

PREDICTING SUCCESS FOR GRADUATE STUDENTS ON
THE MASTER OF EDUCATION PROGRAMME IN
EDUCATIONAL ADMINISTRATION AT MEMORIAL
UNIVERSITY OF NEWFOUNDLAND

CENTRE FOR NEWFOUNDLAND STUDIES

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BERNARD M. WOODFINE



PREDICTING SUCCESS FOR GRADUATE STUDENTS ON THE
MASTER OF EDUCATION PROGRAMME IN
EDUCATIONAL ADMINISTRATION AT
MEMORIAL UNIVERSITY
OF NEWFOUNDLAND

by



Bernard M. Woodfine

In partial fulfillment of the
requirements for the degree
Master of Education

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Dedication

Most of life's accomplishments are ours only for the moment. I dedicate this work to the many individuals who have shared in my aspirations (Nina, Ellen, James, Lorraine, Willie, Patsy, Bill, Loretta, William and Rachael). Most of all, I would like to dedicate this work to my daughter Eunece and to our expected child. Only future generations can fully understand works of the present.

Abstract

This study attempted to isolate a number of factors (variables) associated with achieving graduate school success in the Master of Education degree program at Memorial University of Newfoundland. Eleven variables were examined as possible predictors of graduate school success. Each predictor variable was correlated with each of four measures of graduate school success.

Overall undergraduate grade average, undergraduate grade average in the last 20 courses completed, undergraduate grade average in education courses, undergraduate major area of study, grade level of undergraduate education degree training, years of teaching and administration experience, possession of administrative experience, sex, age, full or part-time program status and thesis or non-thesis program option were examined as possible predictors of graduate school success. Attainment of degree, administrative success, career success and graduate grade average were used as measures of graduate school success.

Based upon the correlational analysis completed, an interesting result was the relative strength of sex, age, years of teaching/administrative experience and undergraduate education course average as possible predictors of graduate school success.

Correlations were found to be quite low. However, these correlations were similar to those found in previous research. The use of non-continuous variables such as sex and program status in a correlational analysis of this type could be questioned and recommendations based upon these variables must be viewed with caution.

Stepwise multiple regression analysis indicated that the best predictors of graduate grade average were undergraduate average in the last 20 courses completed, years of teaching and/or administrative experience, possession of administrative experience and major area of undergraduate study. Best predictors of career success included thesis/non-thesis program option and possession of administrative experience.

A stepwise multiple regression analysis could not be performed on either administrative success or attainment of degree possibly due to the high intercorrelations between the predictor variables. Undergraduate average in the last 20 courses was the only predictor significantly correlated with administrative success while type of attendance was the only predictor significantly correlated with attainment of degree.

Results of this study question certain currently used admission criteria and seem to validate other admission criteria. Given the tentative nature of certain correlations, generalizations of results were cautioned.

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A very special appreciation is expressed to my parents James and Ellen, for instilling in me, the desire to examine what rests beneath the obvious.

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CHAPTER 1
THE PROBLEM

Introduction

Graduate departments of educational administration have expanded dramatically since the first two doctorates were awarded in 1905 at Columbia University (Culbertson, 1978). In the United States alone, there are 375 institutions offering programs or courses in educational administration (Silver & Spuck, 1978). There are 30 Canadian universities and colleges offering programs in educational administration ranging from the pre-master's to the doctorate (Miklos & Nixon, 1978). Miklos and Nixon (1978) also report that there are over 300 full-time and 3000 part-time students enrolled in educational administration programs in Canada. Part-time master's candidates in Canadian universities have increased rapidly and in the six year period covering 1972-78, part-time master's enrollment has doubled (Holdaway, 1978).

In light of Holdaway's findings, it is obvious that one of the most pressing issues facing graduate departments today is control over large numbers of applicants for Master's programs. Accurate selection procedures are necessary for fair and effective admissions to any graduate program. Accurate selection, however, involves accurate identification of factors directly associated with graduate school success.

As McIntyre (1966) points out, selection problems are, more or less, problems of prediction. When we select candidates for administrative training, we are doing so on the basis of "probable success" in the field of educational administration. In other words, we are attempting to predict which candidates will most likely and least likely succeed in an educational administration program.

If graduate schools are to select candidates suitable for administrative training, then factors significantly related to graduate school success must form the basis of such selection. Identifying significant variables which can serve as admission criteria has not been an easy task for educators. In a 1975 survey questionnaire given to 39 departments of educational administration in the United States and Canada, one of the most crucial problems mentioned was the identification and validation of discriminating criteria which are predictive and defensible (Mitchell & MacSpadden, 1977).

While admission selection practices may vary a great deal among graduate schools, several common selection criteria can be identified. Master's degree program co-ordinators of educational administration in Canadian universities emphasize grade point average, letters of recommendation, and possession of teaching and/or administrative experience in making selection decisions (Farquhar & Housego, 1980). In the United States, 85% of all educational administration departments state that the three most crucial criteria used in the

selection of candidates are grade point average, letters of recommendation and standardized test scores (Silver & Spuck, 1978). Research studies concerning the validation of these and other selection criteria have found various degrees of success in predicting graduate performance using these criteria as predictors (See review of literature in chapter two for correlations found between various predictor variables and success criteria.).

Many studies have questioned the weight presently given to several of the criteria used in graduate candidate selection. Silverston (1984) has questioned the reliance on Graduate Record Examination scores as a selection criterion. Lipham (1960) found that among other variables, graduate study and years of teaching and/or administrative experience had no relationship to effectiveness as an educational administrator. Swanson, Beeghly and Burdick (1969) found that undergraduate grade point average was not significantly related to graduate school success. Most studies have reported very slight to moderate correlations between various predictors and graduate school success for example (Heritage, 1977; Conrad, Trisman & Miller, 1977; Schrader, 1984). It is a rarity to find any study reporting correlations between various predictors and graduate school success which account for more than 25 percent of the variance in graduate school performance (See review of literature for typical correlations reported.).

Educational administrators are unsure as to which criteria they should use in the selective admission of candidates to their programs. A survey conducted in the United States revealed considerable variation among professors of educational administration programs as to the degree of importance which should be placed upon certain admission criteria in the selective admissions process. Results of this survey reported by Nickerson (1972) showed that 61% of professors believe that an undergraduate average of "B" or better is of only marginal importance while 28% feel that this criterion is of major importance in the selection process. Thirty-nine percent of professors surveyed felt that prior administrative experience is of serious importance and only 42% felt that standardized test scores are of major importance in the selection process. Suffice to say, there is much uncertainty concerning which factors affect graduate school performance.

Statement of the Problem

The present study focuses on the examination of selected predictor variables and their correlations with graduate school success in educational administration. More specifically, this study will address the following questions in an attempt to clarify any uncertainty concerning the nature of the relationship between selected predictor variables

(including currently used admission criteria) and graduate school success in the Department of Educational Administration at Memorial University of Newfoundland.

1. Are the criteria presently used in the selection procedure for educational administration candidates at Memorial University predictors of success both on the Master's program and afterwards?
2. What is the relationship between selected predictor variables included in this study (other than variables currently used as admission criteria at Memorial University) and graduate school success?
3. Do success criteria other than the traditional academic dimension of student performance offer any insight into overall student success in graduate study?
4. Considering the present large applicant pool of candidates for admission into the graduate Department of Educational Administration, can a fair discrimination between student potential and graduate school success be accomplished through the establishment of higher undergraduate cut-off points (raising the undergraduate average required for admission to "70" from "65")?
5. Which factors seem to be associated with student dropout from the Master's degree program in educational administration?

Significance of the Study

Due to the variability in correlations between various predictor variables and graduate school success criteria, it is generally not clear which types of criteria should be used in selecting candidates for educational administration programs. Undergraduate academic performance, for example, is a very common criterion used for selection purposes in Canadian educational administration programs (Farquhar & Housego, 1980). Many studies have found extreme variability in the correlation between undergraduate and graduate grades despite its current use as an admission criterion. In the three year period 1979-1981, a battery of 85 separate studies revealed correlations ranging from .05 to .45 between undergraduate and first year graduate grades (Hecht & Powers, 1982).

Research completed on the correlation between various predictor variables and graduate school success has involved mainly undergraduate grades and standardized test scores as predictors while the most common criterion of graduate school success has been graduate grade point average (Johnson & Thompson, 1962; Owens & Roaden, 1966; Lafferty, 1969; Blanchard, 1970; Hecht & Powers, 1982). Very few studies have employed more than four or five predictor variables and most use only one criterion of success.

The present study is of particular importance for a number of reasons.

1. It is the first concerted effort at validating current admission procedures in the Department of Educational Administration's Master's degree program at Memorial University of Newfoundland.
2. This study is being conducted at a time when graduate enrollment is increasing dramatically and admission standards are being seriously examined.
3. Very few previous studies have included the numbers and types of predictor variables involved in the present study.
4. The majority of previous studies have used only one criterion of graduate school success and have thus experienced severe limitations with respect to the interpretation and generalizability of their findings. The present study employs four separate and distinct criteria of graduate success and thus will significantly reduce limitations placed upon previous research studies.

Of paramount importance is the potential for the results of this study to clarify the existing relationship between candidate qualities and eventual success in the Master's degree program in educational administration at Memorial University.

Purpose of the Study

The purpose of this study is to examine through correlational analysis, the relative usefulness of selected variables as predictors of graduate school success in educational administration. Since several of the selected variables involved in this study are presently used in candidate selection at Memorial University, this is also a validation study of the current selection procedure. In addressing the problem of choosing relevant admission criteria for an educational administration Master's degree program, the following predictor variables have been isolated for correlational analysis:

1. Overall Undergraduate Grade Average
2. Undergraduate Grade Average in the Last 20 Courses Completed
3. Undergraduate Grade Average in All Education Courses Completed
4. Undergraduate Major Area of Study (aside from Education courses)
5. Possession of Administrative Experience Prior to Program Entry
6. Grade Level of Undergraduate Education Degree Training
7. Full or Part-time Status While on the Program
8. Years of Work Experience Prior to Entry in the Graduate Program

9. Sex
10. Age of the Student Upon Entry to the Graduate Program
11. Graduation on the Thesis or Non-thesis Option of the Program

Each of the selected predictor variables was examined with respect to its relationship to graduate school success. Graduate school success was defined in this study according to the following four criteria:

1. Academic Success
2. Administrative Success
3. Career Success
4. Attainment of Degree

Theoretical Framework

A basic assumption underlying all selection procedures is that certain selected criteria will reflect standards of competency essential for successful completion of a particular program. Success in a graduate program is defined in terms of program objectives. To be considered successful, every graduate student is expected to meet certain objectives inherent in the particular program of study. Before one can identify the objectives of any graduate program, some introspection is needed as to the overall purpose or orientation of such a program.

It is logical to assume that any graduate program in educational administration should provide for both the advanced study of administration as a science and the skills and theory needed for effective administrative practice. If one views the study of administrative theory and skills as academic in nature, then one also has to view the preparation of educational administrators as practical in nature. It is precisely these two orientations (academic and practical) which form, or at least ought to form, the basis of any graduate program in educational administration. Program objectives must necessarily include the preparation of educational administrators who are both academically and professionally (practically) competent in the field of education.

The Master's degree program in educational administration at Memorial University has certain objectives or expectations for each candidate. Some of these objectives are required to be achieved by the candidate before being awarded a Master's degree, while others are more general in nature and expected of the candidate after graduation. One can identify five distinct objectives of the Master's degree program in educational administration at Memorial University. Three of these objectives are obvious from the degree requirements while two are more or less inferred from what is generally expected of a graduate from an educational administration Master's degree program.

If one examines the requirements for an educational administration Master's degree, the following three objectives (depending upon which program option chosen) can be identified (Memorial University of Newfoundland Calendar, 1988-89 school year):

1. The candidate should demonstrate adequate academic skills as indicated by a minimum grade average (currently a "65") in all graduate courses completed.
2. The candidate should demonstrate adequate research ability indicated through completion of a thesis option (thesis, project or internship).
3. The candidate should perform adequately on a comprehensive examination (if the thesis option is not chosen).

Given the obvious research and general academic requirements for a Master's degree in educational administration, one must not overlook two other expectations which in reality give meaning to any such program. In a previous discussion concerning the orientations of any educational administration program, it was reasoned that such a program ought to be geared toward both academic and professional (practical) administration. Of course, an individual can be both an academic and professional administrator if he or she is practising administration and also enrolled in a graduate program. One would assume that

at least one major concern of any educational administration Master's degree program would be to provide for the successful practise of administration. It is obvious that successful administration requires the possession of both an administrative position and effective administrative skills. Following the logic of this line of reasoning, the final two objectives expected of each graduate is as follows:

4. The candidate should possess effective administrative skills.
5. The candidate should demonstrate some degree of career success.

Note the difference between the first three and last two objectives listed above. Objectives one, two and three reflect the candidate's academic (or research) skills while objectives four and five reflect the candidate's professional (practical) skills. The difference between these two types of objectives is simply a reflection of the two dimensions to any educational administration Master's degree program; the academic and professional or practical. At Memorial University, as is the case with the majority of other universities, no attempt is made to assess the candidate's professional or practical skills as part of his or her final grading process. Indeed it is not an easy task to accurately assess a candidate's administrative capacity and this may be the major reason why such skills are simply general expectancies of the candidate after graduation rather than

part of the grading process. While obviously not a part of the formal grading process, the development of such professional or practical skills must remain a vital part of all objectives for any Master's degree program in educational administration.

Figure 1 illustrates the relationship that ought to exist between program objectives and the candidate selection procedure. The basic question which higher learning institutions must ask before deciding on a selective admissions procedure is which candidate qualities will accurately predict achievement of the identifiable program objectives. Obviously then, a clarification of program objectives is needed prior to the establishment of any admission procedure.

