents recommend to assist students to better adjust to the university environment and social milieu?

Data for this research question were obtained from the Additional Questions completed by the voluntary dropout students. Students were requested to respond to an open-ended question soliciting their individual input and suggestions.

In order to interpret this data, student responses were grouped into categories that expressed similar concerns and suggestions. This process permits the author to summarize the data obtained and highlight unique ideas that would be beneficial to high school and university officials. Only descriptive statistics will be necessary to quantify the results.

CHAPTER 4

PRESENTATION AND DISCUSSION OF RESULTS

The results of this study are presented and discussed in this chapter. This study was more descriptive than interactive, and was intended to examine student attrition at an educational institution where similar studies of its student population have been infrequent. Therefore, the primary purpose of this study was to explore the relationship of the chosen variables, and not the cause and effect.

The descriptive data list (N=108) was statistically analyzed to answer research question number one. The descriptive data list consisted of an experimental group (N=108) and a control group (N=108). The experimental group consisted of 41 males (38%) and 67 females (62%) who persisted beyond Junior Division at M.U.N. The sample contained in the Descriptive Data List was not used as data for any other research questions.

Data obtained from the Institutional Integration Scale were statistically analyzed to answer research questions two and three. An experimental group, consisting of 33 students who voluntarily dropped out during or immediately after completing Junior Division at M.U.N., and a control group consisting of 33 students who persisted beyond Junior Division, completed this scale. Data obtained from this sample of 66 students were analyzed to answer research questions two and three.

Data obtained from the Additional Questions section of the Institutional Integration Scale were analyzed to answer research questions four, five, and six. In the present study, only the students who voluntarily dropped out (N=33) completed the Additional Questions section of this scale.

The Chi-square and a one-way ANOVA were the statistical procedures used in the analysis of data for research questions one, two, and three. The level of significance desirable for these research questions was $P < .05$. Only descriptive statistics were used to analyze the data for research questions four, five, and six, since the purpose of these research questions dictated descriptive information pertaining to individual experiences and suggestions.

Research Question #1(A): Is a Junior Division student's sex related to a decision to voluntarily drop out?

The results indicated that the sex of a Junior Division student was not significantly related to a decision to voluntarily drop out (see Table 1).

The total number of females surveyed in this study exceeded the number of males. This trend persisted for both the voluntary dropouts and persisters. Although there were more females in this study who voluntarily dropped out and persisted, the resulting Chi-square did not demonstrate a significant difference between the two groups.

As stated in Pascarella and Terenzini (1980), "a rather substantial body of research on college impact suggests that students' interactions with the college environment are

Table 1
Relationship of Students' Decision By Sex

Group	Voluntary Dropouts		Persisters		Total Sample	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Male	50	46.3	41	38	91	42.1
Female	58	53.7	67	62	125	57.9

$P > .05$ ($\chi^2 = 1.22, df = 1$)

independent of the particular background characteristics that they bring to college" (p. 63). An earlier study (Bayer, 1968) placed a greater emphasis on precollege characteristics, since little was actually known regarding student attrition and the dropout process. However, more recent studies (Pascarella & Terenzini, 1979, 1980, 1983) view student attrition as a longitudinal process involving a complex series of sociopsychological interactions between the student and the institutional environment; these studies have statistically analyzed the relative influence of various precollege characteristics (including sex) upon persistence and withdrawal rates, and have generally reported that an insignificant amount of the variance results from these variables. Recent research studies examining the process of college persistence and withdrawal describe only an indirect influence from these precollege characteristics, their effects on persistence being largely mediated by the freshman year experience.

According to the literature reported in Chapter 2, sex of the student was consistently accepted as a precollege characteristic worth examining. In the present study, more females were voluntary dropouts (58 females compared to 50 males). Although not statistically significant, the largest discrepancy between the two groups consisted of the inflated number of female persisters; this trend was inconsistent with that commonly reported in the earlier literature (Sewell & Shah, 1967; Bayer, 1968; and Trent & Medsker, 1968), where a

higher proportion of men reportedly finished their degrees and a higher proportion of women dropped out.

Recent studies (Chu, 1980; and Brown, 1985) stress the special educational needs and hardships of female students (especially those from rural backgrounds). Female students attending university frequently experience a great deal of conflict, especially with respect to sex role and the importance placed upon university completion by their families (Brown, 1985). These factors undoubtedly influence female persistence in college, but their exact impact on attrition needs to be further examined. The findings in the literature have a particular relevance to M.U.N., due to the inflated number of females represented in this study (125 females compared to 91 males) and the nature of the rural backgrounds of these females prior to attending university. As reported by Fagg, Brown, Farris, and Rhodes (1982), rural women need extra family support and guidance. In addition, each university should initiate career planning seminars to assist these women cope with the many changes in technology and the social structure (Carney & Mortan, 1981; Brown, 1985).

Several local factors could partially explain the results of the present study. A higher percentage of females could be attending Junior Division at M.U.N. because the programs of educational settings such as the Newfoundland and Labrador Institute of Fisheries and Marine Technology and the Cabot Institute of Applied Arts and Technology tend to attract a significantly lower percentage of female students.

Programs which attract female students may be found most commonly in the university setting, resulting in females having fewer choices of training sites. In addition, fewer males might be persisting beyond Junior Division because they may be completing Junior Division only to enhance their qualifications for admission into one of the educational facilities named above; also, more males may choose to return to their families and obtain employment with the fisheries or family business after Junior Division.

Research Question #1(B): Is the place of residence prior to attending M.U.N. related to a Junior Division student's decision to voluntarily drop out?

As presented in Table 2, the analysis of data revealed a significant difference in dropout and persistence rates between students who commuted from their home to M.U.N. each day (N=78) and those who actually lived outside the local area and were required to relocate (N=138).

The total number of commuter students surveyed in this study was significantly less than the total number of re-located students. This tends to parallel the enrollment trends for this university, which serves students from a large geographical area.

A significant number of commuter students in this study did voluntarily drop out of Junior Division at M.U.N. Results indicate a total of 68 commuter students voluntarily dropped out, compared to 10 students who persisted beyond Junior Division.

Table 2
Relationship of Students' Decision by Hometown

Group	Voluntary Dropouts		Persisters		Total Sample	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Commuters	68	63	10	9.3	78	36.2
Relocated	40	37	98	90.7	138	63.8

$P < .05$ ($\chi^2 = 65.2$, $df = 1$)

Although the results of this study differ from those reported by Miller (1970), Aylesworth and Bloom (1976), and Downey (1980), the results might be explained by a lack of commitment on the part of commuter students towards their new learning environment. According to Chickering (1974), commuter students enter university with orientations and personal characteristics that influence them to limit their interactions with faculty to formalized, required settings (e.g., classrooms and laboratories); reportedly, they spend only the minimum required time on campus and lack a formalized commitment to the facility. In addition to lacking a formalized commitment to Junior Division, it may also be easier for the commuter student to voluntarily drop out, since he/she did not have to relocate in order to attend Junior Division. Thus, the need to persist in order to justify the financial output is reduced.

The commuter student is also lacking the support and assistance that frequently results from living in university residences. Duncan (1967), Greenleaf, Forsythe, Godfrey, Hudson, and Thompson (1967), Scholmer and McConnell (1970), and Smallwood and Klas (1973) all reported that the type of residence the student selects is related to the quality of the educational and personal growth experienced by the student in the university. In addition, Hubbell and Sherwood (1973) reported that "No other environmental medium in the university community has as viable a potential to integrate students' in-class and out-of-class learning as does the residence hall" (p. 247). According to Greenwood and Sutton

(1973), "residence halls have been shown to contribute significantly in a student's social-educational growth" (p. 4). Other studies have shown that, as compared to non-residence hall students, the in-residence student performs better academically, socializes more effectively, demonstrates better study habits, and involves himself more in extracurricular activities (Sacrey, Klas, & Boak, 1977).