Listed in Figure 1 are three general objectives of an educational administration Master's degree program which are of concern in the present study. These three objectives reflect both the academic and professional (practical) competencies of all Graduate candidates. The decision as to which candidate qualities best reflect a capacity to successfully complete the program is not a simple matter and should be made only after careful consideration of empirical evidence. This evidence should validate the use of various admissions criteria and can be collected by the institution itself through studies such as the present one or through an extensive examination of studies conducted elsewhere.

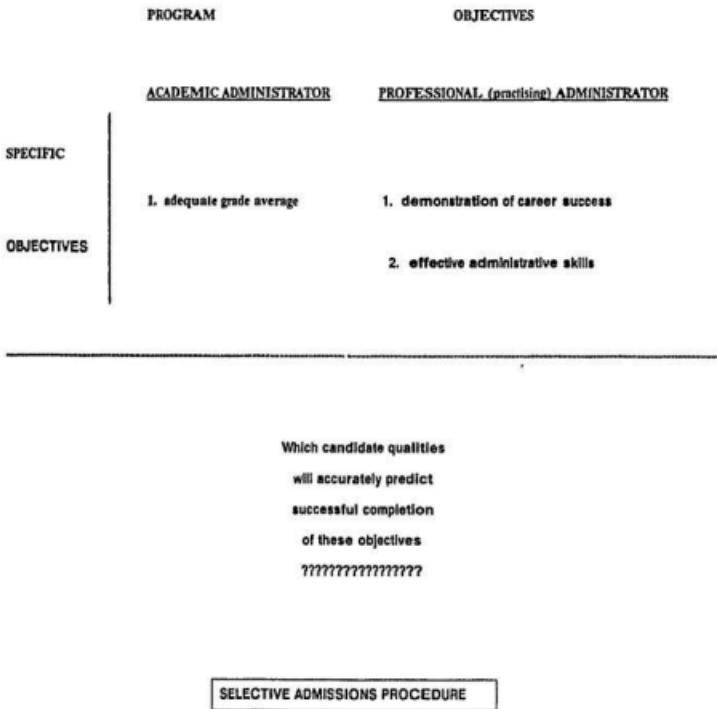


Figure 1. Ideal Relationship Between Program Objectives and Selective Admissions

The selective admissions procedure must be developed to suit the needs of the institution in question, through a logical examination of all program objectives. Figure 2 illustrates the various components which form the selective admissions procedure.

All selection procedures have two major components-- performance predictors and criteria of success. To be useful, this selection procedure must employ predictors which accurately reflect success criteria. There are a number of dimensions involved with both predictors and success criteria as can be seen in Figure 2.

When we examine predictors, four major categories or dimensions can be identified. These dimensions are the academic, personal, professional and program characteristics. Within each dimension, certain specific predictor variables can be used to predict program success as defined by the particular criteria used. A candidate's profile should be examined according to these dimensions where certain academic, professional and personal candidate characteristics may predict his or her success in the program. While the candidate is enrolled in the program, there may be certain program characteristics which impact upon performance and these characteristics are termed "program dimensions".

SELECTIVE ----- ADMISSIONS ----- PROCEDURE	TWO COMPONENTS	SUCCESS CRITERIA
SPECIFIC PREDICTOR VARIABLES AND SUCCESS CRITERIA WITHIN EACH DIMENSION		DIMENSIONS
1. ACADEMIC	overall undergraduate average undergraduate average in last 20 courses completed average grade in undergraduate education courses undergraduate major areas of study	overall graduate grade average demonstration of career success possessing effective skills in administration attainment of degree
2. PROFESSIONAL	possession of administrative experience grade level of undergraduate degree (primary-elementary-secondary) years of teaching and/or administrative experience (work experience)	Note: Attainment of degree can involve any or all of the dimensions listed.
3. PERSONAL	age sex	
4. PROGRAM	full or part-time status on program choosing thesis or non-thesis route	

Figure 2. The Selective Admissions Procedure: Its Components, General Dimensions, Specific Predictor Variables and Success Criteria

A selective admissions procedure should identify exactly which dimensions and which specific predictor variables accurately predict program success. Listed in Figure 2, are the eleven predictor variables used in this study and which are potentially correlated with graduate school success in an educational administration Master's degree program. The specific predictor variables are really definitions of how we measure each predictive dimension. We can, for all intents and purposes, view these specific variables as operational definitions of what we mean by academic, professional, personal and program dimensions.

The criteria of success also have a number of dimensions or major categories. Defined in Figure 2 are three success criteria dimensions (academic, career and administrative) which can be traced back to specific program objectives listed previously. From Figure 2, one specific criterion measure peculiar to each dimension can be identified. There is a fourth criterion measure of success which is isolated and not specific to any dimension although it may be more closely tied to the academic dimension. This criterion measure is attainment of degree and is more fully explained in the "review of the literature" section. Factors affecting whether or not a candidate actually attains a Master's degree can be academic, personal or professional in nature and therefore, can pertain to all dimensions of success criteria. The academic dimension of success is indicated by the candidate's

overall graduate grade average. The career dimension is defined as holding a position of administrative responsibility while the administrative dimension is indicated by the possession of effective administrative skills. Figure 2 represents a summary of the general design of this study, embedded within a theoretical philosophy of how a selective admissions procedure ought to be developed.

Delimitations

This study is delimited by several obvious features of the design and by the particular definitions of various predictor variables and success criteria employed in this study.

Since only those students accepted as candidates for the Master's degree program in educational administration are included in the population under study, we cannot generalize the results to making statements concerning potential candidates for this program. We can therefore, only make statements with respect to either maintaining or raising current admission requirements concerning undergraduate average. It would not be proper to suggest that lowering academic admission standards would lead to a better candidate pool as this study does not attempt to assess the career or administrative success of candidates refused admission to the program.

Career success is defined in this study as holding a position of administrative responsibility within five years after graduating from the Master's degree program (See definitions of success criteria and definitions of terms for further explanation of this criterion.). Due to the definition of career success employed in this study, only those students who graduated prior to and including the year 1981 are included in the population under study. It is obvious that if graduates after 1981 were included, their degree of career success could not be obtained until 1987.

The success criterion "attainment of degree" presents a problem similar to that of career success. According to current regulations concerning the awarding of a Master's degree in education at Memorial University of Newfoundland, a candidate must complete requirements for a Master's degree within seven years of acceptance to the program. Obviously then, one cannot assess whether or not a candidate has actually attained a Master's degree until this seven year period has ended. Since this study is already delimited by the five year restriction placed upon candidates for achieving career success, a further restriction of two years would have to be in place for assessing attainment of degree if Memorial University regulations are to be followed. It is the opinion of the researcher that this restriction would eliminate a significantly large number of Master's candidates from the population and therefore cannot be employed.

Due to the problems introduced by a further two year restriction for students included in the population, attainment of degree has been given a unique definition for the purposes of this study. Attainment of a Master's degree in educational administration was judged according to the following guidelines:

- (1) for those students who have started the Master's program on or before 1979, attainment of degree will have been achieved if a degree was conferred by 1986 which is the end of the seven year period allowed by Memorial University.
- (2) for those students who have started the Master's program after 1979, attainment of degree will have been achieved if they have been conferred the degree by 1986. However, if the student has not been conferred the Master's degree by 1986, he or she will not be considered to have failed to achieve or attain a degree because one has seven years to complete the degree according to Memorial University regulations. These students will be classified as current enrollments and cannot be assessed as to their attainment of degree.
- (3) all students who have withdrawn from the Master's program or who have failed to meet academic requirements for the program will not be considered to have attained a degree.

The definition of attainment of degree does not reduce the population under study, however, it is obvious that some candidates included in the population will not be assessed for attainment of degree.

The literature available has revealed certain relationships between predictors and criteria which may serve to delimit this study. Extreme variability in correlations between various predictor variables and success criteria have been noted (see review of literature for reported correlations) among different graduate departments. The specific results must, therefore, be interpreted with respect to Master's candidates in the department of educational administration only. Some evidence also exists which would indicate that such correlations between various predictors and criteria vary from institution to institution (see review of literature for correlations). One cannot generalize results of this study to other graduate departments or institutions.

Limitations

Limitations inherent in this study reflect the general difficulty in establishing both effective performance predictors and relevant criteria of success. Many researchers have expressed concern over this fundamental problem (McIntyre, 1966; Nickerson, 1972; Willingham, 1974; Silver & Spuck, 1978).

The variables used in this study were arbitrary and although the inclusion of these variables were well documented in the literature, many other variables have been examined. personality factors (Pemberton, 1969; Kunert, 1970); quality of undergraduate institution attended before entering the graduate program (Kaiser, 1978; Dunaway, 1984); sociological factors (Houston, 1982); psychological type and personal attributes (Stone, 1980; Kapusta, 1980; Macrides, 1981) and many other variables have been used as predictors of graduate school success. Obviously, it is possible that certain significant variables have been overlooked in this study and therefore, a total picture of graduate school success prediction cannot be presented.

The selection of graduate success criteria for this study has not been totally objective. Many criteria of graduate success which have been used in previous research were not included in this study. Blanchard (1970) and Heritage (1977) have both used the time taken to complete a degree as a measure of graduate success. Decision making behaviour (Andrews, 1970), percentage of A's received (Ewen, 1969) and first year graduate average (Powers and Hardy, 1980; Powers and Moss, 1980) are examples of other success criteria. Again, it is quite possible that this study has overlooked certain key measures of graduate success. Due to the arbitrary nature of both the predictor variables and success

criteria, construct validity is a major concern of this thesis.

The types of variables and success criteria used in this study and the measurement of these variables and criteria are cause for concern with respect to the interpretation of results. Since this study is a correlational analysis to a large extent, the use of non-continuous variables such as sex posed certain difficulties. Assigning these types of variables a numerical code was necessary, however, the interpretation of correlations between these variables and continuous variables such as age proved questionable. Obviously the statistical appropriateness of interpreting both continuous and non-continuous variables in the same correlation is a major shortcoming of this design.

Finally, the low magnitude of correlations found may contribute to a substantive loss in the credibility of certain conclusions. despite the fact that many significant correlations were found to exist between various predictors and success criteria, these correlations were quite low. In practical terms therefore, one must be careful in judging the usefulness of certain variables as predictors.

Definitions

Selective Admissions Procedure. This refers to the specific admission policy of a particular institution.

Predictor Variable (performance predictor). Characteristics of the candidate or program which can predict graduate school success.

Success Criteria (criterion). Specific measures of success which define what is meant by success and to which the predictor variables are correlated.

Candidate (student). Individuals admitted to the Master's degree program in educational administration.

Grade Average (GA). The arithmetic mean grade obtained over a number of courses.

Grade Point Average (GPA). This term has been employed by many previous researchers and refers to a candidate's grade point rating (similar to the point system at Memorial University). This is simply another way in which to view a candidate's grades where four points reflect an "A", three points reflect a "B", two points reflect a "C" and one point reflects a "D". The points corresponding to each letter grade may vary from institution to institution.

Academic Administrator. The administrator involved mainly in the continuing study of administration theory and skills through academic routes.

Professional (practising) Administrator. The individual involved in a position of administrative responsibility as a practising educational administrator.

Work Experience. Years of teaching and/or administrative experience in the field of education.

Grade Level of Undergraduate Education Degree Training (Training Level). The particular grade level at which the candidate received his or her training as part of the undergraduate Education degree. At Memorial University of Newfoundland there are three grade levels in which a candidate can choose to be trained--primary, elementary or secondary.

Graduate Grade Average (GGA). The grade average obtained in all graduate courses completed in fulfillment of the Master's degree in educational administration.

Thesis/Non-Thesis Option of the Program. The particular route chosen by a candidate to complete a Master's degree in educational administration. At Memorial University, a candidate can either complete 14 graduate courses and a comprehensive oral examination or choose to complete a thesis, project or internship in addition to ten graduate courses. For the purposes of this study, a candidate shall be classified as a thesis student if he or she has completed a thesis, project or internship. A non-thesis candidate is a student who has chosen to graduate with 14 graduate courses and a comprehensive examination or has completed the degree without completing a thesis, project or internship.

Full or Part-Time Status on the Program. The status declared by the candidate or institution subject to the number of graduate courses registered for in any particular semester of the graduate program. Specific guidelines are included in this study for determining a candidate's status and are described in the definitions of predictor variables section of this study (Chapter 3).

Academic Success. A particular dimension of graduate school success defined by the criterion "graduate grade average". See the definitions of success criteria for further explanation (Chapter 3).

Career Success. A third dimension of graduate school success which is defined as holding a position of administrative responsibility within five years of graduating. See the definitions of success criteria for further explanation (Chapter 3).

Attainment of Degree. A fourth criterion of graduate school success defined generally as being awarded a Master's degree in educational administration. See the definitions of success criteria and delimitations of this study for further explanation.

Undergraduate Grade Average (UGGA). The arithmetic grade average obtained in all or part of the undergraduate program.

Overall Undergraduate Grade Average (OUGGA). The arithmetic grade average obtained in all undergraduate courses completed.

Program Variables. Predictor variables which are unique to the graduate program at Memorial University because they are optional. Two such variables are included in this study -- thesis/non-thesis option and full/part-time status option.

Administrative Experience. A predictor variable indicating whether or not graduate students possess any administrative experience prior to graduate school entry.

Undergraduate Average in Education Courses (UGA-Ed). The arithmetic average obtained in all undergraduate education courses completed.