Table 2 shows that a significant number of relocated students persisted beyond Junior Division. Although Downey (1980) reported that the social systems in small rural communities greatly impact upon the social behavior and performance of rural youth in higher education, this study showed that a total of 40 relocated students voluntarily dropped out, as compared to 98 students who persisted beyond Junior Division. This trend could be supported by the reasons previously stated. Also, for many relocated students there may have been a desire to remain in St. John's and not return permanently to a small outport town. As reported by Aylesworth and Bloom (1976), this desire might have been strong enough to compensate for the special stresses and depression rural students frequently experience when making the transition from a rural community to a university community.

The Chi-square (65.2) tabulated for the mean differences between those two groups reflects these significant differences.

Research Question #1(C): Is the high school attended related to a Junior Division student's decision to voluntarily drop out?

An analysis of the data revealed a significant difference between students who voluntarily dropped out and persisted in terms of the high school attended.

Results were obtained by performing a Chi-square statistical procedure on data obtained from the Descriptive Data List (N=216). Statistical analysis resulted in 186 cells of information being created, with 182 (97.8%) of these having an expected frequency of less than five. This result influences the statistical significance of the findings. Thus, results need to be interpreted cautiously and considered more for their descriptive and summative value.

The students in this study (N=216) attended a total of 95 different high schools. Nineteen of these high schools had a minimum of three students who voluntarily dropped out or persisted. The range of dropout/persistence rates varied from a high of 11 for high school number one to a low of three for high schools 15-19. The total number of voluntary dropouts and persisters from each high school is presented in Table 3, as well as the location, size, number of grades, and the total number of Grade 11 students for each high school.

As shown in Table 3, 12 of the 19 high schools (63.2%) were located in urban centers. This trend is common in Newfoundland and Labrador, since most high schools tend to be centrally located in the more heavily populated centers, with students from the surrounding areas being bused to their classes. Seven of these 12 high schools (58.3%) had

Table 3
Relationship of Students' Decision by High School Attended^{*1}

High School Number	Number of Voluntary Dropouts	Number of Persisters	Total	Location of High School ^{*2}	Size of School ^{*3}	Number of Grades in Each School	Number of Students in Grade 11
1	0	11	11	U	M	4	168
2 ^{*4}	9	1	10	U	L	2	168
3 ^{*4}	7	2	9	U	L	5	181
4 ^{*4}	9	0	9	U	L	3	262
5	1	7	8	U	M	5	73
6 ^{*4}	7	0	7	U	M	3	165
7 ^{*4}	7	0	7	U	L	3	440
8 ^{*4}	4	1	5	U	L	4	203
9	1	4	5	R	M	5	41
10	1	3	4	P	S	2	89
11	4	0	4	U	L	4	131
12 ^{*4}	4	0	4	U	M	2	255
13	4	0	4	R	L	3	213
14	1	3	4	R	S	5	29
15	3	0	3	R	L	3	217
15 ^{*4}	3	0	3	U	L	12	83
17	0	3	3	R	M	5	56
18	0	3	3	R	S	5	44
19	0	3	3	U	S	2	105

P < .05 (χ^2 = 158.74, df = 92)

*1 Only those high schools with a minimum of 3 voluntary dropouts or persisters are presented in this table.

*2 U - Represents high schools located in urban communities (i.e., 1985 census population of 5,000 or more).

R - Represents high schools located in rural communities (i.e., 1985 census population of 4,999 or less).

*3 L - Represents large high schools (i.e., September 30, 1981 student enrolment of 600 or more).

M - Represents medium high schools (i.e., September 30, 1981 student enrolment between 301 and 599).

S - Represents small high schools (i.e., September 30, 1981 student enrolment of 300 or less).

*4 These high schools are located within Metropolitan St. John's and Mount Pearl.

student populations greater than 600.

A total of 107 students are represented in Table 3. Sixty-five of these students (60.7%) were voluntary dropouts, with 55 students being from urban high schools (84.6%) and 10 students (15.4%) from rural high schools. An analysis of the data showed there to be a significant difference in the number of voluntary dropouts when urban and rural high schools were compared. The direction of these findings differs from those reported by Cope (1972), Anderson (1974), and Aylesworth and Bloom (1976). It is beyond the scope of this study to determine a cause and effect relationship, but such a difference merits subsequent investigation.

A total of 42 students (39.3%) in this study persisted beyond Junior Division at M.U.N. Twenty-five (59.5%) of these students attended urban high schools, while the remaining 17 (40.5%) attended high schools from rural communities. The actual number of persisters from urban high schools is still greater than the number from rural centers, but the actual differences, when compared to voluntary dropouts, are less significant.

The incidence of voluntary student dropout rates from urban centers is even more significant when the data are isolated to include only high schools attended from the St. John's and Mount Pearl metropolitan areas. As presented in Table 3, high schools 2, 3, 4, 6, 7, 8, 12, and 16 are all located within metropolitan St. John's and Mount Pearl. In all eight of these high schools, the actual number of

students voluntarily dropping out significantly exceeded the number of students who persisted.

For the eight high schools located within metropolitan St. John's and Mount Pearl, a total of 54 students were represented. A total of 50 students (92.6%) were voluntary dropouts, while the remaining four students (7.4%) did persist beyond Junior Division. These results indicate that 50 of the 54 students who attended Junior Division at M.U.N. immediately after completing high school, in the same local area, decided to voluntarily drop out during or after completing Junior Division at M.U.N.

According to Dyer (1968) and Nelson (1972), the characteristics of the high school are important factors in the individual's achievements and later influence the individual's performance and persistence in college. Also, as suggested by Davis (1966), St. John (1971), and Nelson (1972), the ability level of students in the school and the social status composition of the school affect not only the individual's perception for future college education, but also his/her commitments to the goal of college completion. It is beyond the scope of this present study to determine the local factors associated with attrition rates between urban and rural high schools, but it is interesting to examine the very high incidence of voluntary student attrition from urban high schools. A total of 55 students (84.6%) attended urban high schools prior to voluntarily dropping out of Junior Division. In addition, 50 of these students

(90.9%) attended urban high schools located within metropolitan St. John's and Mount Pearl. As previously outlined by Chickerling (1974), it would be much easier for these students (compared to relocated students) to voluntarily drop out, since their initial personal and financial commitment to attend Junior Division would have been considerably less. In addition, these students may have been lacking the support and social-educational growth reportedly provided by the residence halls (Hubbell & Sherwood, 1973; and Greenwood & Sutton, 1973). Another possible explanation is that local students have more options for work or other types of educational training compared to relocated students. Specifically, if a relocated student voluntarily drops out and returns home, what choices does he/she have then? Still another possible explanation is that the relocated student can continue to remain in St. John's and support himself/herself on student aid only if he/she continues to attend M.U.N. The local student, however, may still be living at home and being financially supported by his/her parents. Therefore, the need to continue attending M.U.N. may not be as great. The writer realizes that these explanations are only speculative, but they may merit further investigation.

The incidence of persistence/withdrawal rates from high school number 1 and number 5 are significant, since all 11 students (100%) from high school number 1 and 7 of the 8 students (87.5%) from high school number 5 did persist beyond Junior Division. Both of these high schools were medium-sized urban schools. Although recent literature pertaining

specifically to medium-sized high schools is limited, Lavin (1965) suggested that medium-sized high schools tend to be more capable of providing students with the preparation needed to cope with college entrance.

Research Question #1(D): Is the high school grade point average related to a Junior Division student's decision to voluntarily drop out?