Major Area of Study. The subject(s) in which candidates completed the greatest number of undergraduate courses. All majors were categorized into one of the following:

1. Social Sciences: Psychology, Geography, Sociology and Economics.
2. Social Studies: Education, Philosophy, English, Second Languages, Business, Theology, Political Science, Music, Law and History.
3. Pure Sciences: Biology, Math, Nursing, Computer Science, Physics and Chemistry.

Administrative Success. A dimension of graduate school success defined by scores attained on a self-administered, opinion-type questionnaire (Leadership Opinion Questionnaire) which measures attitudes of what one considers to constitute effective leadership skills.

CHAPTER 2
REVIEW OF RELATED LITERATURE

Introduction

There is a distinct scarcity of literature concerning factors affecting graduate school success in educational administration. Most literature dealing with educational administration is a discussion of educational philosophy adding little to the general understanding of which candidate characteristics seem to affect graduate school performance. A considerable amount of literature, however, was found in relation to other graduate departments in education and to management in general.

Due to the great number of variables associated with the present study, it is necessary to partition the literature review into subsections dealing with each predictor variable separately. Each of the subsections which follow this discussion includes relevant research concerning each variable and the hypotheses developed for each predictor variable. The hypotheses will either be logically arrived at, through discussion if no research is available, or will be drawn from the literature if research is available. This review contains subsections dealing with each of the eleven predictor variables.

The final subsection of this review is a summary of relevant research which has used the particular criteria of success involved in this study. The success criteria which have been listed in a previous section (page 8) are more fully explained in a later section describing the methodology of the study (Chapter 3).

Predictor Variables

Overall Undergraduate Grade Average

All studies relevant to overall undergraduate grade average have used the undergraduate grade point average as a predictor variable instead of the undergraduate grade average as is used in this study. As was explained in the "definitions of terms", grade point average is just another way in which to view academic performance using the point system. The present study uses the "arithmetic grade average" instead of the "grade point average"; grade average is simply the mean score obtained in total coursework (see definitions of terms section for greater detail on this term). The rationale behind the use of the grade average as opposed to the grade point average will be discussed later in the methodology section of this paper (Chapter 3).

Table 1 displays the numerous studies dealing with grade point averages and the correlations obtained between grade point average and various measures of graduate school success.

Table 1

Reported Correlations Between Undergraduate and Graduate
School Performance (Academic)

Correlations between undergraduate and graduate academic performance	Source
.23 - .29	Schrader (1984)
.38	Gustafson & Michael (1976)
.30	Conrad, Trismen & Miller (1977)
.11	Ewen (1969)
.42	Platz, McClintock & Katz (1959)
.24	Covert & Chansky (1975)
.24	Schwartz & Clark (1959)
.27	Dole & Baggaley (1979)
.31	Payne, Wells & Clarke (1971)
.05	Bean (1975)
.26	Alexakos (1967)
.38 - .46	Johnson & Thompson (1962)
.39	Rooinson (1957)
.30	Harvey (1963)
.57	Wallace (1952)
.42	Capps & Decosta (1957)
.57	Conway (1955)
.28	Hackman, Wiggins & Bass (1970)
.10 - .21	Mehrabian (1969)
.24	Andrews (1970)
.49	Ayers (1971)
-.14 - -.31	Heritage (1977)
.03 - .29	Creager & Harmon (1966)
.37	Robertson & Nielson (1961)
.15	Robertson & Hall (1964)
-.22 - .49	Lannholm (1968)
.24*	Hecht & Powers (1982)
.31*	Willingham (1974)
.28*	Graduate Record Exam Manual (1985-86)

Although grade point averages are indicated in the display, it is obvious that similar to the grade averages, the included correlations are indicative of the relationship between undergraduate and graduate performance.

As can be seen from Table 1, there is considerable variation in reported correlations between undergraduate and graduate performance. Of particular importance are the last three studies marked with an asterisk. These last three studies report correlations from a battery of studies conducted by various researchers. In each of these three studies, the median correlation between undergraduate and graduate performance is reported and represents the typical correlation between undergraduate and graduate performance found in the literature.

Very few of these studies directly concern educational administration, however, many report correlations among various graduate departments including education. From the table, it can be seen that despite the particular graduate department studied, the highest correlation obtained was .57 (Wallace, 1952; Conway, 1955). While the correlation reported by Wallace reflects various graduate departments, Conway studied Master's students in education. Although a correlation of .57 is relatively strong, it must be noted that such a correlation is an exception rather than the rule, and is in no way representative of the typical correlations obtained.

The most typical correlations between undergraduate and graduate performance are those reported by Hecht and Powers (1982); Willingham (1974) and the Graduate Record Exam Manual (1985-86). The correlation of .31 reported by Willingham represents a median correlation obtained from 26 separate studies. Hecht and Powers report a median correlation of .24 based on 85 separate studies. Perhaps the most typical correlation can be seen as the .28 reported in the Graduate Record Exam Manual because this correlation is based upon the study of 388 graduate departments across North America.

Based upon the correlations displayed in Table 1, it is not expected that the correlation between undergraduate and graduate grade average will be above the typical correlation of .30. In fact, most correlations would have to be classified as falling into the very low (.1 - .2) to moderate (.2 - .3) range.

Hypothesis 1: There will be a low (.10 - .20) to moderate (.20 - .30) correlation between overall undergraduate grade average and graduate grade average.

Graduate grade average is only one of four measures (criteria) of graduate school success. Therefore, it is appropriate to hypothesize the expected relationship between undergraduate grades and the other three measures of success in graduate school--career, administrative and attainment of degree.

Virtually all the studies reflected in Table 1, indicate the relationship between undergraduate and graduate grades. Most relevant research deals with the relationship between undergraduate academic performance and academic success in graduate school and very little literature exists concerning the relationship between undergraduate grades and non-academic graduate school performance.

Lipham (1960) found no relationship between graduate study and being an effective or ineffective educational administrator. Mann (1958) found that variables associated with college success provided no means of predicting post-college success. It would seem that factors other than academic account for being an effective administrator, although research is scanty in this area. Administrative and career success seem to be unrelated to academic performance in either graduate or undergraduate studies. If administrative and career success has little correlation with graduate performance, then one would expect an even smaller correlation between administrative and career success and undergraduate grades.

Hypothesis 2: There will be no relationship between overall undergraduate grade average and either career or administrative success.

Attainment of degree, although used frequently in the literature as a criterion of graduate school success, is a very unstable type of criterion. The correlations found

between undergraduate grades and degree attainment are quite unstable and often contradictory. However, since attainment of a degree is a fundamental objective of any program, it is a valid criterion of graduate school success.

In a study involving 32 departments at 15 separate university graduate programs, the correlations obtained between undergraduate grades and various measures of attainment of degree, ranged from -.22 to .49 (Lannholm, 1968). Heritage (1977) found a correlation of .14 between undergraduate grades and attainment of a Master's degree in Education. Ewen (1969) found a correlation of only .10 between undergraduate grades and attainment of a Ph.D. in Psychology. Other studies have found no significant relationship between undergraduate grades and attainment of degree for Master's students in various departments (Pieper, 1969; Swanson, Beaghly & Burdick, 1969). It is obvious that the relationship between undergraduate grade performance and attainment of degree is somewhat suspect to say the least. Based on the studies showing no relationship between undergraduate grades and attainment of degree and those studies showing a negative correlation, it is expected that no significant correlation will be found between undergraduate grades and attainment of a Master's degree in educational administration.

Hypothesis 3: There will be no relationship between overall undergraduate grade average and attainment of degree.

Undergraduate Grade Average in the Last 20 Courses Completed

As far as can be determined, this variable is unique to the selective admissions procedure in the department of educational administration at Memorial University of Newfoundland. It is reasoned that the last years of college will reflect more accurately a candidate's true academic ability for a variety of reasons.

During the first years of college, the student must make certain adjustments which in addition to a lack of maturity or good study habits may cause a student to perform at a level somewhat below his or her true potential. There is some evidence to support this view, although this evidence is subjective in nature.

Perkins (1968) found that college success for selected students was due mainly to maturity which was defined as prior experience and motivation. Hull (1970) has attempted to use maturity as a variable in predicting academic success and has indicated that older females show higher grade point averages than younger females. These studies indicate that there may be an intercorrelation between age, sex and maturity. There does seem to be a certain logic in the use of the last 20 courses as opposed to the total number of courses completed, as the last 20 courses may be a better indicator of potential than overall grade average.

Hypothesis 4: There will be a higher correlation found between undergraduate grade average in the last 20 courses completed and graduate grade average than found between overall undergraduate grade average and graduate grade average.

As was the case with overall undergraduate grade average, one would not expect to find any relationship between undergraduate grade average in the last 20 courses completed and either of the other three criteria of graduate school success--career, administrative and attainment of degree.

Hypothesis 5: There will be no relationship between undergraduate grade average in the last 20 courses completed and either of the following three success criteria:

- (a) career
- (b) administrative
- (c) attainment of degree

Undergraduate Grade Average in Education Courses

Since it is logical to assume that graduate study in the field of education would overlap in part with undergraduate education study, one would expect that performance in undergraduate education study should offer some predictive information concerning graduate education performance. Conway (1955) found a correlation of .49 between undergraduate average in education course work and graduate grade point average for Master's students in education. The literature

also reveals similar correlations for other graduate departments.

White (1967) found a multiple correlation of .58 between graduate grade point average in a chemistry graduate program and undergraduate average in chemistry courses together with selected standardized test scores. Ewen (1969) found a correlation of .28 between undergraduate averages in psychology courses and the percentage of "A's" received in a graduate psychology program.

The available research evidence seems to indicate that performance in graduate school reflects, to some extent, undergraduate performance in course work similar to that of the particular graduate program. Performance in undergraduate education courses should be predictive of graduate performance in educational administration.

Hypothesis 6: There will be a relationship between undergraduate grade average in Education courses and graduate grade average in the Master's program in educational administration.

Since undergraduate grade average in all education courses completed is a variable that is academic in nature, no difference is expected between this and previously discussed academic variables (overall undergraduate grade average and undergraduate grade average in the last 20 courses completed), with respect to the hypotheses concerning career/administrative success and attainment of degree.

Hypothesis 7: There will be no relationship found between undergraduate grade average in all Education courses completed and any of the following criteria of graduate school success:

- (a) career
- (b) administrative
- (c) attainment of degree

Undergraduate Major Area of Study

While many graduate students enrolled in the Master's degree program in educational administration at Memorial University have studied education as their major concentration of coursework, a significant number of graduate students have majored in fields other than education. Graduate candidates admitted to the Master's degree program in educational administration bring a variety of subject area skills with them. Since there is some evidence to indicate that major area of study is related to certain graduate school programs of study, one cannot overlook major area as a predictor variable.

Law (1960) found a correlation of .56 between standardized social science test scores and comprehensive examination performance for educational administration graduates. Webb (1956), in studying a sample of 210 students from 18 different graduate departments, found a correlation of .26 between undergraduate major average and graduate grade

point average. Robertson and Nielson (1961) found a correlation of .37 between undergraduate average in mathematics and science courses and ratings of intellectual capacity to obtain a Ph.D. for doctoral students in psychology. Pieper (1969), in a study of business graduates, found that undergraduate major area of study was irrelevant in predicting whether or not graduates received an MBA degree.

Research seems to indicate some sort of relationship between major area of study and graduate academic performance. Although this relationship is not clear, major area of study is definitely a factor to consider in particular graduate departments.

The most obvious implication of these studies is that different graduate programs seem to be associated with particular undergraduate fields of study. Educational administration programs seem to contain some social science content as indicated by Law's findings while psychology graduate programs seem to be associated with mathematics and science skills. While it seems that undergraduate major area of study is related to graduate academic performance, there is no evidence to indicate that undergraduate major area of study is related to either career/administrative success or attainment of degree.

Hypothesis 8: Undergraduate major area of study will not be related to any of the following criteria of graduate school success:

- (a) career
- (b) administrative
- (c) attainment of degree

Hypothesis 9: There will be a relationship found between undergraduate major area of study and graduate grade average.

Grade Level of Undergraduate Education Degree Training

At Memorial University of Newfoundland, there are three grade levels in which a student can obtain an education degree--primary, elementary and secondary. Each particular grade level emphasizes content associated with each grade to be taught. A perusal of the program content for each grade level found in the Memorial University Calendar (1988-89) seems to indicate a difference in content across the grade levels (primary, elementary and secondary).

It seems as if the program content involved with secondary grade level training is more general in nature than primary or elementary grade level training. At the very least, the secondary training program involves a greater level of abstraction than the primary and elementary levels.

The graduate program in educational administration at Memorial University is very abstract in nature as it involves a great deal of theory. One can see that if a candidate is

trained at an abstract level in the undergraduate program, then this candidate would be at a distinct advantage in a graduate program also emphasizing the abstract. One would expect that graduate candidates trained at the secondary grade level during the undergraduate education training period would perform better in the graduate program than candidates trained at the primary or elementary levels. This relationship is very subjective and obviously open to criticism. However, other factors are involved which validate the use of grade level of education degree training as a predictor variable.

It is generally conceded that educational administration is a male dominated profession. This fact together with the widespread observation that most secondary school teachers are male while the majority of primary and secondary school teachers are female suggests some type of interrelationship between sex, grade level of education degree and graduate school performance.

The inclusion of grade level of undergraduate education degree training as a predictor variable is not intended to reflect sex differences in graduate school performance, but is included to offer insight into any relationship that might exist between the types of skills acquired in undergraduate education training and graduate performance.