Analysis of data revealed a significant difference between students who voluntarily dropped out and persisted in terms of high school grade point averages (see Table 4).

The total number of students who received high school grade point averages in the 60.0-69.9 range totalled 37 (22.4%). Thirty of these students later voluntarily dropped out of Junior Division at M.U.N., compared to only seven who persisted. There was a significant difference between the two groups within this range.

The 70.0-79.9 high school grade point average range contained more students than any other range examined in this study. A total of 73 students (44.2%) obtained high school grade point averages within this range. Forty-one of these students later voluntarily dropped out of Junior Division at M.U.N., while 32 persisted. Differences between the two groups within this range were not significant.

There was a total of 52 students (31.5%) in the 80.0-89.9 high school grade point average range. Seventeen of these students later voluntarily dropped out of Junior Division at M.U.N., compared to 35 who persisted. There was a

Table 4

Relationship of Students' Decision by High School Grade Point Average (GPA)

High School GPA	Voluntary Dropouts		Persisters		Total Sample	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
60.0-69.9	30	33.7	7	9.2	37	22.4
70.0-79.9	41	46.1	32	42.1	73	44.2
80.0-89.9	17	19.1	35	46.1	52	31.5
90.0-99.9	1	1.1	2	2.6	3	1.8

$P < .05$ ($X^2 = 21.08$, $df = 3$)

significant difference between the two groups within this range.

For the 90.0-99.9 high school grade point average range, there was a total of only three students (1.8%). Within this range, one student voluntarily dropped out of Junior Division at M.U.N., while two persisted.

The findings of this study suggest a contrasting pattern for students in the 60.0-69.9 and the 80.0-89.9 high school grade point average ranges. For the former group, 30 of the 37 students (81.1%) voluntarily dropped out. This significant finding, however, is reversed for students in the 80.0-89.9 high school grade point average range, where 35 of the 52 students (67.3%) did persist beyond Junior Division at M.U.N. There was a greater probability of voluntary drop-out from Junior Division for students with lower high school grade point averages. Generally, as the high school grade point average increased, so did the likelihood of persisting beyond Junior Division. For students having high school grade point averages in the 70.0-79.9 range, a similar, but less significant, trend was evident. For this group of students, 41 of the 73 students (56.2%) were voluntary drop-outs.

Astin (1971) reported that performance in high school, as measured either by grade point average or rank in class, was an important predictor of future college success. However, results from previous research studies focusing upon the independent influence of high school grade point average

on persistence/withdrawal rates was not consistent. According to Tinto (1975), many research studies (e.g., Panos & Astin, 1968; Chase, 1970; and Blanchfield, 1971) have shown that grade performance in high school tends to be related to persistence in college. Panos and Astin (1968) and Astin (1971) reported similar results to those obtained in this study. According to Panos and Astin (1968),

the entering college student who was most likely not to complete college within the four years following his matriculation was the one who had relatively low grades in high school, did not plan at the time of college entrance to take graduate or professional work, and came from a relatively low socioeconomic background. (p. 64)

Similar results were obtained by Eckland (1964), who reported that students with high school grade point averages in the 80-99th percentiles graduated from college in continuous attendance at a rate nearly twice that achieved by students in the 40-59th percentile. More recent research studies (Terenzini & Pascarella, 1978; Terenzini, Lorang, & Pascarella, 1981; and Pascarella, Smart, & Ethington, 1986) report that precollege characteristics (including high school grade point average) contributed only a statistically insignificant amount to the total variation in attrition status.

The relationship of grades to persistence is not totally consistent in this study, but the trend is evident that the higher the high school grade point average, the greater is the likelihood of persistence.

Research Question #2: Do responses in any of the five Institutional Integration Subscales differentiate students who voluntarily drop out from those who persist during Junior Division?

There was a significant difference between students who voluntarily dropped out and persisted on only one of the five Institutional Integration Subscales. Subscale Number 5, Institutional and Goal Commitments, showed a significant difference between the two groups.

The relationship of the students' decision by each subscale total is presented in Tables 5, 6, 7, 8, and 9. These tables present the frequency and percentage for voluntary dropouts and persisters and for the total sample. Subscale totals are represented in these tables with a range of three points. Subscale totals were determined by adding each student's total Likert scores for the questions contained in that subscale.

Table 5 presents the relationship of the students' decision on Subscale 1 (Peer Group Interactions). There was no significant difference between the two groups on this subscale. The highest frequencies of responses for both groups was for the 14-17 subscale total (39.4%). Within this range, a difference of four students separated the two groups; a smaller range of differences existed in the remaining subscale totals.

The results of this study suggest that the peer group interactions of the voluntary withdrawals and persisters did not differ significantly. As measured by the Institutional

Table 5

Relationship of Students' Decision by Subscale 1 (Peer Group Interactions) Total*

Subscale 1	Voluntary Dropouts		Persisters		Total	
Totals	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
10-13	9	27.3	8	24.2	17	25.8
14-17	11	33.3	15	45.5	26	39.4
18-21	5	15.2	3	9.1	8	12.2
22-25	6	18.2	5	15.2	11	16.7
26-29	1	3.0	1	3.0	2	3
30-33	1	3.0	1	3.0	2	3

*Subscale totals are represented in this table with a range of 3.

P > .05 ($\chi^2 = 17.52$, df = 18)

Integration Scale, the experience of both groups in developing personal peer relationships during Junior Division were, in many ways, quite similar. Pascarella and Terenzini (1980) reported that the quality of peer group interactions may have been a more important factor in females' decisions to persist or withdraw than in males. This study did not analyze this subscale according to sex differences, however.

Subscales 2 and 3 both focused upon the importance of faculty/student interactions and attitudes. To be consistent with the literature, results from this study pertaining to these two subscales will be analyzed and discussed together.

Table 6 presents the relationship of the students' decision on Subscale 2 (Interaction with Faculty). There was no significant difference or no significant concentration of scores that would differentiate persisters from voluntary dropouts. Both groups tended to have scores concentrated in the 11-14 (28.9%), 15-18 (25.8%), and 19-22 (27.3%) ranges.

There was no significant difference between the two groups on Subscale 3 (Faculty Concern for Student Development and Teaching) (see Table 7). The highest concentration of scores for both groups occurred in the 9-12 (34.9%) and 13-16 (44.0%) subscale total ranges. The frequencies for both groups were almost identical; a maximum difference of one separated the two groups in the subscale totals. These results suggest that persisters and voluntary dropouts

Table 6

Relationship of Students' Decision by Subscale 2 (Interactions with Faculty) Total*

Subscale 2 Totals	Voluntary Dropouts		Persisters		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
7-10	4	12	1	3	5	7.5
11-14	8	24.3	11	33.4	19	28.9
15-18	9	27.3	8	24.3	17	25.8
19-22	9	27.3	9	27.3	18	27.3
22-25	3	9.1	4	12.1	7	10.6

*Subscale totals are represented in this table with a range of 3.

P > .05 ($X^2 = 14.26$, df = 18)

Table 7

Relationship of Students' Decision by Subscale 3 (Faculty Concern for Student Development and Teaching) Total*

Subscale 3 Totals	Voluntary Dropouts		Persisters		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
5-8	1	3	0	0	1	1.5
9-12	12	36.4	11	33.4	23	34.9
13-16	14	42.4	15	45.5	29	44
17-20	5	15.2	5	15.2	10	15.2
21-24	1	3	2	6	3	4.5

*Subscale totals are represented in this table with a range of 3.