Given the line of reasoning just described, it is reasonable to expect that there would be some difference in academic performance between those candidates trained at

different grade levels for their undergraduate education degree. Since it was already stated that there is a strong feeling among most educators that educational administration is a male dominated profession, one can possibly expect that sex differences will occur with respect to career success. If one accepts the opinion that most primary and elementary students enrolled in the undergraduate education degree are female then one could also expect that some difference probably exists between grade level of training and career success. There is no evidence to indicate that there would be any difference between candidates trained at different grade levels with respect to either attainment of degree or administrative success.

Hypothesis 10: There is a relationship between grade level of undergraduate Education degree training and graduate grade average.

Hypothesis 11: There is a relationship between grade level of undergraduate Education degree training and career success among Master's candidates at Memorial University.

Hypothesis 12: There is no relationship between grade level of undergraduate Education degree training and either administrative success or attainment of degree.

Years of Work Experience and Possession of Administrative Experience Prior to Graduate Program Entry

Possession of teaching and/or administrative experience is a prerequisite for admission into the Educational Administration Master's degree program at Memorial University of Newfoundland. One of the guidelines used in the selection of candidates for this program is that the candidate should possess at least two years of teaching and/or administrative experience. One would assume that having such experience is positively related to graduate school performance. The available literature seems to partially support the use of work experience as an admissions criterion.

Dunaway (1984) found that years of teaching experience was significantly related to the administrative success of educational administrators. Lipham (1960) found no difference in being an effective educational administrator with respect to years of teaching or administrative experience. These results are obviously contradictory and may be due to a difference in samples or to the particular definition of administrative success employed in each study. Dunaway's criteria of administrative success may not have been in agreement with Lipham's criteria. Given the contradiction evident in the above mentioned studies, one would agree that the relationship between years of experience and graduate school success is suspect at best. The connection between years of experience and graduate academic success is equally

as suspect as is the case with both administrative and career success.

Hecht and Powers (1982), after examining 30 different studies, reported a median correlation of only .06 between work experience and graduate grade point average. This study, however, consisted of many different graduate management programs and the actual correlations ranged from -.14 to .35. Obviously then, there is a great variation in correlations among different graduate departments with respect to graduate academic success. If one assumes that the graduate program in educational administration is mainly an academic exercise, then one would not expect that work experience would be related to graduate academic success.

Despite the contradictory evidence supporting work experience as an adequate predictor variable, it can be argued that years of experience should be related to career and administrative success as defined in this study. It is generally known that administrative positions are granted on the basis of experience to a large extent and it seems reasonable to assume that greater experience would facilitate better administrative skills. There is no evidence to indicate that there would be any relationship between years of experience and either attainment of degree or graduate grade average. This study will attempt to assess any differences between years of experience (total years of

administrative and teaching experience) and simply possessing administrative experience prior to program entry.

Hypothesis 13: (a) There is no relationship between years of experience and either graduate grade average or attainment of degree.

(b) There is no relationship between possession of administrative experience and either graduate grade average or attainment of degree.

Hypothesis 14: (a) There is a relationship between years of experience and both administrative and career success.

(b) There is a relationship between possession of administrative experience and both administrative and career success.

Sex

There is ample evidence available from the literature indicating that females tend to perform at a higher academic level than males. Cortes, Fedell and Gatti (1967) found that females performed better academically than males in college courses. Pemberton (1970) reported that female college students scored higher grade-point averages than college males. In a sample of college students, Ricard (1979) found that females consistently scored higher mean grade-point averages than males. Obviously then, females seem to perform better at the college undergraduate level than do males but

there is also evidence to indicate differences at the graduate level.

Chissom, Thomas and Lightsey (1972) reported a correlation of .24 between sex and graduate grade-point average for students enrolled in a graduate education master's program. Dole and Baggaley (1979) found that females scored higher than males in Graduate Record Exams (GRE) and showed higher undergraduate grade-point averages and graduate grade-point averages in an Education doctoral program. There is also evidence to indicate that some intercorrelation exists between sex, age and grade-point averages. Lafferty (1969) demonstrated that females showed a negative correlation between age and grade-point average while males showed a positive correlation between age and grade-point average. These results imply that older females would not perform as well academically as younger females, but older males would perform better academically than younger males. Covert and Chansky (1975) presented evidence that it was easier to predict graduate grade-point average for females than males using undergraduate average as a predictor.

In summary, one can probably state that females seem to perform better academically than males, at both the undergraduate and graduate levels.

Hypothesis 15: There is a relationship between sex and graduate grade average with females showing higher graduate grade averages than males.

Since it was previously hypothesized that there would be no relationship between undergraduate grade average and attainment of degree, one would not expect the fact that females tend to perform better than males in academic work to affect the relationship between sex and attainment of degree.

Hypothesis 16: There is no relationship between sex and attainment of degree.

There is no convincing evidence that sex is related to being an effective educational administrator. Lipham (1960) found no difference in being male or female and effectiveness as an educational administrator. Dunaway (1984) found that sex is significantly related to administrative success as an educational administrator. Since the available evidence is contradictory or non-existing, one can only assume that no relationship exists between sex and being an effective administrator.

Hypothesis 17: There is no relationship between sex and administrative success.

Given the hypothesis that no relationship exists between sex and administrative success, one would also assume that no relationship exists between sex and career success. However, given the general observation that males rather than females seem to be given preference in the hiring of educational administrators, one may conclude that there is a relationship between sex and achieving career success.

Hypothesis 18: There is a relationship between sex and career success.

Age of Candidate Upon Entry to the Program

Age is a variable which has received much attention in the literature and varying relationships between age and graduate school success have been demonstrated. Age is a rather complex variable as it can be interpreted in many ways. Age has been interpreted as being absent from formal schooling for a number of years. Age has also been interpreted as meaning the length of time elapsing since obtaining an undergraduate degree. In general, any variable which indicates a passing of time, is an age variable. In this study, however, age is being interpreted as simply being the actual chronological age of the candidate upon entry to the graduate program in educational administration.

Although the results reported in the available literature vary a great deal, there seems to be mounting evidence that age is generally negatively correlated with academic performance in college. Ricard (1979) found that students absent from formal schooling for less than two years scored higher mean grade point averages than students absent for greater than two years. Dole and Baggaley (1979) found that older students performed at a lower level than younger students with respect to both undergraduate and graduate grade point averages. Cortes, Fedell and Gatti (1967) reported a

negative correlation between age and academic performance as did Johnson and Thompson (1962) and Lafferty (1969). The negative correlation obtained by Lafferty (1969) requires some further explanation. Lafferty did note a negative correlation between age and academic performance but only for students over the age of 30. Lafferty reported a positive correlation between age and academic performance for students under 30 years of age. Hecht and Powers (1982) also reported a relationship between age and academic performance. The median correlation obtained from a number of studies summarized by Hecht and Powers (1982) was .11. However, this correlation of .11 was based on a range of correlations (-.18 to .28), indicating both a negative and positive relationship between age and academic performance. There is obviously some contradiction as to the exact nature of the relationship between age and academic performance, although most evidence seems to indicate some sort of negative relationship between age and academic performance.

To complicate matters, there seems to be some intercorrelation between age, sex and graduate academic performance. Hull (1970) reported a positive correlation between age and academic performance for female college students. Lafferty (1969) reported a negative correlation between age and academic performance for females and a positive correlation for males. Even within the sex and age intercorrelation then, there seems to be some contradiction.

Generally speaking, it seems reasonable to assume that there would be a negative correlation between age and academic performance. This assumption is based on the majority of research findings just reported.

Hypothesis 19: Age is negatively correlated with graduate grade average.

With respect to administrative and career success, only one study is reported. Lipham (1960) found that there was no difference in being an effective educational administrator with respect to age. One would expect that more experienced administrators should possess greater effective administrative skills than less experienced administrators. However, age would not be associated with administrative effectiveness unless most experienced administrators were older. There is no indication that administrators are older and in fact, there seems to be a younger generation of educational administrators in the province of Newfoundland and Labrador. In studies demonstrating that age is related to effective administration, years of experience may be responsible for this correlation rather than age. Despite the previous hypotheses concerning years of experience and both administrative and career success, there is no reason to assume that age is correlated with being an effective or ineffective educational administrator. Given the previous hypothesis that years of experience is related to career success, it would follow that age also be related to career success.

Hypothesis 20: There is no relationship between age and administrative success as defined in this study.

Hypothesis 21: There is a positive relationship between age and career success as defined in this study.

The correlation between age and attainment of degree has been infrequently examined in the literature. Available studies seem to indicate a negative relationship between age and attainment of a graduate degree.

Pieper (1969) reported that business administration students over 29 and out of school over three years were less likely to receive an MBA degree. Waters (1968), on the other hand, found that success in the graduate school of business administration was not related to the length of time elapsed since receiving an undergraduate degree. These two studies are contradictory, however, Waters did not use age as it is interpreted in this study and the criteria of success employed by Waters included measures other than just attainment of degree.

Heritage (1977) reported a correlation of .09 between age and attainment of degree. Heritage also concluded that older students in general, took longer to receive their Master's degree in Education than younger students. Swanson, Beeghly and Burdick (1969) noted, in a study concerning Master's candidates, that students who have been out of university for any length of time before entering a Master's program were less likely to receive a Master's degree than students

entering the Master's program directly after undergraduate study. It would seem reasonable, considering the few studies available, to assume that attainment of degree is negatively related to age.

Hypothesis 22: There is a negative relationship between age and attainment of degree.

Full or Part-Time Status on the Program

Program status is an important predictor variable in this study. Many graduate students are forced to attend classes in the evening or during summer vacation due to professional commitments. Since the number of part-time students in educational administration Master's degree programs has doubled in recent years (Holdaway, 1978), it is vital to study part-time students as a group.

In response to increasing graduate program enrollment, institutions like Memorial University have introduced evening classes and, in some cases, weekend classes. Memorial University has recently experienced a large influx of graduate students during summer session study. A major criticism of graduate departments is that the quality of courses for summer session and evening programs is not up to standard. If one considers that during summer session work, a candidate has to complete a full-semester course in half the time, one may question the quality of the program delivered by the institution.

Available evidence seems to indicate that part-time college students perform at a higher academic level than full-time college students. Waters (1968) reported that success in a graduate school of business was unrelated to admission test scores and undergraduate grades for part-time students. One explanation for the lack of relationship between undergraduate grades and admission test scores and success in graduate school may be that these part-time courses are easier (less material covered) than regular full-time courses. Part-time students who normally would not achieve a high grade average could spend more time in preparing for courses due to the decreased academic course load, and achieve a higher average than normally reached.

Kanun (1969), in a study of College of Education students, found that summer session students scored higher grade point averages than regular full-time academic year students. Ricard (1979) found that part-time open admission (mature) students scored higher mean grade point averages than full-time regular students. It would seem that part-time students perform better academically than full-time students. The relationship between being full or part-time and academic performance is not a simple one due to the many intercorrelations which can exist.

One of the reasons why part-time students seem to perform better than full-time students is that academic load (number of courses taken in one semester) affects academic

performance. Andrew (1956) as well as Hountras (1958) and Merrill and Osburn (1959) found that academic load is unrelated to school performance. These same researchers, however, found that academic load is related to academic performance for low ability students. Some intercorrelation seems to exist between ability, academic load and academic performance. In light of the evidence suggesting that part-time students perform better academically than full-time students, one can assume that part-time graduate students will achieve higher graduate grade averages than full-time graduate students.

Hypothesis 23: Part-time graduate students will show higher graduate grade averages than full-time graduate students.

Since there is no evidence to suggest that being part or full-time is related to either of the three criteria--career, administrative success and attainment of degree, one can only conclude that no such relationship will be found in this study.

Hypothesis 24: There is no relationship between full or part-time program status and either of the following success criteria:

- (a) career success
- (b) administrative success
- (c) attainment of degree

Thesis or Non-Thesis Program Option

Being a thesis or non-thesis student is a program variable as it is an option offered to graduate candidates upon admission to the Master's program in educational administration. No available research indicates any difference in graduate grade averages or performance between students on the thesis or non-thesis option of the program. However, one cannot overlook the possibility that this variable may be related to graduate school success. Since the completion of a thesis is often a requirement for doctoral study, it is important to examine the characteristics of candidates which predict Master's program performance. This is especially important if one assumes that at least one major purpose or objective of any Master's program is to prepare the student for advanced study.

If one assumes that a thesis would require superior research and writing skills, one also has to assume that thesis students would achieve higher grades than non-thesis students.

Hypothesis 25: Graduate candidates who have completed a thesis, project or internship show higher graduate grade averages than students who have not graduated on the thesis option of the program.

Since there is no reason to assume that students graduating on the thesis option of the program would achieve greater career or administrative success, one can only

conclude that this variable is unrelated to career or administrative success as an educational administrator.

Hypothesis 26: There is no relationship between students who completed a thesis or non-thesis option and either career or administrative success.

It is a valid assumption that those students who complete a thesis, project or internship are very serious in their desire to complete the requirements for a Master's degree in educational administration. If one agrees with the previous assumption that thesis students have greater research and writing skills, then one has to agree that thesis students are more likely to perform better in graduate courses and thus are more likely to complete the Master's degree.

Hypothesis 27: Graduate candidates who have completed the thesis option of the program will show greater success in achieving attainment of degree than candidates who have chosen the non-thesis option of the program.

Criteria of Graduate Success

The basic reason for including four different criteria of graduate school success is the assumption that success can be measured in terms other than the traditional academic criteria used in most previous research. Holland and Richards (1965), after examining the relationship between academic and non-academic accomplishment, concluded that both types of

accomplishment were relatively independent of each other. If Holland and Richards are correct in their conclusion, one would expect that a graduate candidate's academic performance may or may not predict his or her administrative performance.

A study conducted by Thom and Hickcox (1975) used two criteria of graduate school success--success in the graduate program and success in later administrative practice. Administrative success was defined as possessing effective administrative skills while career success was defined as holding a position of administrative responsibility. The definitions of career and administrative success employed in this study are adapted from Thom and Hickcox's study.

It is obvious that more than one measure of graduate school success is needed if a complete picture of the relationship between various predictors and graduate success is to be gained. By way of example, it is possible that while a candidate may be a superior academic performer, this same candidate may not be a very effective administrator. All four of the criteria have been used in one form or another by various researchers.

The graduate grade average has not been used in the literature as a criterion of graduate school success. However, the grade point average has been widely used. The many studies using this criterion of graduate success are listed in Table 1.

Attainment of degree as a success criterion has been widely used in previous research (Robertson & Nielson, 1961; Robertson & Hall, 1964; Lannholm, 1968; Swanson, Beeghly & Burdick, 1969; Ewen, 1969; Pieper, 1969; Heritage, 1977). Of the four success criteria used in this study, attainment of degree has been used almost as frequently as academic success, while administrative and career success has been the most infrequently used criteria.

Administrative success, as defined in the present study, has not been used very frequently in previous research. In fact, the Thom and Hickcox study in 1975 is the only reported study to use criteria identical to the definitions of career and administrative success in this study. Administrative success had been defined in many different ways and has been used in various forms by a few researchers (Braccia, 1981; Dunaway, 1984; Silverston, 1984).

Career success as a success criterion has been the least used in previous research. Only two studies are reported which use career success as a success criterion (Thom & Hickcox, 1975; Naylor, 1980).

Summary of Hypotheses

The literature presents many different points of view with respect to graduate school success. The particular studies examined certainly pose many more questions than

answers and often present contradictory results. The proposed hypotheses were based upon this literature review and are somewhat subjective in nature.

Years of experience and possession of administrative experience were the only predictors expected to show any relationship with administrative success. These same two variables were the only predictors not expected to show any relationship with graduate average. Training level, years of experience, administrative experience, sex and age were all expected to show a relationship with career success. Age and thesis/non-thesis program option were the only two predictors expected to show a relationship with attainment of degree.

CHAPTER 3
DESIGN OF THE STUDY

This study attempted to examine the relationship between selected predictor variables and graduate school success. Predictor variables used in this study have been correlated with specific measures of graduate school success. Further explanation of these variables and criteria is provided in this section of the thesis.

Selection of Predictor Variables

The rationale behind the use of each predictor variable was explained in detail in the previous section of this thesis. However, further explanation of how certain variables are defined in this study is necessary. It is important to note that the variables selected as possible predictors of graduate school performance are for the most part well documented in the literature. Particular predictor variables such as sex, age and program variables are included mainly as descriptive variables and not intended to be used for predictive purposes. It is not reasonable to expect a graduate department to make selection decisions on the basis of sex or age for example, although these variables may provide useful insight into factors related to graduate success.

Definitions and Measurement of Predictor Variables

Most predictor variables are self explanatory but certain variables are measured somewhat differently in this study than in previous studies cited in the literature. Sex, age, years of work experience, major area of study, grade level of undergraduate education degree training, graduation on the thesis or non-thesis option of the program are predictor variables which have been adequately explained in the definitions of terms. The use of grade average and full or part-time status as predictor variables in this study requires further explanation.

As mentioned previously, the grade average is used in this study as opposed to the grade point average. The grade point average as a predictor variable has experienced some significant limitations. When students are compared on the basis of grade points, there is only a range of four possible points or marks that a student can achieve (one, two, three or four). The grade average as used in the present study, can provide a greater range of marks for comparison. A student can achieve any mark from zero to 100 using the grade average. Obviously, the grade average provides a much more stable and reliable measure of student academic achievement.

Full or part-time status on the graduate program can be fluid as students change their status from semester to semester depending on their particular personal situations. Candidates can be part-time for a portion of the graduate

program and full-time for another portion of their studies. When classifying candidates as either full or part-time, one has to keep in mind, the reason for inclusion of this variable as a predictor.

As mentioned previously, being full or part-time was expected to correlate with academic performance because it was assumed that the academic load of part-time students is much less than that of full-time students. One must therefore classify a candidate as being full or part-time so as to reflect the number of courses taken. In the present study program status was defined in terms of the percentage of courses taken as a part-time or full-time student in the Master's degree program in educational administration. For reasons just described, all graduate candidates were categorized as being full or part-time according to the following guidelines:

Full-time ... More than 50% of courses taken as a full-time student.

Part-time ... More than 50% of courses taken as a part-time student.

No Status ... Exactly 50% of courses part-time and 50% full-time.

Selection of Success Criteria

Selection of relevant success criteria was a difficult task as there was no research which effectively distinguished between reliable and unreliable criteria. Hirschberg and Itkin (1978), after examining the problem of choosing relevant criteria of graduate school success, concluded that, "... there has been practically no attempt whatsoever at a thorough theoretical criterion analysis of graduate school success" (p. 1085).

When discussing graduate school success, one is usually referring to academic success. The traditional interpretation of graduate success has been that grade performance is the only indicator of graduate performance. From a review of the theoretical framework included in this study and from a common sense point of view, one has to agree that there is much more to graduate performance than mere academics. Being a successful educational administrator does not rest on academic background alone and in fact, may not be related to academic performance at all. Obviously then, numerous measures of graduate success are needed and thus the inclusion of four separate and distinct criteria of graduate success in this study.

Definitions of Success Criteria

The four measures or criteria of graduate school success were defined as follows:

1. Academic Success. A candidate will have achieved academic success if he or she has a graduate grade average of 65 or greater. (According to current regulations at Memorial University, an average of 65 is required in all graduate courses completed).

The degree of academic success will be determined by the grade average obtained. A grade average of 75 will indicate a greater degree of academic success than a grade average of 65.

2. Administrative Success. A candidate will have demonstrated administrative success if he or she has demonstrated possession of effective administrative skills. Administrative success is a relative measure in that candidates are compared as having greater or less effective administrative skills. In reality, the degree of administrative success will be assessed as one candidate is compared to another. The instrument used to measure degree of administrative success is described in a later section of this thesis.

3. Career Success. A candidate will have achieved career success if he or she holds a position of administrative responsibility. This definition included certain qualifications necessary to provide an accurate measurement

of career success. The definition of career success employed in the present study was designed to accommodate two types of graduate candidates those holding an administrative position before entering the graduate program and those not holding an administrative position before entering the graduate program. Based upon these two situations, the following guidelines were devised to govern the degree of career success achieved:

- (a) For students holding administrative positions before entering the graduate program, career success was achieved if the candidate held a position of greater administrative responsibility than the position held prior to entering the graduate program, provided that this new position of greater administrative responsibility was gained either (a) while enrolled in the graduate program or (b) within five years after graduating from the Master's degree program.
- (b) For students not holding an administrative position before entering the graduate program, career success was achieved if the candidate held a position of administrative responsibility either (a) while enrolled in the graduate program or (b) within five years after graduating from the Master's degree program. The instrument used to gather data on career success is described in a later section of this thesis.

4. Attainment of Degree. The guidelines used in this study to assess whether or not a candidate has attained a degree has been described in a previous section dealing with delimitations of the study. These guidelines are reproduced here in a more detailed manner.

For the purposes of this study, a candidate was judged on attainment of degree according to the following guidelines:

- (a) For students who started the Master's program on or before 1979, attainment of degree was considered to be achieved if a degree was conferred within seven years of being admitted to the program.
- (b) Graduate students examined in this study included all candidates enrolled in the Master's program from the program's inception up to and including 1981. Since university regulations require a student to graduate within seven years of being admitted to the program, one could not ascertain if a student admitted to the program after 1979 attained a degree until 1988 or 1989. This study was completed in 1986 thus requiring the following conditions to be stipulated when judging attainment of degree for students admitted into the program after 1979.
 - (i) Students admitted to the Master's program after 1979 were considered to have achieved attainment of degree if a degree was conferred on or before 1986.

- (ii) Students admitted to the Master's program after 1979 and still on the program in 1986 were not included in the statistical analysis of degree attainment.
- (c) All students who withdrew from the Master's program either by choice or at the institution's (Memorial University of Newfoundland) request was considered not to have attained a degree.

Instruments of Measurement

Academic Success

Academic performance was indicated by grade averages. The researcher obtained candidates' graduate grade averages from student files available at the Registrar's Office of Memorial University and granted upon special request. If the candidate's graduate grade average was not calculated officially by the Registrar's Office at Memorial University, the researcher calculated the grade average using the arithmetic mean formula.

Career Success

Career success was judged in this study according to guidelines described in a previous section of this thesis. A basic assumption in the development of these guidelines was that career success must be related to being enrolled in a

Master's degree program in educational administration. Once a candidate has enrolled in the Master's degree program in educational administration one would expect that the candidate improve his or her career status by holding a position of administrative responsibility greater than that held prior to entering the Master's program. Also needed to accurately assess career success was a time limit or restriction where graduates could be judged to have either achieved or not achieved career success. For these reasons, the particular definition of career success employed in this study included the specific qualifications described in a previous section of this thesis.

All data concerning career success was gathered through the administration of a questionnaire (see Appendix B). The questionnaire was designed so any candidate could quickly respond to certain questions which reflected the definition of career success previously described. All responses were tabulated and assessed as to whether or not the candidate had achieved career success as defined in this study.

Administrative Success

Administrative success was defined as possessing effective administrative skills. The degree of administrative skill was measured through the administration of the Leadership Opinion Questionnaire (LOQ).

The LOQ 's an attitude survey designed to measure an individual's leadership attitudes. The LOQ was developed by Fleishman (1957) as part of the Ohio State Leadership Studies. The LOQ survey was designed to be completed by the individual being measured. Therefore, it is a self-report leadership scale.

The LOQ is based on the longer and more complicated Leadership Behaviour Description Questionnaire (LBDQ). Two leadership scales (dimensions) borrowed from the LBDQ are used in the LOQ. The leadership dimensions--initiating structure and consideration are used in the LOQ. A score is obtained on each dimension which when totalled will give a single score indicating leadership attitude. A high score generally indicates effective administrative (leadership) skills and attitudes, while a low score generally indicates poor administrative skills and attitudes.

Initiating structure refers to the extent to which an individual plays an active role in directing group activities through planning, communicating information, scheduling and trying out new ideas. An effective administrator should show a high score on this dimension.

Consideration reflects the extent to which an individual is likely to have job relationships characterized by mutual trust, respect for subordinate's ideas and consideration for subordinate's feelings. An effective administrator should

show a high score on this dimension as well as on the initiating structure dimension.

There are many other dimensions of leadership which are available in the study of leadership. However, the dimensions of initiating structure and consideration seem to be the most reliable and accurate. Halpin and Winer (1957) have isolated the dimensions of initiating structure and consideration as the most useful leadership dimensions because these two dimensions account for 83.2% of leadership variance. One major criticism of the LOQ is that it is a self report and thus very subjective measure of leader attitudes and skills. However, since the LOQ has been widely used in assessing the effects of leadership training, it is a very appropriate instrument for the purposes of this study.

The LOQ is a 40 item questionnaire divided into two leadership factors (initiating structure and consideration) which have already been described. There are 20 items for each factor and each item is in the format of a statement. An individual's responses to these statements are scored along a five point continuum. Each item is given a weight (score) according to the specific response of each item. Weights range from zero to four (see Appendix B for a copy of this questionnaire).

The reliability of the LOQ has been well established by Fleishman (1970). Test-retest reliability coefficients over a three month period have been reported as ranging from .67

to .74 on "initiating structure" and .77 to .84 on "consideration". Split-half reliability estimates for consideration and initiating structure were found to be .69 and .73 respectively.

Validity of the LOQ with other measures of leadership has not proven to be very high with a range of -.21 to .28. The LOQ has achieved something that few other leadership scales have. The scores obtained on the LOQ are relatively independent of the leader's intelligence. This advantage allows the LOQ to be viewed as giving a measurement of leadership attitudes and skills which is independent from such variables as IQ and academic performance.

The LOQ was an ideal instrument for the purposes of this study for several reasons.

1. It uses two of the most widely recognized leadership dimensions.
2. It has a very high reliability coefficient.
3. It is easy to administer.
4. The LOQ has the potential of being able to measure leadership attitudes and skills in many professions. This is extremely important as many graduates in educational administration have backgrounds in nursing and business.

Population and Sample

The population consisted of all graduate students who were accepted into the Master's degree program in Educational Administration at Memorial University of Newfoundland (MUN) between the program's inception and the year 1981.

Most of the data needed to complete this study was gathered from student academic records. However, some important data was supplied through the use of a questionnaire. The basic population was 297 students. The actual "n" for each predictor variable and success criterion varied according to the data collection method (student academic records or the questionnaire).

Collection of Data

Data concerning training level, experience in administration, major area of study, career and administrative success was gathered through the use of a questionnaire. All other data was gathered through the examination of student graduate files and academic records available through special research permission.

Questionnaires were mailed in a self-addressed envelope. After the first set of questionnaires were mailed to subjects, it became obvious that a number of former graduate students could not be located and a number simply did not respond. Before a second set of questionnaires was mailed out, an

attempt was made to locate the new addresses of former graduate students. Department of Education records were consulted in order that new addresses could be obtained. If former graduates were still teaching, the name of their school was listed on Department of Education records. Another source of addresses was the forwarding of mailing addresses received from the Canada Postal Corporation. After these sources were exhausted, a second set of questionnaires were mailed to non-respondents identified in the study.

Analysis of Data

All data were given a numerical code (see coding of data in this section) to allow computer analysis. Once data was coded, a keypunch operator was hired to correctly enter all data into the computer. All statistics were completed on the SPSS-X computer system at Memorial University of Newfoundland.