$P > .05$ ($\chi^2 = 15.51$, $df = 15$)

perceived themselves as having similar experiences while interacting informally with faculty and as perceiving similar levels of faculty concern for their development and learning. The mean scores of each group were generally toward the middle response on the Institution Integration Scale. This finding suggests that both groups had similar experiences; also, the responses of both groups did not indicate a strong agreement or disagreement as to the importance of this factor to their Junior Division experience.

The results obtained in this study tend to be somewhat inconsistent with those presented in the literature. According to a study by Terenzini and Pascarella (1977), persisters rated faculty members to be a more positive influence on both their intellectual growth and on their personal development than did voluntary dropouts. Pascarella and Terenzini (1980) identified as particularly strong the contributions of student-faculty relationships, as measured by the Interactions with Faculty and the Faculty Concern for Student Development and Teaching Subscales, to group discrimination. Specifically, persisters' average scores on both subscales were approximately one standard deviation higher than those who dropped out voluntarily at the end of their freshman year. Terenzini, Lorang, and Pascarella (1981), in a study to test the predictive validity of the Institutional Integration Scales, observed that although the two Faculty Interaction Subscales made unique contributions to previous studies, a similar finding was not obtained in their study.

However, the authors did suggest that the differences between the mean for persisters and voluntary dropouts in their study were in the direction reported in the Tinto model and in earlier studies.

The relationship of the students' decision on Subscale 4 (Academic and Intellectual Development) is presented in Table 8. There was not a significant difference between the two groups on this subscale total.

The greatest concentration of scores for both groups occurred in the 13-16 (25.8%) and the 17-20 (36.5%) ranges. Actual differences between the two groups within these ranges were small, resulting in minimal variance within the subscale totals.

The results suggest that the voluntary dropouts and persisters were equally satisfied with the extent of their intellectual development while attending Junior Division. This result is not surprising, since the voluntary dropout tends to be more negatively influenced by the social atmosphere than the academic demands of the educational institution (Tinto, 1982). In trying to distinguish between the various types of dropouts, Tinto (1975) viewed academic dismissals as being more closely associated with grade performance than were voluntary withdrawals. The voluntary withdrawal, like the persister, is usually the student who enters university with the skills, abilities, and commitments to complete a given program of study.

Table 8

Relationship of Students' Decision by Subscale 4 (Academic and Intellectual Development) Total*

Subscale 4	Voluntary Dropouts		Persisters		Total	
Totals	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
9-12	1	3	2	6	3	4.5
13-16	7	21.2	10	30.4	17	25.8
17-20	13	39.5	11	33.5	24	36.5
21-24	6	18.1	7	21.2	13	19.7
25-28	5	15.2	1	3	6	9.1
29-32	1	3	1	3	2	3
33-36	0	0	1	3	1	1.5

*Subscale totals are represented in this table with a range of 3.

$P > .05$ ($X^2 = 16.54$, $df = 19$)

The relationship of the students' decision on Subscale 5 (Institutional and Goal Commitments) is presented in Table 9. There was a significant difference between the two groups on this subscale. This result is consistent with the literature. According to Tinto (1975), once the individual's ability is taken into account, it is the student's commitment to the goal of college completion that is most influential in determining college persistence. Also, at given levels of educational goal commitment, it is the individual's institutional commitment that most directly relates to variation in dropout behavior. In a subsequent study, Pascarella and Terenzini (1980) suggested that the Institutional and Goal Commitment Subscale of the Tinto model makes the largest contribution in discriminating freshman persisters from voluntary dropouts.

In the present study, the concentration of scores for both groups was not similar. The highest concentration of scores for the voluntary dropouts occurred in the 14-17 (42.4%) and the 18-21 (21.3%) ranges; the concentration of subscale scores for persisters in these ranges was much lower (12.0%). Persisters in this study answered the questions within this subscale with a low response, which suggests a more positive attitude toward the student's educational and goal commitment. The highest concentration of scores for the persisters were in the 6-9 (39.4%) and the 10-13 (36.4%) ranges.

Table 9

Relationship of Students' Decision by Subscale 5 (Institutional and Goal Commitments) Total*

Subscale 5	Voluntary Dropouts		Persisters		Total	
Totals	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
6-9	4	12	13	39.4	17	25.7
10-13	4	12	12	36.4	16	24.2
14-17	14	42.4	4	12	18	27.2
18-21	7	21.3	4	12	11	16.6
22-25	3	9.1	0	0	3	4.5
26-29	1	3	0	0	1	1.5

*Subscale totals are represented in this table with a range of 3.

$P < .05$ ($\chi^2 = 28.50$, $df = 18$)

The results presented in Table 9 indicate that the voluntary dropouts were significantly less certain of their Institutional and Goal Commitments. These results would suggest that these students were more uncertain about their future at M.U.N. In terms of a student's level of commitment to the goal of college completion, Hackman and Dysinger (1970) suggested that it was possible to distinguish between four groups of college students: persisters; transfers; voluntary withdrawals; and academic dismissals. According to these authors, all four groups show different patterns of commitment to their college exposure and experiences.

The persisters in this study were significantly more certain of their institutional and goal commitments and their future at M.U.N. In a study to investigate the validity of Tinto's model of college withdrawal in different types of institutions, Pascarella and Chapman (1983) reported that the commitment variables of the Tinto model had the strongest direct effects on persistence in college. The authors also suggested that institutional commitment in residential universities (e.g., M.U.N.) is largely a function of the student's interactions within the social system of the institution. Therefore, the more the student becomes integrated into the social system of the institution, the better his/her chance of persisting. In a similar study, Pascarella, Duby, and Iverson (1983) suggested that such factors as social and academic integration and institutional and goal commitment toward the end of the freshman year had the

strongest direct influence on persistence/withdrawal decisions.

The mean scores and standard deviations for the subscale totals of each group and the total sample are presented in Table 10. Both the mean scores and the standard deviations for the first four subscale totals indicate only minimal variance between persisters and voluntary dropouts. Subscale 5 indicates a significant variance between the mean scores (see the significant differences and resulting Chi-square for Subscale 5 totals contained in Table 9).

Table 11 presents the results of a one-way ANOVA, comparing the mean scores of persisters and voluntary dropouts on the five subscale totals. The escalated F-ratio score and the resulting F-probability score for Subscale 5 totals indicate significant differences on only Subscale 5.

Research Question #3: Do responses on any of the individual questions of the Institutional Integration Scale differentiate students who voluntarily dropped out from those who persisted during Junior Division?

A total of five questions on the Institutional Integration Scale differentiated students who voluntarily dropped out from those who persisted during Junior Division. The five questions were:

1. Question #3: My interpersonal relationships with other students had a positive influence on my personal growth, attitudes, and values.
2. Question #18: I was satisfied with the extent of my intellectual development.

Table 10
Descriptive Statistics for Subscale Totals
of the Institutional Integration Scale

Subscales	Voluntary Dropouts		Persisters		Total	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
Subscale 1 (Peer Group Interactions)	17.48	4.9	17.21	5.0	17.35	4.9
Subscale 2 (Interaction with Faculty)	16.12	4.8	16.94	4.5	16.53	4.6
Subscale 3 (Faculty Concern for Student Development and Teaching)	13.88	3.6	14.27	3.3	14.08	3.4
Subscale 4 (Academic and Intellectual Development)	20.0	4.8	18.73	5.1	19.36	5.0
Subscale 5 (Institutional and Goal Commitments)	15.94	4.7	11.30	3.8	13.62	4.8

Table 11

One-Way Analysis of Variance Between Groups and Subscale Totals

Subscale Totals	Degrees of Freedom	Mean Squares	F Ratio	F Probability
Subscale 1	1	1.23	.05	.82
Subscale 2	1	11.05	.51	.48
Subscale 3	1	2.56	.22	.64
Subscale 4	1	26.73	1.09	.30
Subscale 5	1	354.68	19.49	.00*

*p < .05

3. Question #25: It was important for me to graduate from university.
4. Question #27: It seemed likely that I would register at the university the next Fall.
5. Question #28: It was not important to me to graduate from this university.