Pearson correlation coefficients were obtained for all relationships between and among predictors and success criteria. A stepwise multiple regression analysis was attempted on each criterion of success. Each correlation was tested for significance according to standard SPSS-X program operations.

Coding system

Before statistical analysis on certain non-continuous variables could be completed, a numerical coding system was needed. Non-continuous variables and the particular numerical codes applied to each are listed below.

Major area of study: Social Studies 1
Social Sciences ... 2
Pure Sciences 3

Sex: Male 1
Female 2

Type of attendance: Full-time 1
Part-time 2

Thesis/non-thesis option: Thesis 1
Non-thesis 2

Experience in administration: Having experience . 1
No experience 2

Career Success: Not successful 1
Successful 2

<u>Training Level of Education Degree:</u>	Secondary	1
	Elementary	2
	Primary	3

<u>Attainment of Degree:</u>	Attainment degree .	1
	No degree	2

CHAPTER 4
ANALYSIS OF DATA

This chapter reports findings of the study as they relate to relationships between predictor variables and success criteria. Zero order correlations as well as the many intercorrelations among predictor variables and success criteria are reported. A stepwise multiple regression analysis was attempted and an effort was made to isolate groups of predictor variables which contributed most to the prediction of graduate school success.

Respondents and Non-Respondents

There was a 67% return rate accounting for 198 of the original 297 questionnaires. Table 2 indicates certain general characteristics of respondents and non-respondents.

Table 2 indicates that many of the non-respondents were former successful graduate students. Males accounted for 86.5 percent of the total study population while females accounted for 13.5 percent. However, 90 percent of all respondents were male while only 10 percent were female. This would appear to indicate a greater degree of cooperation by males in completing questionnaires. Non-graduates accounted for nine percent of the total study population but 16 percent of the total number of non-respondents.

Table 2

**Respondents and Non-Respondents Broken Down by Sex and
Attainment of Degree**

	Respondents	Non-respondents	Total Study Population
Male	90%	79%	86.5%
Female	10%	21%	13.5%
Graduated	95%	84%	91%
Not Graduated	5%	16%	9%

The confounding effects, if any, upon this study with respect to the type of non-respondent is not readily apparent. Males did tend to respond more than females but the actual difference in numbers was not great. It is interesting to note that a high percentage of non-graduates did not complete a questionnaire. This may have had a significant bearing upon results as the number of non-graduates was small to begin with.

Intercorrelations Among Predictors

The particular intercorrelations between predictor variables and success criteria are dealt with in later analysis but it is of significance to determine the extent to

which predictor variables were intercorrelated. Table 3 lists the various correlations found between all predictor variables.

Most noticeable in the intercorrelational matrix was the range of correlation coefficients. The coefficients ranged from -.49 to .79 indicating both highly significant positive and negative relationships. Of equal importance was the number of interpredictor relationships which proved to be highly significant.

The number of significant relationships appeared to indicate that the predictors were probably not distinct or independent variables. This may have had an influence on two major aspects of the study. If predictors were highly intercorrelated then resulting correlations between predictors and success criteria likely indicate that many of the predictors are "working through" each other. Given this intercorrelation, careful interpretation of results is essential before any one predictor may be viewed as a causal variable with respect to any success criterion.

If predictors were highly intercorrelated and thus not very different from one another, a stepwise multiple regression analysis may have risked failing to identify significant variables. This means that there may have been a danger of risking a type II error in the regression analysis.

Table 3
Intercorrelational Matrix Among Predictor Variables

	UGA	UGA-20	UGA-ed	Major	Sex	Age	Attend	Thesis	Ex-adm	Yr-Exp	Tr-lvl
UGA	—	*.163	*.295	**.112	*.201	.076	*-.276	*-.180	*.190	*.216	-.119
UGA-20	*.363	—	*.675	-.104	.025	*.335	*-.178	**-.129	**.127	*-.476	-.112
UGA-ed	*.295	*.675	—	-.087	.074	*-.200	-.084	.042	**.117	*-.366	*.180
Major	**.112	*.104	—	-.047	—	-.035	-.097	-.082	.003	**.118	**-.126
Sex	*.201	*.025	*.074	—	—	*.220	—	-.021	-.050	-.005	*.245
Age	*.176	*.335	*-.201	—	-.097	*.220	—	*.171	*.077	*.418	*.795
Attend	*.276	*.178	-.084	—	-.082	-.021	*.171	—	*.557	-.052	*.196
Thesis	**.180	**.129	*.042	—	*.003	-.050	-.077	*.557	—	*.051	**.111
Ex-adm	*.199	**.127	**.117	—	*.118	-.005	*-.418	-.052	*.051	—	*-.498
Yr-exp	*.216	*.476	-.476	—	*.366	**-.126	*.245	*.795	*.196	*.111	*.498
Tr-lvl	-.119	-.112	*.180	—	**.157	*.365	**.156	*.173	.105	-.118	**.152

Note: All correlations represent one-tailed tests.

* p < .01
** p < .05

KEY:

- UGA = Overall Undergraduate Grade Average
- UGA-20 = Undergraduate Grade Average in Last 20 Courses
- UGA-ed = Undergraduate Grade Average in Education Courses
- Major = Major Area of Study
- Attend = Type of Attendance
- Thesis = Thesis/Nica-thesis Program Option
- Ex-adm = Possession of Administrative Experience
- Yr-exp = Years of Teaching/Administrative Experience
- Tr-lvl = Years of Undergraduate Education Degree

Intercorrelations Among Success Criteria

Although no significant intercorrelations were found to exist among success criteria, certain relationships did approach significance and are worthy of note. Table 4 lists the intercorrelations among success criteria.

Table 4

Intercorrelations Among Success Criteria

	Administrative Success	Career Success	Graduate Average	Degree Attainment
Administrative Success	1.00	.012	-.105	-.030
Career Success	.012	1.00	.102	-.097
Graduate Average	-.105	1.02	1.00	*
Degree Attainment	-.030	-.097	*	1.00

Note: "*" is printed where a coefficient could not be computed. All tests of significance were one-tailed.

The low correlations among success criteria probably indicates that these four measures of success were relatively independent and distinct. Some caution must be noted with this statement due to the relationships which approached the .05 significance level.

A correlation coefficient of .10 ($p = .084$) was found between career (job) success and graduate grade average. Career success showed a negative correlation (-.097) with attainment of degree. Graduate grade average showed a correlation of -.10 ($p = .098$) with administrative (LOQ) success. These results seem to support the hypotheses that higher graduate averages lead to greater career success and that graduates experience greater career success than non-graduates. Since these relationships were not found to be significant, one must be cautious in giving too much weight to these findings.

Correlational Matrix of Predictors and Success Criteria

With the exception of training level, all predictor variables were found to be significantly related to at least one of the four success measures. Even training level closely approached significance with graduate grade average. Correlations were examined for each success criterion separately. Table 5 lists the correlations found between predictors and the four measures of graduate school success.

Table 5

Matrix of Correlations Between Predictors and Graduate Success Criteria

	Administrative Success	Career Success	Graduate Average	Degree Attainment
OUGA	.033	.115	.084	-.007
UGA-20	**.151	.060	*.602	.075
UGA-ed	.118	.081	*.366	.023
Major	.005	.007	*.183	-.007
Sex	-.030	-.033	**-.099	.017
Age	.064	-.043	**-.292	.061
Attend	.000	**-.158	-.062	*.140
Thesis	-.006	**-.213	**-.141	.043
Ex-adm.	-.050	*.167	.004	-.008
Yr. Exp.	.066	-.118	**-.459	.029
Tr.-Lvl.	-.016	.006	-.121	.018

Note: All tests of significance were one-tailed
 * marks $p < .01$
 ** marks $p < .05$

Graduate Grade Average (GGA)

Undergraduate average in the last 20 courses (*UGA-20) showed the highest correlation with graduate grade average (GGA). This correlation was .60 ($p < .01$) and unfortunately could not be compared to other studies as this variable seemed to be unique to Memorial University of Newfoundland (MUN). This correlation is higher than any other correlation found between undergraduate and graduate academic performance. This was an anticipated finding however, due to the subjective reports by Perkins (1968) and Hull (1970) who reported that college success was due mainly to maturity level. The use of this predictor as an admissions criterion for the Masters program at MUN is well supported by this study. Findings by Conway (1955), White (1967) and Ewen (1969) also support the correlation between undergraduate and graduate academic performance.

As was the case with UGA-20, it was hypothesized that undergraduate education course average (UGA-ed) would be related to GGA. This hypothesis was supported with a correlation of .37 ($p < .01$). It would appear that graduate students with higher education course averages in undergraduate years score higher graduate grade averages. There may be a great deal of intercorrelation between UGA-ed and UGA-20 as an intercorrelational coefficient of .68 ($p < .01$) was found. This may be an indication that in many cases,

the last 20 courses completed in undergraduate years are mainly education courses.

A correlation of -.459 was found between years of teaching/administrative experience and graduate grade average. This correlation was highly significant ($p < .01$). This study clearly indicates that the less experience (teaching/administrative) a graduate student has, the higher his/her graduate average will be. This finding directly contradicts the current emphasis placed upon experience as an admissions criterion.

Another interesting finding was uncovered with the predictor experience in administration. There was a correlation of only .004 between having experience as an administrator and graduate average. This correlation was highly insignificant. It would seem that having administrative experience before entry into the Masters program at Memorial University of Newfoundland does not contribute to receiving higher graduate grade averages.

This finding may indeed have something to do with the correlation between age and graduate average since it is reasonable to assume that younger candidates for the Masters Program would possess less administration experience. A correlation of -.292 ($p < .01$) was found between age and graduate grade average. This would seem to indicate that younger graduate candidates score higher graduate averages than older candidates and this may be the factor which is

contributing to the low correlations between both experience in administration, years of teaching/administrative experience and graduate grade average.

Major course of study proved to be a good predictor of graduate grade average with a correlation of .183 ($p < .01$). The particular numerical coding of majors (discussed earlier) would indicate that this correlation is interpreted to mean that Masters candidates majoring in the sciences scored higher graduate averages than social science or social studies majors. It was hypothesized that there would be a relationship between major course of study and graduate grade averages but the literature was very ambiguous as to the exact relationship to be expected.

The literature did seem to indicate that social science or science majors would perform better in graduate academic work and the results of this study at least are in agreement with this direction since science majors showed greater graduate academic success than other majors. It is also interesting to note that social studies majors showed the second highest graduate averages and social science majors showed the lowest graduate averages. These results were identical when overall undergraduate averages were correlated with major area of study.

The thesis/non-thesis program option seemed to be a significant predictor variable although there has been a distinct lack of literature with respect to this variable and

graduate school success. It was hypothesized that students enrolled in the thesis option of the Masters program would score higher graduate grade averages than those not enrolled in this program option. A correlation of -.14 ($p < .01$) was found between this variable and graduate grade average.

The hypothesized relationship is supported by this study with thesis students showing higher graduate grade averages than non-thesis students. This finding seems to be fairly consistent as a significant negative relationship was also found between thesis/non-thesis program option and both overall undergraduate average and undergraduate averages in the last 20 courses completed. The particular correlations respectively were $-.18$ ($p < .01$) and $-.13$ ($p < .05$). It would seem that not only can we predict that students completing thesis work will score higher graduate grade averages but we can also use undergraduate averages to predict Masters candidates most likely to choose the thesis route.

Training level in the undergraduate education degree proved to have a very low correlation $(-.12)$ with graduate grade average although this relationship approached significance ($p = .055$). This negative correlation is interpreted to mean that Masters candidates trained in secondary education showed higher graduate grade averages than candidates trained at either elementary or primary levels. Obviously, these results seem to support the hypothesis stated in the literature review.

A correlation of .365 ($p < .01$) was found between sex and training level. This would indicate that females enrolled in the Masters program are more likely to possess primary or elementary training than secondary training. This finding together with the correlation between training level and graduate average would seem to indicate a relationship between sex and graduate grade average.

A correlation of $-.099$ ($p < .01$) was found between sex and graduate grade average. This correlation indicates that males received higher graduate averages than females. This relationship was expected since most males seem to possess secondary training which was positively related to graduate grade average. This result may indicate that it is training level and not sex which determines graduate grade average.

The literature suggests that females generally display greater academic success than males. Results of this study certainly do not support this relationship and in fact partially contradict such a relationship. It is interesting to note that while males appeared to show greater academic success at the graduate level, females seemed to show greater academic performance at the undergraduate levels. There was a correlation of $.20$ ($p < .01$) found between sex and overall undergraduate average which would indicate that females have greater undergraduate averages than males.

Overall undergraduate average proved to be a very weak predictor of graduate grade average with a correlation of only

.08. The literature did seem to indicate that a low correlation would exist and it was hypothesized that a low correlation would be found although it was not expected that the correlation would be as low as present results indicate. Obviously, the Educational Administration Department at Memorial University of Newfoundland has every reason to continue its reliance upon candidates' averages in the last 20 undergraduate courses rather than overall undergraduate averages in their selection procedure.

Type of attendance was not found to be significantly related to graduate grade average. There was a correlation of only -.06 found between type of attendance and graduate academic success which would indicate, although not significant, that full time students showed higher graduate averages than part time students. This type of relationship was certainly not expected as the literature suggested that part time students score higher averages. Due to the non-significance of this result and the low correlation found, a conclusion favouring any direction would not be appropriate.

Attainment of Degree

Type of attendance proved to be the only predictor variable that was significantly correlated with attainment of degree. The literature did not indicate any relationship between full or part time attendance and attainment of degree and therefore no such relationship was hypothesized. With a

correlation of .14 ($p < .01$), the results clearly indicate that a relationship does exist. This correlation indicates that part time students are less likely to attain a graduate degree than full time students. This finding certainly supports the previously discussed finding that full time students show higher graduate grade averages. Obviously if students with higher graduate averages seem to be full time, then full time attendance would logically be positively related to degree attainment.