Table 12 presents the breakdown of responses to all 30 questions of the Institutional Integration Scale (see Appendix A for a listing of all the questions). The total number of students in each group responding to each Likert response is presented for each question. With the exception of the five significant questions, there were only minimal differences between the total responses of each group on each question. This finding suggests that both groups had many similar experiences during Junior Division at M.U.N. in the dimensions of social and academic integration and goal and institutional commitment.

Pascarella and Terenzini (1980), in a study to examine the predictive validity of the Institutional Integration Scale, conducted a factor analysis of each subscale question to determine if the underlying factors were reasonably consistent with the dimension identified by the Tinto model. Based upon the correlation matrix, the loading of acceptable questions (i.e., those questions loading .35 or more) ranged from .37 to .86. The questions previously identified as being significant in this study were all acceptable in the 1980 study; their respective factor loadings were: .76, .68;

Table 12

A Comparison of Responses to Individual Scale Questions
Between Voluntary Dropouts and Persisters

Question Number	Voluntary Dropouts Response Number					Persisters Response Number				
	1	2	3	4	5	1	2	3	4	5
1	7	16	2	4	4	6	14	6	5	2
2	5	20	4	3	1	6	20	4	2	1
3*1	3	13	6	10	1	8	16	6	1	2
4	1	14	8	10	0	5	15	7	5	1
5*2	10	15	2	5	1	6	14	3	6	4
6*2	12	8	6	6	1	3	15	8	4	3
7*2	2	15	8	5	3	3	14	10	4	2
8	2	10	7	7	7	1	6	8	13	5
9	3	15	2	9	4	1	11	8	9	4
10	3	8	8	8	6	2	13	6	9	3
11	4	7	0	14	8	2	5	2	12	12
12	0	8	7	15	3	0	10	3	10	10
13*2	4	11	5	11	2	2	12	5	11	3
14*2	2	15	7	4	5	0	14	9	7	3
15*2	6	13	3	9	2	3	16	6	6	2
16	1	10	10	11	1	2	8	9	12	2
17	1	21	5	6	0	3	18	5	6	1
18*1	1	13	4	11	4	1	19	10	2	1
19	2	23	2	4	2	6	17	5	4	1
20	1	18	4	9	1	2	17	7	4	3
21*2	3	13	4	10	3	3	17	4	8	1
22	5	19	6	3	0	6	21	2	3	1
23	4	6	5	14	4	3	10	3	12	5
24	1	12	1	12	7	0	13	3	10	7
25*1	8	11	6	6	2	22	7	3	1	0
26	7	12	3	9	2	12	11	7	2	1
27*1	2	8	6	6	11	18	7	4	4	0
28*1*2	7	9	6	9	2	24	4	4	1	0
29*2	5	10	3	6	9	5	8	4	11	5
30*2	20	9	3	1	0	27	3	0	2	1

*1 $P < .05$

*2 Responses have been recoded.

.69; .62; and .59. Also, questions 2 and 3 had the highest factor loading for all the individual questions contained in their respective subscales. In a later study to replicate the 1980 study, Terenzini, Wendell, and Pascarella (1981) reported that factor analysis of the questions contained in the Institutional Integration Scale were so similar in the two studies that they decided to constitute the scale for their 1981 research based upon the structure obtained in the 1980 study.

Table 13 presents the descriptive statistics for the individual questions for the voluntary dropouts, persisters, and the total sample population. Comparison of mean responses and standard deviations is presented for the voluntary dropouts and persisters. With the exception of questions 3, 18, 25, 27, and 28, which indicate significant differences between the two groups, only minimal differences are indicated. Although not significant, it is worth noting that for 19 of the 30 Institutional Integration questions, voluntary dropouts did have higher means. This finding suggests that although both groups had many similar experiences during Junior Division, the voluntary dropouts were somewhat less satisfied with these experiences. This dissatisfaction is consistent with the findings of Tinto (1975, 1982). In addition, for all six items contained within Subscale 5 (Institutional and Goal Commitment) voluntary dropouts did have higher mean scores, with three of the six being significantly higher.

Table 13
Descriptive Statistics on Individual Scale Questions for
Voluntary Dropouts, Persisters, and Total Sample

Question Number	Voluntary Dropouts		Persisters		Total	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
1	2.45	1.30	2.48	1.15	2.47	1.22
2	2.24	.94	2.15	.91	2.20	.92
3*1	2.79	1.08	2.18	1.04	2.48	1.10
4	2.82	.92	2.45	1.03	2.64	.99
5*2	2.15	1.12	2.64	1.32	2.39	1.24
6*2	2.27	1.23	2.67	1.11	2.47	1.18
7*2	2.76	1.09	2.64	1.03	2.70	1.05
8	3.21	1.27	3.45	1.06	3.33	1.17
9	2.88	1.27	3.12	1.11	3.00	1.19
10	3.18	1.26	2.94	1.14	3.06	1.20
11	3.45	1.39	3.81	1.26	3.64	1.33
12	3.39	.97	3.61	1.22	3.50	1.10
13*2	2.88	1.19	3.03	1.16	2.95	1.17
14*2	2.85	1.20	2.97	1.02	2.91	1.11
15*2	2.64	1.25	2.64	1.08	2.64	1.16
16	3.03	.95	3.12	1.05	3.08	1.00
17	2.48	.83	2.52	1.00	2.50	.92
18*1	3.12	1.17	2.48	.80	2.80	1.04
19	2.42	1.00	2.30	1.20	2.36	1.00
20	2.73	1.01	2.67	1.08	2.70	1.04
21*2	2.91	1.21	2.61	1.06	2.76	1.14
22	2.21	.82	2.15	.94	2.18	.88
23	3.24	1.25	3.18	1.29	3.21	1.26
24	3.36	1.27	3.33	1.22	3.35	1.23
25*1	2.48	1.23	1.48	.80	1.98	1.14
26	2.61	1.27	2.06	1.06	2.33	1.19
27*1	3.48	1.35	1.82	1.07	2.65	1.47
28*1*2	2.70	1.26	1.45	.83	2.08	1.23
29*2	3.12	1.49	3.09	1.35	3.11	1.42
30*2	1.55	.79	1.39	1.00	1.47	.90

*1 $P < .05$

*2 Responses have been recoded.

Table 14 presents the results of the Chi-square, statistical procedure performed on all responses to the 30 questions of the Institutional Integration Scale. Levels of significance are obtained for all the responses to the 30 questions. Significant differences were obtained on responses to questions 3, 18, 25, 27, and 28.

Table 15 presents the results of the one-way analysis of variance of the total responses of the 30 Institutional Integration items. The resulting F-probability scores support the significance of questions 3, 18, 25, 27, and 28. The one-way ANOVA compares the mean scores of both groups on the responses to the 30 questions contained on the Institutional Integration Scale.

In summary, Tables 12, 13, 14, and 15 present the data for research question number 3. The voluntary dropouts and persisters in this study were significantly different on five of the 30 Institutional Integration Questions. Students' responses to question 3, ("My interpersonal relationships with other students had a positive influence on my personal growth, attitudes, and values") resulted in an increased mean score for the voluntary dropouts. This suggests that the voluntary dropouts were significantly less satisfied with their interpersonal relationships with other students. The persisters in this study did not identify this aspect of their Junior Division experience as being so problematic.