Based upon previously reported studies, only the age and thesis/non-thesis program option variables were expected to be related to degree attainment. Neither of these two predictor variables were found to be significantly related to degree attainment. The particular characteristics of the population included in this study does offer an explanation for these results.

Age was found to be related to graduate average but no evidence was found indicating that students with higher averages were more likely to complete the Masters degree. This could possibly mean that age would not be related to degree attainment since age seems to be a variable working only through graduate averages. The non-significance of the thesis/non-thesis option as a predictor seemed somewhat illogical at first as one would assume that completing a thesis would almost certainly indicate a candidate's ability to complete a degree program. This finding, however, cannot

be interpreted to indicate that completing a thesis is not related to achieving a degree.

Since a very small percentage of the population did not achieve degree attainment, it is statistically difficult to get a significant finding. To compound this problem, there were no students who completed a thesis and who did not receive a degree. This fact can be explained as all graduate students complete coursework first and then complete a thesis if they choose the thesis route. Obviously, if there are no students completing a thesis and not achieving a degree, the relationship would not be picked up statistically.

Career Success

Several predictor variables were significantly related to career success. There were also several predictor variables which very closely approached significance with career success and are worthy of note.

The strongest correlation with career success was found to be the thesis/non-thesis option ($-.21$, $p < .01$). This was an unexpected result as no literature could be found to support such a relationship. This study quite clearly indicates that students completing a thesis are more likely to achieve career success. Obviously this variable has been overlooked as a significant predictor of career success.

Experience in administration proved to be another significant factor in achieving career success. A correlation

of .17 ($p. < .01$) was found, indicating that Masters candidates with no administrative experience before entering the Masters program were more likely to achieve career success after graduating than candidates with administrative experience. This result was totally unexpected since it would seem logical to assume that having some administrative experience before program entry would facilitate gaining administrative career positions after graduation. This result may be better explained when the relationship between total years of experience and career success is examined.

A correlation of -.12 was found between total years of experience and career success. Again, this result was unexpected as it indicates that candidates with less total years of experience in the educational system, achieved greater career success than candidates with greater experience. This finding was not significant but since it did approach significance and appears to indicate a negative relationship, it is worthy of note.

The finding that neither possession of administrative experience nor total years of experience had a significant effect upon career success is important since present admission criteria requires at least two years of experience in teaching or administration. This study provides evidence that years of experience does not positively correlate with career success and indeed that possessing less experience facilitates greater career success. It may be possible that

a ceiling level is reached by some candidates with respect to administration. It may be possible for candidates to acquire a principalship but it may be more difficult to move beyond this position. If this is the case, then it would seem plausible to expect candidates with no administrative experience to find it easier to gain a principalship but candidates holding a principalship to find it difficult to gain another position of greater administrative responsibility. In this type of situation, it would appear that having less experience leads to greater career success. The possibility also exists that age is another factor working through the experience variables.

Age was found to have a correlation of -.04 with career success. This negative correlation indicates that younger candidates are achieving greater career success. Since it would be a younger candidate that would have less experience (teaching or administrative), this factor may help explain the correlations found between experience and career success.

Type of attendance was not expected to be related to career success but this was not the case. Attendance showed a correlation of -.16 ($p < .05$) with career success. This negative correlation indicates that Masters candidates enrolled as full time students showed greater career success than part time students. This result was unexpected as it is reasonable to assume that candidates holding administrative positions would more likely register as part time candidates.

Once again, however, age may be a factor working through the attendance variable.

The intercorrelations among predictor variables showed that age had a correlation of .17 ($p < .01$) with type of attendance. This correlation indicates that older students were more likely to register as part time in the Masters program. Age also showed a correlation of .08 with thesis/non-thesis. This correlation indicates that younger students were more likely to graduate with a thesis.

These results seem to be indicating a pattern where age is a key factor with respect to career success. Thesis/non-thesis option, full/part-time status and type of attendance were all found to be related to career success. Age was found to be related to each of these predictor variables and would seem to indicate some key connection in predicting career success.

Another interesting and unexpected result was the relationship between overall undergraduate average and career success. This relationship closely approached significance and perhaps can be supported through subjective means. The correlation between overall undergraduate average and career success was .12. This indicates that students with higher overall undergraduate averages seem to achieve greater career success. This finding may indicate that school boards are placing greater emphasis upon overall academic standards when hiring administrators. This possibility is supported by a

subjective observation indicating that boards list as criteria in advertisements, the necessity for including overall academic transcripts when applying for positions.

Career success was not significantly correlated with training level ($r = .006$); undergraduate average in the last 20 courses ($r = .06$); undergraduate average in education courses ($r = .08$); major area of study ($r = .01$); sex ($r = .03$), age ($r = -.04$; or years experience ($r = -.12$). A few of these correlations, however, have shed some light upon relationships found to be significant.

The relationship between sex and career success approached significance but is important due to the negative correlation found. This finding indicates that males are more likely than females, to experience career success. Age may once again be a mitigating factor as the intercorrelation between age and sex was found to be .22 ($p < .01$). This is a highly significant finding which indicates that females registered in the Masters program tend to be older than males. Obviously then, if age is a factor, one would expect males to achieve greater career success and indeed results indicate this pattern.

Given the low correlations found, generalizations must be made with a note of caution. It seems obvious that age is a variable continually showing up in predicting career success. It cannot be stated for certain, however, if age is

directly related to career success or if it is related through association with other related variables.

Administrative Success

Administrative success, as measured by the Leadership Opinion Questionnaire (LOQ), was used only as a possible measure of administrative skills. This measure was not used previously in educational administration and therefore it is not known how reliable this measure would be in detecting predictor variables as defined in this study. Years of experience (teaching or administrative) and possession of administrative experience were the only predictor variables expected to be related to administrative success. However, this relationship was not proven in the study. This was an unexpected result but given the age relationship with both career success and graduate grade average (i.e., younger candidates perform better academically and show greater career success), this finding does seem plausible in retrospect. It would seem that years of experience as an administrator does not offer any advantage in scoring higher on the LOQ.

Undergraduate average in the last 20 courses was the only predictor variable significantly related to administrative success ($r = .15$, $p < .05$). Undergraduate average in education courses approached significance with a correlation of .12. Again, this was quite unexpected but perhaps can be

explained if the intercorrelations among success criteria are examined.

Administrative success approached significance with graduate average ($r = .10$). Since it has already been explained that both undergraduate average in the last 20 courses and undergraduate average in education courses were related to graduate average, then it seems logical to assume that both of these predictor variables would be related to administrative success.

Stepwise Multiple Regression Analysis

A stepwise multiple regression analysis was attempted on all four criteria of graduate school success. Analysis could only be completed, however, on two of these criteria. Regression analysis was possible on both graduate grade average and career success but was not possible with either administrative success or attainment of degree. There were a number of factors which may have contributed to the fact that computer analysis was not possible with these success measures.

As is the case with any regression analysis, a relatively large "n" is required before any significant effect can be seen. The total possible "n" in this study was 297 (a relatively small "n"). If predictor variables are highly intercorrelated (as was the case in this study), a regression

analysis would not pick up significant contributions that each predictor would have with the criteria. In essence, predictors have to be relatively distinct from one another if regression is to indicate which predictor is the "best" influence upon any particular criterion.

If this was the case in this study, there is a great risk that a type II error was possible and thus a conclusion that there is no statistical significance when in fact there may have been a relationship. Since correlations between attainment of degree and predictors were very small, it is possible that the regression analysis was not able to pick up small statistical significance. This may also have been the case with administrative success.

Tables 6 and 7 show the step-procedure involved with the regression analysis and indicates the multiple R increase for each step of the regression analysis. Obviously, only graduate grade average and career success can be reported upon since these were the only criteria of success satisfying statistical requirements for this analysis.

The multiple regression analysis for graduate grade average narrowed down the many significant predictors to only four variables. Undergraduate average in the last 20 courses, total years of teaching/administration experience, possessing administrative experience and major area of study all proved to be the best predictors of graduate grade average. The regression analysis seemed to indicate that the graduate

Table 6**Graduate Grade Average: Regression Analysis Summary**

Independent Variable	Step	Multiple R
Undergraduate Average in Last 20 Courses	1	.52
Total Years of Teaching Administrative Experience	2	.56
Possession of Administrative Experience	3	.57
Major Area of Study	4	.58

Note: Significance levels for all correlations - $p < .01$

Table 7**Career Success: Regression Analysis Summary**

Independent Variable	Step	Multiple R
Thesis/Non-Thesis Program Option	1	.18
Possession of Administrative Experience	2	.23

Note: Significance level - $p < .01$

student most likely to achieve a higher graduate grade average has a higher undergraduate average in the last 20 courses completed, little experience in the teaching profession, no experience as an administrator and a science major in undergraduate studies. Other predictor variables were found to be significantly correlated to graduate grade average but due to their intercorrelation with the four "best" predictors, they were not included in the regression selection. The total "R" for the four predictors was .58 ($p < .01$).

From Table 7, it can be seen that career success regression analysis narrowed down the "best" predictors to only two variables. The thesis/non-thesis option and possession of administrative experience proved to be the best predictors of career success. The total "R" for these two variables was .23 ($p < .01$). It would seem that graduate students most likely to achieve career success complete a thesis and have no experience in administration prior to entry into the graduate program. Again, it must be noted that other predictors were found to be significantly correlated with career success but their high intercorrelation with the two "best" predictors resulted in the regression procedure selecting only two variables.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The following conclusions and recommendations are made with the caution that many of the correlations found in this study were quite small. It was not surprising to find correlations of such small magnitude as much of the previous research also indicated similar correlations. It must also be noted that correlations which approached significance are discussed in terms of any trends which seem to exist. Again, caution must be taken when considering recommendations based upon correlations which only approach significance.

A major problem in interpreting results of this study is one of causality. Since the present study is mainly a correlational analysis, causality cannot be directly concluded although this does not diminish the possibility that certain variables may be causal in nature. The fact that certain predictor variables were subjective in nature and that certain criteria of graduate success required subjective measures may reduce the weight given to particular conclusions and recommendations. Given these cautions, Table 8 provides a summary of predictor variables showing significant correlation with each criterion of graduate school success.

Table 8

Predictors Significantly Correlated with Success Criteria

Graduate Average	Career Success	Administrative Success	Degree Attainment
Undergraduate Average in the Last 20 Courses	Type of Attendance	Undergraduate Average in the Last 20 Courses	Type of Attendance
Undergraduate Average in Education Courses	Thesis/non-thesis Program Option		
Major Area of Study	Experience in Administration		
Sex			
Age			
Thesis/non-thesis Program Option			
Years of Experience (Teaching/Administrative)			

Conclusions

The following is a short summarization of the trends which seem to be evident from the results. This summary is based not only upon the particular correlations found to be significant but also upon correlations approaching significance. For convenience, a summary of trends for each success criteria is presented.

Administrative Success

1. Many of the predictor variables seemed to be highly intercorrelated, possibly accounting for the inability of the computerized program to complete a regression analysis on this success criterion.
2. The graduate student having higher undergraduate averages in the last 20 courses completed and in education courses completed showed greater administrative success.

Attainment of Degree

1. A stepwise regression could not be completed on this success criterion. Again, this is probably due to the high intercorrelation among predictors.
2. Full-time students were shown to most likely complete the Masters degree in educational administration.

Graduate Grade Average

1. Higher graduate grades were obtained by graduate students possessing the following characteristics:
 - (a) Higher undergraduate averages in the last 20 courses completed
 - (b) Higher undergraduate education course averages
 - (c) Major in science subjects
 - (d) Males
 - (e) Younger graduate students
 - (f) Thesis students
 - (g) Less total years of teaching/administrative experience
 - (h) Secondary level training (High School Level)
2. A step-wise multiple regression selected the following predictor variables as being the "best" predictors of graduate grade average:
 - (a) Undergraduate average in last 20 courses
 - (b) Total years experience (teaching and/or administration)
 - (c) Experience in administration
 - (d) Major area of study

Career Success

1. Graduate students most likely to achieve career success were found to possess the following characteristics:
 - (a) Full time
 - (b) Thesis students
 - (c) No administrative experience
2. Based upon correlations approaching significance, the following type of graduate student will more likely achieve career success:
 - (a) Students having higher overall undergraduate averages
 - (b) Students with little total years of teaching and/or administrative experience
3. A step-wise multiple regression analysis found the following predictor variables to be the "best" predictors of career success:
 - (a) Thesis/non-thesis program option
 - (b) Experience in administration

Recommendations and Future Research

To the extent that many of the currently used admission criteria for entrance into the Masters program at Memorial University of Newfoundland have been employed in this study, the results can serve, in a limited way, to validate current admission standards. The following recommendations have been

made with respect to currently used admissions criteria, a proposed selective admissions procedure and directions for future research.

Graduate School Success Criteria

The "theoretical framework" section of chapter one, clearly indicates that graduate departments have to identify program goals in order to develop accurate measures of these goals. Only when accurate measures of program goals are identified can graduate departments begin to identify possible program success predictors. If the selection process takes any other order than just described, it will no doubt be a very inaccurate selection procedure.

Of the four success measures employed in this study, only two measures (attainment of degree and graduate grade average) are obviously vital to the prediction of success. Both career and administrative success measures employed in this study involve totally subjective interpretations on the part of the researcher.

The following recommendations are based upon the difficulties in identifying success criteria and accurate program predictors.

1. The Department of Educational Administration at Memorial University of Newfoundland should make a comprehensive effort to determine its program objectives. If these objectives are already present

or inherent in the current program, it is not readily apparent.

2. The Department of Educational Administration at Memorial should examine ways and means to accurately measure program objectives.
3. Sources of information that should be drawn upon to identify measurement of objectives and indeed to identify the objectives must include professors, school boards, practising administrators, students and especially the available literature.
4. Once program objectives have been identified, the Department of Educational Administration at Memorial should search for accurate program predictors. These predictors will have to be tested through studies such as the present one and continually updated as testing would suggest. This will result in a fair and justifiable selection procedure.

Currently Used Admission Criteria

The Department of Educational Administration at Memorial requires that candidates for the Masters program have at least two years of teaching and/or administrative experience and an average of at least 65 percent in the last 20 undergraduate courses completed in addition to both professional and academic letters of recommendation.

Most of the weight in the selection process is given to academic requirements and professional experience, although letters of recommendation are used as an "extra" to verify candidate's academic qualifications which may be in question. This study did not examine letters of recommendation as a possible predictor variable. The literature clearly shows that letters of recommendation are at best suspect in predicting graduate school success. Tversky (1972), Wright (1974) and Rim (1976) all found letters of recommendation to be unreliable in predicting graduate success. Other researchers have found recommendation ratings to be somewhat useful in predicting "non-academic" aspects of graduate school success. Rock (1972) and Conrad, Trismen and Miller (1977) found recommendations useful in predicting attainment of degree while Bozarth (1956) and Thom and Hickcox (1975) found recommendations useful in predicting career success.

Based upon results of this study, the following, are recommendations with respect to currently used admission criteria at Memorial University of Newfoundland.

1. Letters of recommendation should be examined with respect to their use as predictors of graduate success.
2. The use of the last 20 undergraduate course average as a predictor of graduate success is well supported by the results of this study. There is every indication that the use of such a predictor as a

criterion for graduate school admission is certainly valid.

3. (a) The use of administrative experience as a criterion for graduate admission is not supported by this study. The Department of Educational Administration should place little or no emphasis upon having such experience prior to admission into the graduate program.
(b) Results clearly show that greater teaching experience does not facilitate greater graduate success. However, all graduate students examined in this study possessed at least two years of teaching and/or administrative experience. While it could be argued that at least two years of experience is necessary for graduate school success, results seem to warrant at least a serious examination of this two year requirement as an admissions criterion.

Towards a New Selection Procedure

If the Department of Educational Administration wishes to improve its currently used selective admissions procedure, the following recommendations may prove valuable:

1. Undergraduate average in the last 20 courses completed should be given priority in determining possible graduate program candidates.
2. Undergraduate average in Education courses proved to be a significant factor in predicting graduate success. This predictor should be given serious consideration in the selective admissions procedure.
3. Undergraduate major area of study should be examined as a possible criterion of graduate admissions due to the finding that science majors show greater graduate success than non-science majors. Caution should be noted with this criterion since the actual difference in graduate averages between the three major groups was very small.
4. Type of attendance was found to be significantly related to both career success and attainment of degree with full-time students showing greater success than part-time students. If size of enrolment becomes a concern with graduate registration, it would seem appropriate to reduce part-time students rather than full-time students.
5. The above notwithstanding, thesis students showed greater graduate success than non-thesis students. Since many graduate students require sufficient time to complete a thesis, the following recommendation is made. Graduate students who opt for a thesis may

require part-time registration but are better advised to complete all academic courses while in full-time attendance.

6. Given the subjective observation that administration seems to be male oriented and that most of the graduate teaching staff in administration is male, the department should consider the possibility that the program is biased in favour of the male gender. This possibility is given some support by the finding that males score higher graduate averages than females in educational administration.
7. As stated previously, there is a possibility that the Department of Educational Administration and school boards have differing expectations of what constitutes an effective administrator. If this is true, the department should attempt to reconcile these differences. Such an important contradiction would devastate any selective admissions policy. This recommendation is made with respect to the following findings which seem to suggest a basic difference in graduate school and school board expectations of administrators.
 - (a) It would appear from the results that thesis students are more likely to achieve career success than non-thesis students. Since the graduate school at Memorial University of

Newfoundland offers the thesis program as an option, perhaps students should be made aware of this trend with respect to career success.

- (b) Graduate students with little or no experience in administration and who are younger seem to achieve greater graduate success. If this finding is accurate, one would have to question why the current admission criteria seem to emphasize having such experience. School boards are opting for younger administrative candidates. This finding is rather weak with respect to hiring practices, however, as criteria for administrators seem to vary among school boards.
- (c) Results clearly show that undergraduate average in the last 20 courses completed seems to correlate with graduate school average but overall undergraduate average seems to correlate with career success. This finding may mean that school boards are placing greater weight on a graduate's total course average in undergraduate years while the department is placing greater emphasis on the average in the last 20 courses completed. There is obviously a contradiction and it is possible that graduate students who have little chance o:

becoming administrators are being admitted to the program.

These recommendations both directly and indirectly relate to selective admissions. However, the nature of the graduate program seems to be a constant theme. As was stated in the introduction to this thesis, program objectives and expectations must be clarified before a selective admissions procedure can be accurate.

This study has only touched the surface with respect to factors affecting graduate school success. Many interesting results were found and perhaps certain relationships were clarified. However, many variables included in this study were arbitrary and perhaps certain crucial variables have been omitted. Only through a rigorous process of validation will graduate departments be able to accurately define factors affecting graduate success.

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APPENDICES

APPENDIX A

Questionnaire

APPENDIX A
The Questionnaire

The questionnaire administered to all candidates, was designed to measure the degree of career and administrative success attained. All candidates were asked to respond to the questionnaire according to the specific instructions given.

There were two sections to the questionnaire. The first section was a measurement of career success and the second section a measurement of administrative success. Career success was measured by asking the candidates certain key questions concerning their career status. Administrative success was determined by summing the responses to each statement on the Leadership Opinion Questionnaire (LOQ).

The career success questionnaire (part I) was designed to be scored quickly and accurately according to the definition of career success employed in this study. Essentially, if the graduate answered "YES" to either questions 3 or 4 in column A or questions 2 or 3 in column B, he is she has demonstrated career success.

The original LOQ was modified for use in this study. Several of the items have slight word changes so as to better reflect an educational work situation. These word changes do not in any way alter the meaning or orientation of the statements.

Since different LOQ statements (items) have different response patterns (for example, "always" on some items instead

of "often"), the revised LOQ was modified so that items of identical response patterns are grouped with one another. This grouping provided a more efficient marking scheme by the researcher and was expected to require less time to complete thus facilitating a greater questionnaire return rate.

Each item on the LOQ had either a positive or negative orientation toward a particular leadership dimension. Item #1, for example, had a negative orientation toward the consideration dimension. The effective administrator would never refuse to compromise a point and therefore a response of "never" was given the highest score (4) for this item. The lowest score (0) was given if the candidate responded "always" on item #1.

Items having a positive orientation were rated from zero to four in ascending order starting with the first possible response to the item. Item #3, for example, had a positive orientation, therefore, a response of "always" was given the highest rating of four.

Dear Former Graduate Student:

I am completing research on "factors affecting graduate school success" as part of my thesis for the M.Ed. program at Memorial University of Newfoundland. Both Dr. Kitchen and I feel that information gathered for this thesis may well alter future selection procedures in the Educational Administration program.

I realize that you are very busy this time of year, but a few minutes of your time can provide me with the data needed to complete this study. All information is confidential and your name is not needed. Each subject has been provided a number. Please do not erase the number on your survey as this will invalidate the survey. If you wish to call or write for further information, please do so.

PLEASE COMPLETE THIS SURVEY AS SOON AS POSSIBLE.

Yours truly,

Bernard Woodfine

Bernard Woodfine

Dear Former Graduate Student:

Some time ago, you received a survey which is required as part of my Thesis for an M.Ed. Degree at Memorial. I realize our work situations are such that many surveys are received.

I am including another copy of this survey in the hope that you will indeed complete and return it to me. There is a self addressed envelope enclosed.

Yours truly,

Bernard Woodfine

Bernard Woodfine

PART ONE

Instructions: Please complete the following questions by placing a check (✓) mark in the box indicating your response. Depending upon your response to question #1, you will have to answer the questions in either Column A or Column B.

Question 1: Did you hold a position of administrative responsibility in your work situation before you enrolled in the M.Ed. program at Memorial

Yes No

If you answered YES to question #1, complete Column A questions only.

If you answered NO to question #1, complete Column B questions only.

Column AColumn B

Question 2: Do you presently hold a position of greater administrative responsibility than you reported in Question 1?

Note: Greater administrative responsibility can mean any of:

- A. Moving from vice-principal to principal, principal to superintendent, principal to assistant superintendent, assistant superintendent to superintendent.
- B. Moving to a larger school or district even if you hold the same type of position (e.g., principal of 200 students moving to a 500 student school).

YES NO YES NO

If you answered YES to the above question 2, please proceed to Part Two of this survey.

If you answered NO to question #2 please continue to question #3.

YES NO

If you answered NO to question 2, you do not need to answer any other questions in this section but please complete part two of this survey. If you answered YES to question 2, please continue to question c.

Question 3: Did you receive the position reported in question 2, while you were enrolled in the M.Ed. program?

YES NO

If you answered YES to question 3, please proceed to Part Two of the

PART TWO

INSTRUCTIONS: Each item below is a statement concerning a particular behaviour which may or may not be demonstrated by various leaders. You have to respond to each item on the basis of how you think administrators (leaders) should behave. Read each item carefully and respond to the items by placing a check (/) mark in the block corresponding to the response most similar to your own. There are no right or wrong responses. Please check only one response for each item.

Item #	Always	Often	Occasionally	Seldom	Never
1 Refuse to compromise a point					
2 Speak in a manner so as not to be questioned					
3 Stand up for subordinates even if it is unpopular to do so					
4 Insist that everything be done your way					
5 Reject suggestions for change					
6 Back up what people under you do					
7 Be slow to accept new ideas					
8 Treat all subordinates as your equal					
9 Criticize a specific act rather than a particular member of the work group					
10 Be willing to make changes					
11 Put suggestions made by people in the work group into operation					
12 Get the approval of the work group on important matters before going ahead with plan					
13 Rule with an iron hand					
14 Criticize poor work					
15 Wait for people in the work group to push new ideas					

Item #	Always	Often	Occasionally	Seldom	Never
16 Assign people in the work group to particular tasks					
17 Ask that people under you follow to the letter, those standard routines handed to you					
18 Put the organizations welfare above the Welfare of any member in it					
19 Insist that you be informed on decisions made by subordinates					
20 Let others do their work the way they think best					
21 Decide in detail what shall be done and how it shall be done by the work group					
22 Meet with the group at regularly scheduled times					
23 See to it that subordinates are working to their capacity					

Item #		Often	Fairly Often	Occasionally	Once in a While	Very Seldom
24	Do personal favours for people in the work group					
25	Ask for more than members of the work group can get done					
26	Help people in the work group with their personal problems					
27	Change the duties of people in the work group without first talking it over with them					
28	Refuse to explain his or her actions					
29	Act without consulting the work group					
30	Give in to others in discussions with your work group					
31	Encourage overtime work					
32	Try out your own new ideas in the work group					
33	Encourage slow-working people in the work group to work harder					
34	Ask for sacrifices from workers under you for the good of the entire organization					
35	Offer new approaches to problems					

Item #	A Great Deal	Fairly Much	To Some Degree	Comparatively Little	Not At All
36 Resist changes in ways of doing things					
37 Talk about how much should be done					
38 Stress being ahead of other organizations					
39 Constantly demand greater effort from people in the work group					
40 Emphasizing meeting of deadlines					

In the space provided below, please list your UNDERGRADUATE Major and Minor area of study; the NUMBER of courses completed in the Major and Minor area; your level of training.

Major Area of Study _____ # courses _____

Minor Area of Study _____ # courses _____

Level of training in Undergraduate Education Degree (Check one)

Primary _____ Elementary _____ Secondary _____

APPENDIX B**Correspondence**



MEMORIAL UNIVERSITY OF NEWFOUNDLAND
St. John's, Newfoundland, Canada A1B 3X8

Department of Educational Administration

Tel: 016-4101
Tel.: (709) 737-7647/8

July 29, 1986

Ms. Sheila Devine
Associate Registrar
Memorial University of Newfoundland

Dear Ms. Devine:

As we discussed on the telephone this morning, I am enclosing a list of the transcripts required by Bernard Woodfine for his study "Predicting Graduate Student Success on the Master of Education Programme in Educational Administration at Memorial University of Newfoundland". Mr. Woodfine has signed for Mr. Collins a document "Permission to Access the Registrar's On-Line Computer Files", agreeing to protect the confidentiality of all information.

The transcripts should be sent directly to me and I will get them to him.

Mr. Woodfine, like most graduate students, is in a hurry. Consequently, we would appreciate receiving the transcripts as soon as convenient.

Many thanks.

Yours sincerely,

/ Hubert W. Kitchen, Head
Department of Educational
Administration

HWK
/dj

Encl.

September 6, 1988

Mr. B. Woodfine
P.O. Box 4
Buchans, NF
AOH 1GO

Dear Mr. Woodfine:

Enclosed you will find a print out of your regressions for GRAD and JOB. As you will notice there is a regression for JOB but not for GRAD. The reason for this is the predictor variables which you use simply do not come close enough to form the correlations which you ask of it. It would be more beneficial to you to examine the individual correlations which you already have in your possession. I hope the information you have will be of assistance to you. If you have any further questions please feel free to call (737-8689) or write.

Yours truly,

M. Shapter