An increased mean score for the voluntary dropouts on question number 18 ("I was satisfied with the extent of my

Table 14

Chi-Square for Decision to Persist or Voluntarily
Dropout by Responses to Individual
Scale Questions

Question Number	χ^2	df	significance
1	2.99	4	.56
2	.29	4	.99
3	10.28	4	.04*
4	5.43	4	.25
5	3.13	4	.54
6	9.22	4	.06
7	.77	4	.94
8	3.53	4	.47
9	3.22	4	.27
10	2.74	4	.60
11	3.95	4	.41
12	6.59	3	.09
13	.91	4	.92
14	3.60	4	.46
15	2.91	4	.57
16	.99	4	.91
17	2.23	4	.69
18	11.73	4	.02*
19	4.52	4	.34
20	4.10	4	.39
21	1.76	4	.78
22	3.19	4	.53
23	1.91	4	.75
24	2.22	4	.67
25	13.99	4	.01*
26	7.75	4	.10
27	24.67	4	.00*
28	20.05	4	.00*
29	2.98	4	.56
30	8.38	3	.08

$p < .05$

Table 15

One-Way Analysis of Variance of Responses to
Individual Scale Questions by Decision to
Persist or Voluntarily Dropout

Question Number	Mean Squares	F Ratio	F Probability
1	.02	.01	.92
2	.14	.16	.69
3	6.06	5.36	.02*
4	2.18	2.29	.14
5	3.88	2.59	.11
6	2.56	1.86	.18
7	.24	.22	.64
8	.97	.71	.40
9	.97	.68	.41
10	.97	.67	.42
11	2.18	1.23	.27
12	.74	.61	.44
13	.38	.27	.60
14	.24	.20	.66
15	0.0	0.0	1.00
16	.14	.14	.71
17	.02	.02	.89
18	6.68	6.71	.01*
19	.24	.24	.63
20	.06	.06	.81
21	1.52	1.17	.28
22	.06	.08	.78
23	.06	.04	.85
24	.02	.01	.92
25	16.50	15.42	.00*
26	4.91	3.58	.06
27	45.83	30.83	.00*
28	25.47	22.28	.00*
29	.02	.01	.93
30	.38	.47	.50

DF = 1
* P < .05

intellectual development") suggests that these students were significantly less satisfied with their intellectual development, compared to the persisters. Consistent with the literature (e.g., Tinto, 1975, 1982), these students were frequently more capable academically than the persisters. Perhaps the voluntary dropout needs to be more challenged academically, or challenged in different ways.

The significantly increased mean score for the voluntary dropouts on question number 25 ("It was important for me to graduate from university") could have been expected. Similar results were obtained from question number 28 ("It was not important to me to graduate from this university"). Therefore, during Junior Division the voluntary dropouts had decided that it was not as important to graduate from university, in general, M.U.N. in particular. Significant results obtained for question number 27 ("It seemed likely that I would register at the university the next Fall") reflected the students' lack of commitment to M.U.N. and their indecision or lack of desire about returning for a second year.

Research Question #4: Who assisted the voluntary dropouts in making their final decision to attend Junior Division at M.U.N.?

Table 16 presents the data concerning who the voluntary dropouts felt assisted them in deciding to enter Junior Division at M.U.N. immediately after completing high school. A total of 15 students (45.5%) stated that their decision to enter Junior Division at M.U.N. was based solely upon their

Table 16

Sources Assisting the Voluntary Dropouts in their Initial
Decision to Attend University

Category	Frequency	Percentage
Self	15	45.5
Parents	5	15.2
Self and Parents	3	9.1
Self, Parents and Friends	2	6.1
Self and Friends	2	6.1
Self, Parents, Friends, and Teacher	1	3.0
Self, Teacher, and Principal	1	3.0
Self, Parents, Guidance Counsellor	1	3.0
Self, Parent and Other	1	3.0
Self and Teacher	1	3.0
Friends	1	3.0
Total	33	100

own input. It appears that these students did not rely on anyone else to make their decision. Results indicate that five students (15.2%) entered Junior Division at M.U.N. based upon input from their parents. These students suggested that they did not themselves provide significant input into their decision to attend this university. An additional three students (9.1%) stated that their decision to attend Junior Division at M.U.N. was based upon input from both themselves and their parents.

Table 17 presents the voluntary dropouts' responses as to the perceived degree of assistance provided to them by significant others. This table uses the same data provided in Table 16, but totals the individual involvement of each significant other. The voluntary dropouts indicated that their decision to enter Junior Division at M.U.N. was based, to some degree, upon input from themselves in 27 of the 52 instances (52%). The remaining 25 instances (48%) were based upon input from others, consisting of input from parents (13), friends (6), teacher (3), principal (1), Guidance Counsellor (1), and others (1). Thus, although all of these students later voluntarily dropped out of Junior Division, the majority were not encouraged to attend by others.

One could observe that as a group, the voluntary dropouts may not have sought out the best sources of information or assistance, since they relied primarily on their own, or parental, resources. This group tended not to investigate,

Table 17

Degree of Assistance Perceived By Voluntary Dropouts

Category	Frequency	Percentage
Self	27	52
Parents	13	25
Friends	6	11.5
Teacher	3	5.8
Principal	1	1.9
Guidance Counsellor	1	1.9
Other	1	1.9
Total	52	100

or seek out information, from those who might, in fact, have the most accurate and useful information. It would seem advisable for all students in high school and first-year university to have knowledgeable people available for such assistance, to overcome this tendency of not seeking out information and assistance. In fact, it could be suggested that institutions plan, design, and deliver such information programs/packages to all students on a regularly scheduled basis, rather than simply relying on students to seek out the information on their own; the data here suggest that many students will not, on their own, seek out such information.

Research Question #5: What specific assistance do voluntary dropouts feel could be provided, during the senior high school program, to assist a student in becoming socially integrated into the university environment?

Data from this research question were obtained from the Additional Questions Section of the Institutional Integration Scale completed by the voluntary dropouts. Student responses were examined and grouped into categories representing similar suggestions and recommendations.

A total of 59 student responses were obtained from the data. These 59 responses were grouped into 21 different response categories; 13 of these categories had a frequency of two or more. Table 18 presents, in descending order, the frequency and percentage of student responses regarding the specific assistance they felt could have been provided during the senior high school program to assist a student to become

Table 18

Type of Assistance Needed by the Voluntary Dropouts
During the Senior High School Program¹

Response	Frequency	Percentage ²
More career guidance and information	8	14
Tour of Memorial University	8	14
Counselling regarding university life	7	12
Seminars by university staff of different faculties and residences	6	10
Information and training on study habits and note taking	4	7
Courses more related to Junior Division courses	3	5
Less pampering during high school	3	5
Courses taught more like Junior Division courses	2	3
More literature regarding universities	2	3
Seminars conducted by university students of different faculties	2	3
More information concerning the financial costs of attending university	2	3
More major assignments	2	3
Information concerning financial budgeting	2	3

*1 In this table, only responses having a frequency of 2 or more are included.

*2 Totals may differ due to rounding. All calculations performed using a total of 59 responses.

- better socially integrated into the university environment.

A total of eight students (14%) identified the need for more career guidance and information during the senior high school program. Such assistance could help ensure that upon registering for Junior Division at M.U.N., students would have a better understanding of their degree program and a more definite career goal to strive towards. Although eight students did identify the need for more career guidance in high school, only one student reported that they consulted with their high school guidance counsellor prior to making their initial decision to attend Junior Division at M.U.N. Of course some students may not have had access to a guidance counsellor. Students identified an equal need (14%) for a tour of M.U.N. and its facilities. This tour would be scheduled during the senior high school program and would provide students with the opportunity to familiarize themselves with the various buildings, student residences, and university services prior to committing themselves to attending the institution. Students also identified the need for more counselling regarding university life (12%). Students stated that classroom teachers can frequently provide this counselling, since they have previously attended a university and are knowledgeable of the student and his or her strengths and weaknesses.

The need for seminars presented by university staff from different faculties and residences was identified by six students (10%). This assistance would seemingly provide

students with a more complete understanding of the academic program and social functioning of M.U.N. prior to their registering for Junior Division.

The remaining responses to this research question are provided in Table 18.

Research Question #6: What specific Junior Division changes/additions do voluntary dropouts recommend to assist students to better adjust to the university environment and social milieu?

Table 19 presents the data for research question number 6. Data for this research question were obtained from the Additional Questions Section of the Institutional Integration Scale completed by the voluntary dropout students. Student responses were examined and grouped into categories representing similar changes and additions.

A total of 72 responses were obtained for this research question, representing 43 different categories. Only eight of these responses had a frequency of two or more. The frequency and percentage of the total for these eight response categories are presented in Table 19.

The need for a more extensive and informative orientation week, including a tour of the entire campus and local area, was identified by 11 students (15%). Students felt the need to become more familiar with their new living and/or learning environment. Students felt that M.U.N. should become actively involved in assisting them with this aspect of their university life. The need for instructors to be more sociable with Junior Division students was identified

Table 19

Type of Changes/Additions That The Voluntary Dropouts
Feel Could Be Provided During Junior Division
at Memorial University*1

Response	Frequency	Percentage*2
More extensive and informative orientation week including a tour of entire campus and local area	11	15
Instructors more sociable with Junior Division students	6	8
More social gatherings for Junior Division students to attend	6	8
More consideration given to Junior Division students during registration	6	8
More guidance provided regarding career choice	2	3
Junior Division courses taught more like high school courses	2	3
Instructors should be more willing to help Junior Division students	2	3
Junior Division students should be encouraged to enroll in clubs and organizations (etc.)	2	3

*1 Only those response categories having a frequency of 2 or more are presented in this table.

*2 All percentages are calculated using a total frequency of 72.

by six students (8%). Students identified the need for instructors to personally discuss each individual student's understanding of the course, including any difficulties experienced or questions about its content. The need for more social gatherings for Junior Division students was specified by six students (8%). Some Junior Division students felt segregated or improperly treated because of their age and the restriction this places upon them in attending many student social functions. An additional six responses (8%) specified the need for more consideration to be given to Junior Division students during registration. Student responses specified the need for mock registrations, more day classes, and classes scheduled closer together as ways of assisting Junior Division students to adjust to the demands and experiences of their new learning environment.

A review of the results contained in Table 19 underscores the importance of the social integration and functioning of the Junior Division student within the university environment. Response categories 1, 2, 3, and 8 identify the influence and importance of a specific component of social integration for the Junior Division student. The frequency of such responses highlights the importance of social integration during Junior Division and the impact it has upon the student.

Conclusions

In summary, the major conclusions of this study were:

1. The sex of a student was not significantly related to a Junior Division student's decision to voluntarily drop out or persist.
2. The place of residence prior to attending Junior Division at M.U.N. was significantly related to a Junior Division student's decision to voluntarily drop out or persist. A significant number of the persisters were not from the local area and had to relocate in order to attend Junior Division at M.U.N.
3. A significant number of voluntary dropouts attended more urban high schools. For those high schools located within metropolitan St. John's and Mount Pearl, there was a significantly high rate of voluntary student attrition.
4. For students with a high school grade point average in the 60.0-69.9 range, there was a significantly high rate of voluntary student attrition. The highest rate of student persistence was reported for students having a high school grade point average above 80.0.
5. There was a significant difference between Junior Division students who voluntarily dropped out and persisted in Subscale 5 (Institutional and Goal Commitments) of the Institutional Integration Scale. The voluntary dropouts in this study were significantly less certain of their future at M.U.N. or any other

educational institution.

6. Responses to five of the individual questions on the Institutional Integration Scale differentiated students who voluntarily dropped out from those who persisted. The voluntary dropouts were significantly less positive toward their: (1) interpersonal relationships with other students; (2) intellectual development; (3) desire to graduate from university; (4) desire to register for classes during Fall Semester, 1983; and (5) desire to graduate from M.U.N.
7. Responses of the voluntary dropouts indicated that either the students themselves, or the students in cooperation with their parents, influenced their final decision to attend M.U.N.
8. Responses of the voluntary dropouts pointed to the need for additional assistance and information during the senior high school program. The need for more career guidance and information, orientation tours of M.U.N. and its facilities, more counselling regarding university life, and the need for more seminars by university staff on different faculties and residences were the most frequent needs specified by students.
9. Responses from the voluntary dropouts suggested several changes and additions that could be implemented during Junior Division at M.U.N. to assist them to adjust to university life and the social milieu. Responses pointed to the need for: (1) a more extensive and

informative orientation week; (2) instructors to be more sociable with Junior Division students; (3) more social gatherings for Junior Division students to attend; and (4) more consideration given to Junior Division students at registration.

CHAPTER 5

RECOMMENDATIONS FOR ACTION AND FURTHER RESEARCH

This chapter presents the recommendations for action and areas for further research which follow from this study. The limitations in Chapter 1 influence the amount of generalizations which can be made from the conclusions (pp. 112-114) and these recommendations.

Action Recommendations

~~The following~~ recommendations are made by the writer, based upon the research findings.

1. It is recommended that more information about M.U.N. and the social, financial, and academic demands associated with university life be given systematically to all Grade 12 students during the senior high school program. This should enable Junior Division students to be better informed and prepared for entry into their new learning environment.
2. It is recommended that more Grade 12 students obtain actual exposure to M.U.N. during the senior high school program. This exposure could be in the form of an orientation tour or field trip to M.U.N., with students being able to view the various buildings, classrooms, and student residences.

3. It is recommended that more consideration be given to Junior Division students upon arrival to M.U.N. Specifically, a more extensive and informative orientation week would assist Junior Division students become more familiar with, and adjusted to, the university environment.

4. It is recommended that additional consideration and assistance be given to Junior Division students having to relocate in order to attend M.U.N. As appropriate, these students should be: informed of, and encouraged to use, the services offered by the M.U.N. Counselling Centre; paired up with older and more experienced students (i.e., the buddy system) during Junior Division; and given additional information and literature about St. John's and the location of the various services they may need (e.g., banks, shopping malls).

5. It is recommended that more consideration be given to Junior Division students when planning social events at the university. Junior Division students should be encouraged to attend social functions and not be penalized because of their age.

6. It is recommended that instructors of Junior Division students remain sensitive to the needs, experiences and frustrations of these students. Instructors should encourage Junior Division students to socialize more and, where possible, promote group activities and assignments.

7. It is recommended that instructors of Junior Division students be encouraged to informally socialize with their students outside of class because of the positive benefits associated with this type of exposure.

Areas for Further Research.

1. This study looked at the relationship of various personal and social variables affecting voluntary student attrition. A similar study focusing upon the relationship of the same variables and their relative influence upon academic withdrawal at M.U.N. is needed.

2. It is recommended to replicate the present study but statistically analyze the interactive effects of the variables upon voluntary student attrition.

3. It is recommended to replicate the present study with first-year students at another post-secondary educational setting in the province (e.g., Cabot Institute of Applied Arts and Technology). Such findings could be compared to the results of this study to see if students at these settings have similar first-year experiences.

4. It would be useful to replicate the present study with a Junior Division sample of students who graduated from the recently implemented Grade 12 high school program.

5. It is recommended to investigate the reasons for the relatively high incidence of voluntary student dropout.

at M.U.N. for students who graduated from specific high schools.

6. It is suggested to follow up a sample of Junior Division students who voluntarily dropped out of M.U.N. to identify the percentage of students who transferred to another educational setting, eventually returned to M.U.N., or became permanent dropouts from higher education.

7. It is recommended to more thoroughly investigate the ways voluntary dropouts could have been more challenged during Junior Division.

8. Further investigation into why significantly more commuter students from the St. John's and Mount Pearl areas voluntarily dropped out is quite advisable. Further analysis into the backgrounds and attitudes of these students may shed more light on this significant finding.

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APPENDIX A

INSTRUCTIONS

The purpose of this study is to survey selected experiences of students enrolled in Junior Division at Memorial University. The study is being conducted with the joint co-operation of the Office of Student Affairs and Services and the Department of Educational Psychology.

You have been selected because records kept by the Registrar's Office at Memorial University state you were enrolled as a Junior Division student during the sample year of Fall 82/Winter 83.

In the following anonymous questionnaire you are asked to respond to each statement by circling one of the five numbers on the scale. The numbers range from 1 (strongly agree) to 5 (strongly disagree). Decide which number best represents your experiences during Junior Division of Fall 82/Winter 83, and circle that number on the scale to the left of each statement.

EXAMPLE OF SCALE:

1	2	3	4	5
Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree

When completing the questionnaire, begin each statement with the phrase: "During Junior Division at Memorial University. . . ."

The questionnaire will take approximately fifteen minutes to complete. When finished, please place the questionnaire in the self-addressed stamped envelope, seal, and mail. It would be appreciated if the questionnaire could be completed within one week of being received.

I thank you in advance for your co-operation.

Sincerely yours,

Keith W. Moores
Graduate Student
Educational Psychology

QUESTIONNAIRE

Using the previous instructions, you are asked to respond to the following statements using the scale below:

1 2 3 4 5
Strongly Agree Agree Uncertain Disagree Strongly Disagree

Begin each statement with the phrase: "During Junior Division at Memorial University. . . ."

1. 1 2 3 4 5 I developed close personal relationships with other students.
2. 1 2 3 4 5 The student friendships I developed were personally satisfying.
3. 1 2 3 4 5 My interpersonal relationships with other students had a positive influence on my personal growth, attitudes, and values.
4. 1 2 3 4 5 My interpersonal relationships with other students had a positive influence on my intellectual growth and interest in ideas.
5. 1 2 3 4 5 It was difficult for me to meet and make friends with other students.
6. 1 2 3 4 5 Few of the students I knew were willing to listen to me and help me if I had a personal problem.
7. 1 2 3 4 5 Most students had values and attitudes different from my own.
8. 1 2 3 4 5 My nonclassroom interactions with faculty had a positive influence on my personal growth, values, and attitudes.
9. 1 2 3 4 5 My nonclassroom interactions with faculty had a positive influence on my intellectual growth and interest in ideas.
10. 1 2 3 4 5 My nonclassroom interactions with faculty had a positive influence on my career goals and aspirations.

1	2	3	4	5
Strongly	Agree	Uncertain	Disagree	Strongly
Agree				Disagree

"During Junior Division at Memorial University . . ."

- | | | | | | | |
|-----|---|---|---|---|---|---|
| 11. | 1 | 2 | 3 | 4 | 5 | I developed a close personal relationship with at least one faculty member. |
| 12. | 1 | 2 | 3 | 4 | 5 | I was satisfied with the opportunities to meet and interact informally with faculty members. |
| 13. | 1 | 2 | 3 | 4 | 5 | Few of the faculty members I had contact with were generally interested in students. |
| 14. | 1 | 2 | 3 | 4 | 5 | Few of the faculty members I had contact with were generally outstanding or superior teachers. |
| 15. | 1 | 2 | 3 | 4 | 5 | Few of the faculty members I had contact with were willing to spend time outside of class to discuss issues of interest and importance to students. |
| 16. | 1 | 2 | 3 | 4 | 5 | Most of the faculty I had contact with were interested in helping students grow in more than just academic areas. |
| 17. | 1 | 2 | 3 | 4 | 5 | Most faculty members I had contact with were generally interested in teaching. |
| 18. | 1 | 2 | 3 | 4 | 5 | I was satisfied with the extent of my intellectual development. |
| 19. | 1 | 2 | 3 | 4 | 5 | My academic experience had a positive influence on my intellectual growth and interest in ideas. |
| 20. | 1 | 2 | 3 | 4 | 5 | I was satisfied with my academic experience. |
| 21. | 1 | 2 | 3 | 4 | 5 | Few of my courses were intellectually stimulating. |
| 22. | 1 | 2 | 3 | 4 | 5 | My interest in ideas and intellectual matters increased. |
| 23. | 1 | 2 | 3 | 4 | 5 | I was more likely to attend a cultural event (for example, a concert, lecture, or art show) than I was before coming to this university. |

1	2	3	4	5
Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree

"During Junior Division at Memorial University . . ."

24. 1 2 3 4 5 I performed academically as well as I anticipated I would.
25. 1 2 3 4 5 It was important for me to graduate from university.
26. 1 2 3 4 5 I was confident that I made the right decision in choosing to attend this university.
27. 1 2 3 4 5 It seemed likely that I would register at the university the next fall.
28. 1 2 3 4 5 It was not important to me to graduate from this university.
29. 1 2 3 4 5 I had no idea at all what I wanted to major in.
30. 1 2 3 4 5 Getting good grades was not important to me.

APPENDIX B

ADDITIONAL QUESTIONS

1. My main reason(s) for not returning to Memorial University is (are): (1) _____

(2) _____

(3) _____

2. After leaving Memorial University, I attended another University or college (etc.): Yes _____ No _____ (please indicate)

If yes, which one: _____

When? _____

3. During Junior Division at Memorial University, I lived:

(1) At home with my parents _____

(2) With relatives _____

(3) With non-relatives (i.e. boarding) _____

(4) In university residences _____

(5) Other _____ Please specify _____

4. Before entering Memorial University, the person(s) who assisted me the most in making my final decision to attend Junior Division at Memorial University was (were):

(1) Self _____

(2) Parents _____

(3) Friend _____

(4) Teacher _____

(5) Principal _____

(6) Guidance Counsellor _____

(7) Other _____ Please specify _____

5. If I could provide input into the policy making at Memorial University, I would suggest the following changes/additions because they would assist Junior Division students adjust to the university environment and social milieu:

- (1) _____

(2) _____

(3) _____

(4) _____

(5) _____

6. The following services/resources can be offered at the senior high school level to assist students make the transition from senior high school to Junior Division at Memorial University:

- (1) _____

(2) _____

(3) _____

(4) _____

(5) _____

7. Any additional comments/suggestions would be appreciated below:

APPENDIX C

6A Memorial Drive,
Gander, Nfld.
December 1, 1984

TO WHOM IT MAY CONCERN

Recently you were selected to participate in a study being conducted with the joint co-operation of the Office of Student Affairs and Services and the Department of Educational Psychology. An anonymous questionnaire surveying selected experiences of students previously enrolled in Junior Division at Memorial University was then mailed to you.

The majority of these questionnaires have been returned and are ready to be processed and analyzed. In order for this study to accurately survey the experiences of students previously enrolled in Junior Division at Memorial University, and to suggest to university and high school officials methods of assisting students entering Junior Division at Memorial University, responses from all those selected is desirable.

My purpose in writing at this time is to thank those who have already returned their completed questionnaire, and to encourage those who have not to return them at their earliest possible convenience. All questionnaires returned within one week of receiving this letter will be processed and analyzed with those questionnaires previously returned. Hence, a rapid return of your completed questionnaire would be greatly appreciated.

I thank you in advance for your co-operation.

Sincerely yours,

Keith W. Moores
Graduate Student
Educational Psychology



